

Endoscopy

Supplement

S2/2023

This journal is indexed in MEDLINE, Current Contents (CM + LS), Science Citation Index, and in EMBASE/Excerpta Medica and SCOPUS

Official Organ of the European Society of Gastrointestinal Endoscopy (ESGE) and Affiliated Societies



**Advancing endoscopy
Forging connections**

A HYBRID EVENT

Convention Centre Dublin
Ireland, April 20 - 22, 2023



ESGE Days 2023

Abstract issue

 **Thieme**

ESGE Days 2023



Date/Venue:

20.–22. April 2023, Dublin, Ireland

Welcome message

Dear colleagues in endoscopy,

It is my honour to welcome you to the ESGE Days 2023 abstract supplement and invite you to browse the exciting research and developments in endoscopy that we are proud to present.

I am thrilled that we received 1,289 abstract submissions from 55 countries this year, breaking all previous submission records. After the success of ESGE Days last year in Prague there has been a sense of excitement in all our planning for Dublin, and we feel that this response confirmed to us that the 'Days' is an established global platform to share the best endoscopy research in Europe and beyond! A heartfelt THANK YOU to everyone who submitted. It is showcasing your research and clinical practice that is at the heart of our meeting and we remain indebted to you sharing your science with the ESGE Days community.

For ESGE Days 2023, we have encouraged the submissions of case reports and will be highlighting the best of these onsite in Dublin. These everyday practical scenarios complement the research provided by larger studies.

This year we will also be featuring Poster Tours in Dublin. In addition to those abstracts selected for oral presentations, the Poster Tours give exposure to additional abstracts of interest and an opportunity to engage with the authors in person.

'Behind the scenes' of this publication is a dedicated team. I am grateful to the Scientific Committee, whose work on the abstract review process, as well as the creation of the scientific programme is no easy feat! As we experience public sector strikes, the energy crisis, and ever-increasing strains on healthcare providers across Europe and beyond, for these physicians to continue to dedicate their precious time to further the field of endoscopy is deserving of gratitude from all of us.

At ESGE Days our mission is to advance endoscopy and forge connections, so I look forward to embracing the famous spirit of Irish hospitality and meeting you in person in Dublin to collaborate, network, and work towards a bright future for the field we share a passion for!

Your ESGE Scientific Committee Chair,
Marianna Arvanitakis



Marianna Arvanitakis
ESGE Scientific Committee Chair

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Abbreviations:
BA: Best abstract
OP: Oral presentation
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V: Video

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Publishers

Georg Thieme Verlag KG
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Thieme Medical Publishers, Inc.
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For subscription information
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Impact Factor: 10.437

Opening session with best abstracts

20/04/2023, 11:30 – 12:30

Auditorium

BA001 Training Esophagogastroduodenoscopy Skills: A Randomized, Multi-center Trial of Simulation-Based Training versus Clinical Training with 1183 procedures

Authors A. B. Nielsen^{1,2,3}, F. M. Pedersen², L. Konge⁴, C. B. Laursen^{5,6}, S. B. Laursen^{3,7}

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DOI 10.1055/s-0043-1765001

Aims Simulation-based training (SBT) seems promising to ensure the quality of esophagogastroduodenoscopy (EGD) skills, but the effects remain unknown. This study aimed to explore: 1) the impact of SBT on the necessary number of supervised clinical procedures before independent practice, 2) the cost-effectiveness of SBT in EGD compared to clinical bedside training (CBT) and 3) the effects on patient satisfaction.

Methods EGD novices were randomized to SBT (including passing a test [1]) before CBT or CBT only in a Danish multicenter randomized controlled trial from December 2020 to January 2022. Need for supervision, the number of procedures required for independent practice, and patient satisfaction were monitored during participants' first 50 clinical procedures. The costs of both arms were estimated for cost-effectiveness analysis using a micro-costing approach.

Results Twenty-five physicians from nine departments performed 1183 EGDs with 661 patient satisfaction surveys. There was a significant difference in the number of procedures required for independent practice between SBT (median 31 (95% CI: 25-37)) and CBT (median 44 (95% CI: 33-55), $p=0.006$) and a lower need for supervision when comparing learning curves for the two groups ($p=0.012$). The incremental cost-effectiveness ratio showed savings of 12 (95% CI: -158-191) USD/procedure when using SBT including monetary costs of 2993 (95% CI: 2678-3628) USD in the SBT group and 3150 (95% CI: 2520-5355) USD in the CBT group. No difference in patient satisfaction was seen between the groups.

Conclusions SBT improves competencies and is potentially more cost-effective. This study underlines the benefits of SBT and supports the implementation of routine use of SBT in learning EGD.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Nielsen AB, Pedersen FM, Laursen CB et al. Assessment of esophagogastroduodenoscopy skills on simulators before real-life performance. *Endoscopy Int Open* 2022; 10: E815–823

BA002 Narrow-Band Imaging vs. high definition white light endoscopy for optical diagnosis of serrated adenoma in the colorectum: a prospective randomized multicenter trial

Authors C. Kalhoff¹, A. Poszler², B. Haller³, S. Von Delius⁴, R. M. Schmid⁵, J. Peveling-Oberhag⁶, M. Abdelhafez¹, J. Albert⁶, C. Ansprenger², P. Klare^{7,1}

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DOI 10.1055/s-0043-1765002

Aims The aim of the study was to investigate whether optical predictions of serrated polyp histology using the narrow-band-imaging (NBI) mode is superior to predictions using high-definition-white-light endoscopy (HDWL) in real-time endoscopy.

Methods We conducted a prospective, randomized study at four locations in Germany. Patients eligible for colonoscopy were randomized 1:1 to either the NBI or HDWL arm. In the NBI arm, polyps were optically classified as adenoma, hyperplastic, or serrated adenoma using the NBI image mode. Real-time predictions were made according to the WASP classification system. In the HDWL arm polyps were classified without NBI or WASP. All polyps were resected and sent to pathology. Histopathological diagnoses served as gold standard. The primary outcome was accuracy of optical diagnoses of serrated adenomas in both study arms. Secondary end points included sensitivity and negative predictive value (NPV).

Results A total of 370 patients were included. 251 or 247 polyps were assessed optically in the NBI or HDWL arm respectively. ADR was 46.0% in the NBI and 41.3% in the HDWL arm ($p=0.387$). The accuracy for serrated adenomas was 90.4% in the NBI arm and 89.5% in the HDWL arm ($p=0.720$). Sensitivity and NPV in the NBI arm were 71.0% and 95.8%.

Conclusions Accuracy for the optical diagnosis of serrated adenomas did not differ between the NBI and HDWL arm. Both image modalities achieved highly accurate predictive values. In the NBI arm, the negative predictive value for serrated adenomas was >90% and therefore met PIVI requirements. Thus, optical polyp characterization for serrated adenomas can be supported in a real time setting.

Conflicts of interest Authors do not have any conflict of interest to disclose.

BA003 Higher efficacy of over-the-scope clips compared to through-the-scope clips for first-line endoscopic treatment of acute peptic ulcer bleeding: results of an international, multi-center, randomized controlled trial

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DOI 10.1055/s-0043-1765003

Aims First-line over-the-scope clip (OTS-clip) treatment has shown higher efficacy than standard endoscopic therapy in acute non-variceal upper GI bleeding from several different causes [1, 2]. However, no randomized controlled trial (RCT) comparing first-line mechanical treatment with OTS-clip vs through-the-scope clips (TTSCs) in the specific setting of peptic ulcer (PU) bleeding has been performed to date. This was our study aim (► **Table 1**).

	OTS (n=61)	TTS clips (n=51)	p-value
Age (years), median (range)	76 (19-93)	75 (46-95)	.952
Sex, n (%)			.398
Male	44 (72.1)	33 (64.7)	
Female	17 (27.9)	18 (35.3)	
Comorbidities			
Cardiopathy, n (%)	29 (47.5)	18 (35.3)	.190
Coagulopathy, n (%)	8 (13.1)	1 (2.0)	.305
Diabetes, n (%)	21 (34.4)	9 (17.7)	.116
Nephropathy, n (%)	12 (19.7)	8 (15.7)	.583
Neuropathy, n (%)	9 (14.8)	7 (13.7)	.876
Medications			
History of NSAIDs, n (%)	11 (18.0)	10 (19.6)	.831
Anti-platelet therapy, n (%)	16 (26.2)	13 (25.5)	.929
Dual anti-platelet therapy, n (%)	2 (3.3)	1 (2.0)	.667
Warfarin therapy, n (%)	7 (11.5)	5 (9.8)	.775
DOAC therapy, n (%)	7 (11.5)	8 (15.7)	.514

DOAC, direct anticoagulant; NSAIDs, non-steroidal anti-inflammatory drugs; OTS, over-the-scope clip; TTS, through-the-scope.

► **Table 1** Demographic and clinical patients' characteristics..

Methods This study was awarded the 2019 ESGE research grant. We conducted an international, multi-center RCT on consecutive patients with suspected upper GI bleeding (NCT03551262). In case of Forrest Ia-Ib gastroduodenal PU, patients were randomized to OTS-clip or TTSC treatment. Primary outcomes were technical success, 30-day rebleeding and overall clinical success (defined as technical success without evidence of 30-day rebleeding) rates.

Results 251 patients were screened and 112 patients were finally randomized to OTS-clip (n = 61) or TTSC (n = 51) treatment. Patients' characteristics are shown in Table 1. Technical success was achieved in 98.4% (60/61) and 78.4% (40/51) of patients treated with OTS-clip or TTSC, respectively (p = 0.001). TTSC failure was related to fibrotic PU (7/11), posterior duodenal wall location (3/11) and large-size visible bleeding vessel (1/11). When technical success was obtained, 30-day rebleeding occurred in 1.7% (1/60) and 5.0% (2/40) of OTS-clip and TTSC-treated patients, respectively (p = 0.562). Overall clinical success rate was 96.7% (59/61) in the OTS-clip group compared to 74.5% (38/51) in the TTSC group (p = 0.0006).

Conclusions Compared to TTSC, OTS-clip showed higher efficacy as first-line endoscopic treatment of acute PU bleeding, both in terms of technical and overall clinical success rates.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Meier B, Wannhoff A, Denzer U et al. Over-the-scope-clips versus standard treatment in high-risk patients with acute non-variceal upper gastrointestinal bleeding: a randomised controlled trial (STING-2). *Gut* 2022; 71: 1251–1258

[2] Jensen DM, Kovacs T, Ghassemi KA et al. Randomized Controlled Trial of Over-the-Scope Clip as Initial Treatment of Severe Nonvariceal Upper Gastrointestinal Bleeding. *Clin Gastroenterol Hepatol* 2021; 19: 2315–2323

BA004 Lumen-apposing metal stents with or without pigtail stent for endoscopic ultrasound-guided biliary drainage of malignant obstruction: an open-label multicentre randomised trial (BAMPI Trial)

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DOI 10.1055/s-0043-1765004

Aims It is unclear whether the insertion of an axis-orienting double-pigtail plastic stent (DPS) through biliary lumen-apposing metal stents (LAMS) in EUS-guided choledochoduodenostomy (CDS) improves the stent patency. The aim is to determine whether this technical variant offers a clinical benefit in EUS-guided biliary drainage (CDS-type) for the management of distal malignant biliary obstruction.

Methods This is a multicentre, open-label, randomised controlled trial with two parallel groups. The primary endpoint was the rate of recurrent biliary obstruction (RBO), as a stent dysfunction parameter, detected during follow-up. Secondary endpoints: technical and clinical success (reduction in bilirubin > 50% within 14 days), adverse events (AEs), and others (► **Table 1**).

	N = 84	LAMS (N=44)	LAMS-Pigtail (N=40)	P
RBO, n (%)	19 (22.6)	14 (31.8)	5 (12.5)	0.04 (OR 3.267 [1.054-10.129])
Technical success	78 (92.9)	39 (88.6)	39 (97.5)	0.20
Clinical Success	75 (90.5)	39 (88.6)	37 (92.5)	0.71
Related Adverse Events	10 (11.9)	2 (4.5)	8 (20)	0.04

► **Table 1**

Results Between November-2020 and October-2022, 123 patients were screened and 84 with malignant biliary obstruction, and underwent EUS-CDS, were randomised: 44 patients in LAMS group and 40 in LAMS-DPS group. The rate of RBO (31.8 vs 12.5%; OR 3.26 [IC95% 1.05–10.12], p = 0.04) was higher in LAMS group, and procedure time (30 vs 20-min, p = 0.02) in DPS-group. Although, more biliary reinterventions (22.7 vs 12.5%, p = 0.26) and longer time-to-RBO (51.5 vs 155.5 days, p = 0.10) were encountered in LAMS group, it was non-significant. AEs were higher in DPS-group (4.5 vs 20%, p = 0.04). No differences between technical (88 vs 97%) and clinical success (88 vs 92%). NCT04595058 ClinicalTrials.gov [1–3].

Conclusions This trial confirms that CDS with LAMS is an effective technique. The technical strategy of placing a pigtail within the LAMS is associated with a lower risk of RBO, but longer procedure time and related-AEs.

Conflicts of interest M. Perez-Miranda, E. Vazquez-Sequeiros, J. B. Gornals, J.R. Aparicio consultant for Boston Scientific.

[1] Garcia-Sumalla A, Loras C, Guarner-Argente C et al. Is a coaxial plastic stent within a lumen-apposing metal stent useful for the management of distal malignant biliary obstruction? *Surg Endosc* 2021; 35: 4873–81

[2] Gornals JB, Consiglieri CF, Bergamini MA. Double pigtail for preventing ascending cholangitis after endoscopic ultrasonography-guided choledochoduodenostomy with lumen-apposing metal stent. *Dig Endosc* 2016; 28: 100

[3] Garcia-Sumalla A., Loras C., Sanchiz V. et al. Multicenter study of lumen-apposing metal stents with or without pigtail in endoscopic ultrasound-guided biliary drainage for malignant obstruction—BAMPI TRIAL: an open-label, randomized controlled trial protocol. *Trials* 2022; 23: 181

OP001 Video-based computer aided detection system improves Barrett's neoplasia detection of general endoscopists in a multi-step benchmarking study

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DOI 10.1055/s-0043-1765005

Aims Timely endoscopic detection of Barrett's neoplasia has significant influence on patient outcome. Computer Aided Detection (CAD) systems may assist in neoplasia detection.

Methods The system was pretrained with ImageNet followed by domain-specific pretraining with GastroNet. GastroNet comprises >5 million endoscopic images. The system was then trained and validated on a BE dataset originating from 15 international endoscopy centers, comprising 6.337 neoplastic (1.362 patients) and 7.695 non-dysplastic images (1.139 patients). All images had histopathological confirmation. Neoplastic images were delineated by expert endoscopists. The system was tested on two prospective video test sets. The test set 1, comprising 71 neoplastic (45 cases) and 180 non-dysplastic (66 cases) videos, included all consecutive cases acquired from January to March 2022. Test set 2 comprised 47 neoplastic (47 cases) and 141 non-dysplastic (82 cases) videos and was enriched with subtle cases of neoplasia. Test set 2 was evaluated by 63 general endoscopists in without and with ADe assistance. Finally, 14 international, independent BE experts evaluated this test set.

Results Sensitivity and specificity of the CAD system were 97% and 85% for test set 1 and 91% and 82% for test set 2. Sensitivity of general endoscopists increased from 67% to 79% with CAD assistance, whilst specificity decreased from 96% to 94%. The sensitivity and specificity of experts were 86% and 90%, respectively (► **Table 1**).

Test set	Evaluated by	Sensitivity	Specificity
Test set 2	CAD	91%	82%
	General endoscopists	67%	96%
	General endoscopists + CAD	79%	94%
	Expert endoscopists	86%	90%

► **Table 1**

Conclusions CAD outperformed general endoscopists in detecting BE neoplasia. Providing CAD to general endoscopists significantly improves their detection rate. CAD detects virtually all neoplasia in a test set representing daily practice. CAD has a detection rate on par with experts.

Table 1) Performance of general endoscopists, expert endoscopists and the CAD system on test set 2

Conflicts of interest This research has received logistical and financial support from Olympus Tokyo.

OP002 Video-based computer aided detection system detects Barrett's neoplasia with high accuracy during live endoscopic procedures: a multi-center pilot and feasibility study

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DOI 10.1055/s-0043-1765006

Aims Computer Aided Detection (CADE) systems have the potential to improve endoscopic detection of early neoplasia in Barrett's Esophagus (BE) patients. We aimed to test a recently developed CADE system during live endoscopic procedures.

Methods The CADE system was developed using a BE training dataset including 6.337 neoplastic (1.362 patients) and 7.695 non-dysplastic images (1.139 patients). In subsequent rigorous external validation it displayed robust performance and significantly increased the neoplasia detection rate of endoscopists. In this pilot study, the CADE system was evaluated during endoscopic procedures of BE patients with either a neoplastic lesion or with non-dysplastic Barrett's esophagus (NDBE) in two tertiary hospitals. The protocol comprised a sequence of white light endoscopy videos obtained by a BE expert endoscopist with real-time evaluation and feedback by the CADE system. Ground truth (the presence or absence of visible abnormalities requiring targeted biopsy) was established by the endoscopist before starting the protocol and post-hoc histopathological confirmation. Outcome measure was the stand-alone performance of the CADE system in terms of sensitivity and specificity per patient.

Results A total of 15 neoplastic and 15 NDBE patients were enrolled. The CADE system correctly detected all neoplastic lesions on a per patient basis, resulting in a sensitivity of 100%. The CADE system incorrectly predicted neoplasia in 8 NDBE patients (47% specificity).

Conclusions This study is one of the first to evaluate a CADE system for real-time BE neoplasia detection in the endoscopy suite. The system correctly diagnosed all neoplastic lesions against the background of an acceptable number of false positive detections.

Conflicts of interest This research has received logistical and financial support from Olympus Tokyo.

OP003 Randomized controlled trial of artificial intelligence diagnostic system in clinical practice to detect esophageal squamous cell carcinoma

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DOI 10.1055/s-0043-1765007

Aims We have developed the artificial intelligence (AI) diagnostic system for the detection of superficial esophageal squamous cell carcinoma (ESCC) applied deep learning system. The aim of this study was to reveal the effect of AI diagnostic system on the improvement of ESCC detection in clinical trial.

Methods This study was a prospective, single-center, exploratory randomized controlled trial. From October 2020 to November 2021, 325 patients undergoing screening or surveillance esophagogastroduodenoscopy with primary head and neck cancer and/or ESCC were enrolled. All participants were randomly assigned to either AI group (n = 155) or control group (n = 170). In both groups, expert and non-expert endoscopists screened the esophagus with WLI followed by NBI with or without AI assistance. Then, after iodine chromoendoscopy of the esophagus, we took biopsies from suspicious ESCCs detected by any of the modalities. The primary endpoint was the additional effect on the detection rate of ESCC with AI diagnostic system in non-experts.

Results Among 325 patients, 41 lesions of ESCC (21 in AI group, 20 in control group) were diagnosed. Non-experts could detect 44% of ESCCs (7/16) in AI group, and 45% (5/11) in control group. Experts could detect 87% of ESCCs (4/5) in AI group, and 57% (5/9) in control group. No significant differences were observed in terms of detection sensitivity in non-experts between the two groups (p = 0.94), as well as in all endoscopists (53% vs 50%, p = 0.84).

Conclusions AI diagnostic system could not improve the detection rate of ESCC in this clinical trial.

Conflicts of interest Japan Society for the Promotion of Science/Takeda Science Foundation/Daiwa Securities Health Foundation

OP004 Differentiating intramucosal and submucosal Barrett's neoplasia using a novel deep convolutional neural network during endoscopy

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Aims Barrett's intramucosal neoplasia can be endoscopically cured with minimal risk of lymph node metastasis while submucosal neoplasia poses higher risk and usually requires surgery. Endoscopic optical diagnosis is often challenging to differentiate between the two. We aim to develop an artificial intelligence (AI) system using a deep neural network to stage Barrett's neoplasia into intramucosal (LGD, HGD, pT1a) and submucosal (pT1b) lesions.

Methods A VGG16-based deep neural network was used for the staging AI system. The model was trained with 69 images which were carefully selected from 79,159 frame images with histological ground truth. As a pre-trained model for training, the model from initial Barrett's detection and delineation system was used, which was trained for 1,090,171 images from 161 Barrett's patients¹. We tested staging AI on pre-recorded images and its performance was compared to two experts who regularly perform Barrett's endoscopic resections.

Results 68 neoplastic images (white light, enhanced imaging, near focused/magnification) were used. 43 were intramucosal (2 LGD, 31 HGD, 10 pT1a) and 25 were submucosal (6 pT1bSM1 and 19 pT1bSM2/3). The sensitivity, speci-

ficity and accuracy of AI were 80%, 84% and 82% while that of experts were 74%, 78% and 76% with no statistical difference (p = 0.507) [1].

Conclusions This suggests that the staging AI system is good at differentiating submucosal neoplasia and it can perform as well as experts. It has the potential to help guide clinicians to decide if endoscopic resection of Barrett's neoplasia can be curative. However, more work is still needed to further refine and validate this staging AI model.

Conflicts of interest Authors do not have any conflict of interest to disclose.
[1] Mohamed Abdelrahim, Masahiro Saiko, Naoto Maeda, Ejaz Hossain, Asma Alkandari, Sharmila Subramaniam, Adolfo Parra-Blanco, Andres Sanchez-Yague, Emmanuel Coron, Alessandro Repici, Pradeep Bhandari, Development and Validation of Artificial Neural Networks Model for Detection of Barrett's Neoplasia, a Multicenter Pragmatic Non-Randomized Trial, Gastrointestinal Endoscopy (2022)

OP005 Computer-aided diagnosis (CADx) improves characterization of Barrett's neoplasia by endoscopists

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DOI 10.1055/s-0043-1765009

Aims Characterization of visible abnormalities in Barrett esophagus (BE) patients can be challenging, resulting in suboptimal diagnostic accuracy and poor inter-observer agreement. Computer-aided diagnosis (CADx) systems may assist endoscopists in neoplasia characterization. We aimed to develop and validate a CADx system for BE neoplasia.

Methods The CADx system received pretraining with ImageNet with consecutive domain-specific pretraining with GastroNet which includes >5 million endoscopy images. This pre-trained system was subsequently trained and internally validated using 1754 narrow-band imaging (NBI) images of early BE neoplasia (348 patients) and 1838 NBI images of non-dysplastic BE (197 patients), obtained in 8 international centers. The CADx system was tested on a test set which consisted of 30 videos (20 patients) of BE neoplasia and 60 videos (31 patients) of non-dysplastic BE. The test set was benchmarked by 44 general endoscopists without and with CADx assistance. Finally 10 international independent BE experts evaluated the test set.

Results The performances of CADx and endoscopists are presented in (▶ Table 1). The stand-alone sensitivity of the CADx system was superior to general endoscopists (p = 0.04). Assistance of the CADx system significantly increased the sensitivity (p < 0.001) and specificity (p < 0.001) of general endoscopists to the level of expert endoscopists. CADx assistance furthermore increased endoscopists' confidence in characterization (P < 0.001).

Scored by	Sensitivity	Specificity	Failure to classify/ uncertain
CADx system	93%	96%	14%
General endoscopists <i>without</i> CADx	84%	90%	22%
General endoscopists <i>with</i> CADx	96%	98%	13%
Expert endoscopists without CADx	95%	96%	13%

► Table 1

Conclusions CADx assistance significantly increased characterization performance of BE neoplasia by general endoscopists to the level of expert endoscopists. The use of this CADx system may thereby improve daily Barrett surveillance.

Table 1: Performances of CADx and endoscopists on test sets

Conflicts of interest This project was funded by Olympus Endoscopy (Tokyo, Japan)

OP006 Is AI ready to replace protocol guided biopsies in Barrett's surveillance? The first real-world experience

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DOI 10.1055/s-0043-1765010

Aims We aim to investigate the real-world value of AI during Barrett's surveillance in view of the recent ESGE position statement on the expected value of AI in endoscopy.

Methods The development and validation of the regulatory-approved AI system in this study was described in a recent peer-reviewed publication by our group. The study was conducted at a single tertiary centre for Barrett's neoplasia endotherapy. Statistical powering was performed to estimate the number of missed neoplasia by AI compared to Seattle protocol biopsies assuming 40% prevalence of neoplasia (based on our enriched population's local data) and 10% miss rates by AI (based on pre-clinical validation data) using 95% confidence level and +/-5% precision level. Ground truth was expert endoscopist assessment and histology.

Results A total of 231 consecutive patients, including 92 patients with Barrett's neoplasia, were included. Histology of neoplastic lesions showed adenocarcinoma, HGD and LGD in 57.1%, 35.7%, and 7.2% of patients respectively. In the per-patient analysis, the sensitivity, specificity and NPV of AI-assisted neoplasia detection was 89.3%, 72.8% and 91.06% respectively. Neoplasia miss rate by AI compared to Seattle protocol biopsies was 10.7%, however the mean number of Seattle protocol biopsies and AI-targeted biopsies was 8.16 and 0.81 respectively.

Conclusions This is the first real-world experience demonstrating the potential value of AI-assisted targeted biopsies in Barrett's neoplasia surveillance. The specificity of AI neoplasia detection is less compared to previously published pre-clinical studies, highlighting the need to address the issue of false positive predictions by AI [1].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Abdelrahim M, Saiko M, Maeda N, Hossain E, Alkandari A, Subramaniam S, Parra-Blanco A, Sanchez-Yague A, Coron E, Repici A, Bhandari P. Development and Validation of Artificial Neural Networks Model for Detection of Barrett's Neoplasia, a Multicenter Pragmatic Non-Randomized Trial. *Gastrointest Endosc* 2022; S0016-5107 (22): 02084-3. doi:10.1016/j.gie.2022.10.031 Epub ahead of print PMID: 36283443

Artificial Intelligence for polyp detection

20/04/2023, 08:30 – 09:30

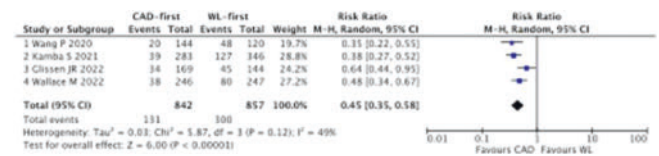
Liffey Meeting Room 3

OP007 Effectiveness of artificial intelligence for colonoscopy on adenoma and polyp miss rate: a meta-analysis of tandem RCTs

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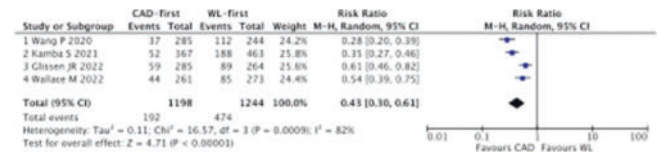
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DOI 10.1055/s-0043-1765011

Aims The aim of this meta-analysis is to summarise the performance of computer-aided polyp detection (CAD) systems in reducing the miss rate of colonic lesions (Fig. ► 1).



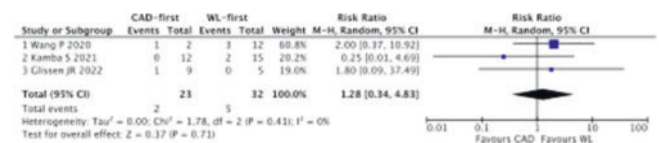
► Fig. 1 Meta-analysis of studies assessing the effectiveness CADe-first colonoscopy vs WL-first colonoscopy on adenoma miss rate (AMR).

Methods PubMed/Medline, Embase and Cochrane Library were systematically searched through October 2022 by two independent reviewers for tandem-design randomized clinical trials comparing miss rate of colonic lesions in CAD-first followed by white light (WL) colonoscopy vs WL-first followed by CAD colonoscopy. The primary outcomes were pooled adenoma miss rate (AMR) and polyp miss rate (PMR). Secondary outcomes were advanced adenoma miss rate (aAMR) and sessile serrated lesion miss rate (SMR). A random-effect model was applied for pooling results; heterogeneity was expressed as I² (Fig. ► 2).



► Fig. 2 Meta-analysis of studies assessing the effectiveness CADe-first colonoscopy vs WL-first colonoscopy on polyp miss rate (PMR).

Results Overall, 4 RCTs (1166 patients) were included in the analysis. Pooled AMR was significantly lower in the CAD-first compared to WL-first arm (15.5% vs 35.0%; RR, 0.45; 95% CI, 0.35-0.58; p < 0.001; I² = 49%). PMR was also lower in the CAD-first compared to WL-first arm (16.0% vs 38.1%; RR, 0.43; 95% CI, 0.30-0.61; p < 0.001; I² = 82%). No significant difference in aAMR (8.7% vs 15.6%; RR, 1.28; 95% CI, 0.34-4.83; p = 0.71; I² = 0%) and in SMR (11.6% vs 40.3%; RR, 0.44; 95% CI, 0.15-1.28; p = 0.13; I² = 46%) were observed (Fig. ► 3).



► Fig. 3 Meta-analysis of studies assessing the effectiveness CADe-first colonoscopy vs WL-first colonoscopy on advanced adenoma miss rate (aAMR).

Conclusions According to available evidence, the use of colonoscopy assisted by CAD results in a significant lower AMR and PMR, with a potential implication in reducing the incidence of interval colorectal cancer. No significant difference in aAMR and SMR has been observed (Fig. ► 4).



► **Fig. 4** Meta-analysis of studies assessing the effectiveness of CADe-first colonoscopy vs WL-first colonoscopy on sessile serrated lesions miss rate (SMR).

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP008 Clinical validation of a computer-aided detection model for colorectal polyp detection (CAD-ARTIPOD) trial using a second observer and real-time unblinding

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DOI 10.1055/s-0043-1765012

Aims This trial aimed to validate a CADe system for colorectal polyp detection versus trained endoscopists in an endoscopy blinded set-up with real-time unblinding.

Methods The CAD-ARTIPOD trial is a prospective multicenter trial conducted in 9 European centers. CADe specifics were published earlier [1]. Sample size analysis for superiority required 2048 polyps assuming a difference in sensitivity of 2% with endoscopic diagnosis as gold standard. All endoscopists (ADR 20-50%) were blinded for the CADe output. A second observer classified in real time the CADe output in (1) true positive (detected/not detected by the endoscopist) (2) false negative or (3) clinically relevant or irrelevant false positive detection. If a polyp was only detected by CADe, the endoscopist was unblinded for confirmation of the finding. Histological assessment of endoscopically confirmed polyps was performed by two independent histopathologists.

Results A number of 2080 polyps were collected, 1549 were histologically confirmed polyps.

For the primary endpoint superiority was not reached between CADe and endoscopists (sensitivity (Sn) of 0.94 vs 0.96) (non-inferiority margin of 5%, $p = 0.0216$). False positive rate was 1.8/min. With histology as standard, CADe outperformed the endoscopists (Sn 0.96 versus 0.95 ($p = 0.03$)) and showed an extra detection rate of 4.8% (Fig. ► 1).

Metrics	Endoscopist, n(%)	CADe, n(%)	NI margin 5% $p = 0.0216$
Sensitivity, endoscopic lesion detection	0.96 (96)	0.94 (94)	$p = 0.0216$
Sensitivity, histological lesion detection	0.95 (95)	0.96 (96)	$p = 0.038$
Polyp detection rate, mean	0.47	0.70	$\Delta 0.48$ OR 2.76 (95% CI: 2.26 – 3.37)
Adenoma detection rate, mean	0.38	0.50	$\Delta 0.27$ OR 1.52 (95% CI: 1.26 ; 1.85)
False positive rate, n (/min)	NA	1.8	

CADe, computer-aided detection model; NI margin, non-inferiority margin; OR, Odds Ratio

► **Fig. 1**

Conclusions This manufacturer independent CADe system used in an innovative and competitive study design demonstrated non-inferiority in comparison to endoscopists' polyp detection. However, with histology as gold standard CADe outperformed endoscopists. Our study also shows that "watching over a shoulder" in itself leads to higher PDR and ADR

Conflicts of interest PS is supported by a grant of Research Foundation Flanders RB received speaker's fees, consultancy and research support from Pentax, Fujifilm and Medtronic.

[1] Sinonquel P, Eelbode T, Hassan C et al. Real-time unblinding for validation of a new CADe tool for colorectal polyp detection. Gut 2021; 70 (4): 641–643

OP009 Benefits from a computer-aided detection device in colonoscopy (ACCENDO-COLO) – an interim analysis of an italian multicenter randomized clinical trial

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DOI 10.1055/s-0043-1765013

Aims Adenoma detection rate (ADR) has been inversely associated with the risk of interval colorectal cancer. The aim of the study is to evaluate the benefit of a computer-aided detection device (CADe Endo-AID) in a consecutive, non-selected series of patients undergoing colonoscopy.

Methods This is an interim analysis of a prospective multicenter randomized control trial (RCT) that included patients aged 40-85 scheduled for screening, surveillance or diagnostic colonoscopy randomly assigned to CADe (Endo-AID, Olympus, Japan) or standard colonoscopy (SC). Patients with a Boston Bowel Preparation Scale (BBPS) < 2 in any segment were excluded from the analysis. Polyp Detection Rate (PDR), Polyp Per Colonoscopy (PPC), ADR, Adenoma Per Colonoscopy (APC), Serrated Detection Rate (SDR), Advanced adenoma, and the presence of ≥ 3 precancerous lesions were evaluated in the two groups (Table 1)

Results 901 patients were enrolled of whom 60 were excluded for inadequate bowel cleansing. Therefore, 839 subjects (428 CADe vs 411 SC) were included in the final analysis. ADR was significantly higher in CADe than in the control group [50.2% (215/428) vs 41.6% (171/411) $p = 0.01$]. CADe also significantly increased PDR, PPC and APC [67.5% (289/428) vs 55.5% (228/411) $p < 0.01$; 1.68 vs 1.34 $p < 0.01$; 1.17 vs 0.86 $p < 0.01$, respectively]. SDR, advanced adenomas, and ≥ 3 precancerous lesions were higher in the intervention group without reaching statistical significance.

Conclusions The preliminary results of the present RCT show an increase in the diagnostic yield of AI-assisted colonoscopy in all the calculated indicators. (► Table 1).

	CADe COLONOSCOPY (n=428)	STANDARD COLONOSCOPY (n=411)	p value
SDR (%)	13.08	10.95	0.33
ADV ADENOMA (%)	10.51	8.52	0.33
≥ 3 ADENOMAS (%)	16.12	11.92	0.1

► **Table 1** Not statistically significant measurements among the Full Study Population. SDR: Serrated Detection Rate, ADV: Advanced, CADe Computer-Aided Detection

Conflicts of interest Given Imaging, Covidien, Medtronic, Pentax, Norgine, Alfa Sigma, Olympus, Niso Biomed, Malesci, AnX Robotics

OP010 The impact of Artificial Intelligence on the adenoma detection rate (ADR): a comparison between experienced and trainee endoscopists' ADR

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DOI 10.1055/s-0043-1765014

Aims Artificial Intelligence (AI) is a promising new tool to achieve a high adenoma detection rate (ADR) and thereby reduce the incidence of colorectal cancer. The aim of this study is to evaluate the impact of computer assisted detection (CADe) on the frequency of adenoma detection by endoscopists in training in comparison to the frequency of detection by senior endoscopists.

Methods Data from 350 patients who underwent colonoscopy with a GI Genius enhanced colonoscope were collected within a period of 12 months. Endoscopists were divided into two groups, a trainee group (8 endoscopists; < 500 colonoscopies) and an expert group (6 endoscopists; > 1000 colonoscopies). The polyp and adenoma detection rates of both groups were calculated and compared using cross tabulation and the chi-square test.

Results 275 patients (128 female, 147 male), mean age: 61,5 (SD ± 16) years were eligible. Indications for colonoscopy were screening (26,2%), elective polypectomy (16%), surveillance (14,9%), bleeding/anemia (13,5%), GI disturbances (12%), CED (9,4%) and unclassified (8%). Most procedures were done by the trainee group (n = 146). In total 502 polyps were removed. The polyp detection rate (PDR) was 57,5% in the trainee group and 61,2% in the expert group. The adenoma detection rate was 45,2% in the trainee group and 44,2% in the expert group. There was no significant difference between both groups in terms of PDR (p = 0,532) and ADR (p = 0,865). (► **Fig. 1**).



► **Fig. 1**

Conclusions Our study shows that AI can help minimize the difference of ADR between experienced and trainee endoscopists and achieve comparable results between both groups.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP011 A novel computer-aided polyp detection system in daily clinical care: an international multi-center, randomized, tandem trial

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DOI 10.1055/s-0043-1765015

Aims The aim of this study was to evaluate a novel CADe system, 'Magentiq Eye Automatic Polyp Detection System' (ME-APDS), in a colonoscopy population.

Methods A multicenter, randomized, controlled (RCT) trial was conducted at 10 hospitals in Europe, United States and Israel. Patients referred for screening (non-iFOBT) or surveillance colonoscopy, were included. Patients were randomized to undergo CADe-assisted colonoscopy or conventional colonoscopy (CC). In each arm, a subset of patients was further randomized to undergo tandem colonoscopy; CADe followed by CC or vice versa. Primary objective was adenoma per colonoscopy (APC). Secondary objectives were adenoma detection rate (ADR) and adenoma miss rate (AMR).

Results In total, 950 patients were enrolled, of which 916 completed the assigned colonoscopy (CADe group: 449 and CC group: 467). APC was higher in the CADe-arm compared to CC (0.70 vs. 0.51, p = 0.015). Overall, ADR was higher in CADe compared to CC (37% vs. 30%, p = 0.014). Apart from diminutive (0-5mm) adenomas, use of CADe also increased the detection of small (6-9mm) adenomas compared to CC (14.3% vs. 9.9%, p = 0.036). A total of 127 (61 CADe first, 64 CC first) patients completed tandem colonoscopy. AMR was 19% in CADe first compared to 36% in CC first (p = 0.024).

Conclusions ME-APDS increased adenoma detection (both APC and ADR) in non-iFOBT screening and surveillance colonoscopies, and reduced AMR by two-fold compared to CC. Apart from diminutive lesions, ME-APDS increased the detection of 6-9mm adenomas suggesting that this novel CADe system is also able to detect more clinically relevant lesions.

Conflicts of interest Saowanee: COI – consultant for Boston Scientific.

OP012 Efficacy of real-time computer-aided detection of colorectal adenoma in a randomized trial in routine

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DOI 10.1055/s-0043-1765016

Aims Artificial intelligence has recently been proposed to improve polyp detection. The aim of this study was to evaluate the impact of real-time computer-aided detection (CADe) system on adenoma detection rate (ADR) in routine colonoscopy.

Methods This monocenter randomized trial compared standard colonoscopy to CADe-assisted colonoscopy (Genius, Medtronic). According to statistical calculations, twenty endoscopists have to include approximately 2100 patients with a randomization 1:1.

Results 2104 patients were included from May 1, 2021 to May 1, 2022. A total of 2015 patients were randomized (1,012 for standard colonoscopy vs. 1,003

for CAde-assisted colonoscopy). ADR and Advanced ADR improved in this study from 33.7% to 37.5% ($P=0.051$), and from 7.6% to 9.3% ($P=0.18$) in standard and CAde groups, respectively. Mean number of adenomas per colonoscopy (APC) improved from 0.71 ± 1.30 to 0.89 ± 1.49 ($P<0.001$). The benefit of CAde was not significantly different regardless of the size of the polyps ($P=0.85$), and of the endoscopist basal ADR ($P=0.60$).

Conclusions This large prospective randomized study confirms impact of CAde on ADR and APC in routine colonoscopy, even performed in non-academic centers, thus suggesting the systematic use of CAde in routine colonoscopy. ClinicalTrials.gov ID: NCT04440865

Conflicts of interest Authors do not have any conflict of interest to disclose.

Doing it, but doing it better

20/04/2023, 08:30 – 09:30

Liffey Meeting Room 1

OP013 Still a long way to go in ERCP training: a pooled analysis of two large, prospective, multicenter studies on ERCP training practices and outcomes

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DOI 10.1055/s-0043-1765017

Aims A paradigm shift in ERCP training has been recently advocated, with a focus on competence-based training to ensure adequate milestones are met by all trainees. We aimed to characterize real-life practices and degree of trainee exposure to hands-on training in ERCP.

Methods We conducted a post-hoc analysis of two large, prospective, international, multicenter cohort studies of training in ERCP. The main outcome variables were trainee exposure (percentage and degree of trainee involvement, including the relevant clinical characteristics of the training procedures) and impact of training on procedure and patient-related outcomes.

Results The analysis included 30 trainees and 21 trainers from 8 training centers in 6 European countries who performed a total of 3126 ERCPs over a total of 48 months. 1231 (39.4%) ERCPs had a variable degree of trainee involvement, including 611 (49.6%) independently completed by the trainee, with a median number of ERCPs per trainee of 30 (range 1-198) and significant differences in trainee involvement between centers ($p<0.001$). In the training group, the most common ERCP indication was bile duct stones (50.8%). However, only 45.5% of patients had a native papilla and 19.5% procedures were grade II or III (modified Schutz scale). There were no differences in technical success rates and safety outcomes between procedures with and without trainee involvement, excepting precut rates (► **Table 1**).

Parameter	Trainee involvement	No trainee involvement	p-value
Technical success	94.1%	94.6%	0.52
Successful cannulation	97.4%	96.2%	0.08
Procedure-related adverse events*	16.8%	16.8%	1
Use of precut technique	16.1%	13.3%	0.03*

*any procedure-related adverse events (post-ERCP pancreatitis (PEP) cholangitis, bleeding, perforation, cholecystitis and technical failure of the procedure requiring prolonged hospital stay for a repeat procedure or a different treatment such as surgery or interventional radiology procedures) occurring over a 30-day follow-up period

► **Table 1** Comparison of technical and safety outcomes in procedures with and without trainee involvement.

Conclusions Our data points to a significant variability in training practices across Europe, with a relatively limited trainee hands-on involvement in ERCPs and no deleterious impact on technical success or safety. Training opportunities might be limited by the caseload mix, including many complex cases (grade II/III) and/or a prior history of endoscopic therapy [1].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Voiosu T, Boskoski I, Voiosu AM et al. Impact of trainee involvement on the outcome of ERCP procedures: results of a prospective multicenter observational trial. *Endoscopy* 2020; 52 (2): 115–122

OP014 Performance of novices in Endoscopic Submucosal Dissection starting directly in humans under direct supervision of an expert endoscopist

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DOI 10.1055/s-0043-1765018

Aims The ESGE curriculum guideline on training in ESD advises extensive experience in animal models before starting in humans. However, the evidence on which this recommendation is based, is rather limited. In this retrospective study we evaluate the performance of novices in ESD during their one-year training period, with continuous supervision of an expert. The novices had none or very limited prior experience in animal models.

Methods All ESD procedures performed between September 2015 until February 2022 were collected. An eESD (expert ESD) was defined as an ESD solely performed by the expert. A nESD (novice ESD) was defined as an ESD performed by a novice, with close supervision by an expert endoscopist guaranteeing continuous supervision and help if needed. Outcome parameters were technical success, en-bloc and R0 resection rate, rate of clinically relevant complications (AGREE classification > 1) and surgery due to adverse events and recurrence. All data were analyzed with Statistical Package for the Social Sciences (SPSS, v28).

Results In total 250 ESD were included; 126 (50.4%) eESD and 124 (49.6%) nESD. Technical success rate for eESD and nESD was respectively 82.5% and 74.2% ($p=ns$); en-bloc resection rate was 88.0% vs 84.7% ($p=ns$); R0 resection rate was 75.4% vs 75.0% ($p=ns$); R0 resection rate was 80.2% vs 83.2% ($p=ns$); clinically relevant complications 12.7% vs 6.5% ($p=ns$); and 3.2% vs 0% needing surgery due to complications ($p=ns$). Recurrence rate was 4.8% for eESD and 1.6% for nESD ($p=ns$).

Conclusions This study demonstrates that learning ESD in humans without extensive prior animal model training is feasible, on the condition that continuous supervision by an expert is provided.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP015 Improved screening for duodenoscope contamination after the regulations of 2018 a retrospective multicenter study

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DOI 10.1055/s-0043-1765019

Aims Contaminated duodenoscopes have resulted in multiple outbreaks and deaths involving multi drug-resistant organisms. In France the DGOS (health ministry) published an instruction in 2018 to supervise duodenoscopes disinfection and control. The aim of our study was to determine whether the 2018 guideline have decreased duodenoscopes contamination.

Methods We conducted a retrospective multicentric observational French study. Data from results of routine microbiological sampling between the periods “before” (2016 to 2017) and “after” (2019 to 2020) the 2018 DGOS guideline was collected. Primary objective: compare frequency of contaminated samples results. Secondary end point: overview of duodenoscopes fleet, storage mode, disinfection staff, and endoscopy centres.

Results 23 centres sent us the results of 1,476 duodenoscopes samples from 182 endoscopes. Average number of ERCP was 442 per year. Comparison of contaminated samples results between the two periods indicate ($p < 0.001$): 112 (18.9%) of non-conformities samples “before”, vs 241 (27.3%) “after”. More indicator germs were in before group (72 vs 38%). The proportion of samples results is not significantly different depending on brand ($p = 0.3$), centre ($p = 0.88$), age of duodenoscope ($p = 0.131$), and storage ($p = 0.14$). No significant differences in the performance of sampling at least quarterly were shown ($p = 0.839$).

Conclusions There were more contaminated samples in the period “after” the 2018 DGOS instruction, we can presume that sensitivity has increased, detecting more duodenoscopic contamination. Improvements still could be possible, such as respect of the law, evaluation and standardisation of procedures, and technological progress (► **Table 1**).

	Instruction of the DGOS 2018		p-value
	Before (n = 593)	After (n = 883)	
	Sample results		
Action	55 (9.3)	143 (16.2)	
Alert	57 (9.6)	98 (11.1)	<0.001
Target	481 (81.8)	642 (72.7)	

► **Table 1** Comparison of sampling characteristics between the two periods analysed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP016 Factors influencing the implementation of the European Society of Gastrointestinal Endoscopy (ESGE) guidelines: a survey on members of the Spanish Society of Gastrointestinal Endoscopy (SEED)

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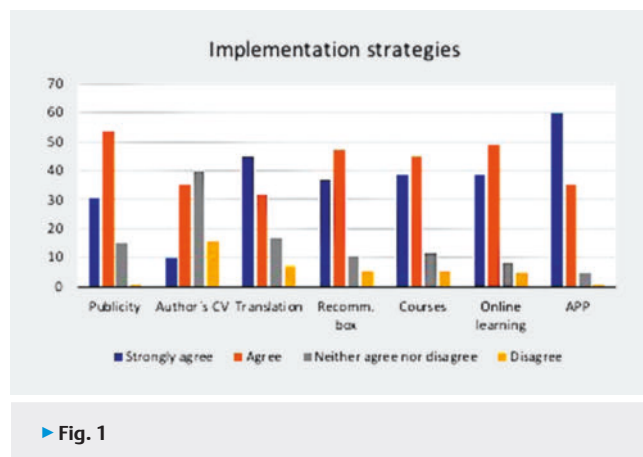
DOI 10.1055/s-0043-1765020

Aims To describe the barriers to implementation of the ESGE guidelines in clinical practice and to detect areas for improvement in the ESGE guidelines policy.

Methods an 18-question survey was delivered to all the SEED members. It included data on demographics (age, sex, center, ESGE membership), and patterns of guidelines use. Three domains were evaluated: knowledge, attitude, and background barriers. Finally, support for proposals to improve implementation was evaluated.

Results 114 members (10.8%) answered the survey [median (range) age: 41 (28-69); women 52 (45.6%); referral center 96 (84.2%); dual member 83 (72.8%)]. Knowledge barriers: 100% of respondents knew about the ESGE guidelines [95 (83.35%) frequent use; 71 (62.3%) read the whole guideline]. Users were more frequently younger than 50 years and in public practice. Attitude barriers: less than 7% of respondents think that guidelines limit their autonomy, or are driven by economic interests. However, 21 (18.4%), 41 (36.0%), and 19 (16.7%) think that guidelines are too long, hard to read and that there are too many guidelines, respectively. Background barriers: 22 (19.3%) indicate that language hinders its use. Lack of time to use them [17 (14.9%)] and guidelines recommending unpractical things in their background [38 (33.3%)] were more common in community hospitals. Support for implementation strategies is summarized in table 1.

Conclusions There is no knowledge barrier to ESGE guidelines implementation. The quantity and design of guidelines may influence their use. Time and organizational constraints limit their use. Several implementation strategies should be put in place to overcome these barriers (► **Fig. 1**).



► **Fig. 1**

Opinion about different implementation strategies

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP017 Development of a REDCap-based tool for quality indicators of endoscopic retrograde cholangiopancreatography assessment

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DOI 10.1055/s-0043-1765021

Aims ERCP is one of the endoscopic procedures with the highest complication rates. Performance measurement is very important for ERCP quality improvement. The Endoscopy Department of the Barretos Cancer Hospital (HCB) has

a large volume of ERCP procedures. However, there is no tool for evaluating its performance. The aims of this study were to develop and implement a data collection model in REDCap to monitor the quality indicators of ERCP performed at HCB.

Methods Based on the quality indicators proposed by the ASGE, a data collection tool using the REDCap database was built including numerator and denominator measures for each quality indicator (► Fig. 1).

Quality Indicator	Frequency (%)	Performance
	HCB*	target (ASGE) (%)
Frequency with which ERCP is performed for an indication that is included in a published standard list of appropriate indications and the indication is documented	100%	> 90
Frequency with which deep cannulation of the ducts of interest in patients with native papillae without surgically altered anatomy is achieved and documented	91,2%	> 90
Frequency with which common bile duct stones <1 cm in patients with normal bile duct anatomy are extracted successfully and documented	92,3%	≥ 90
Frequency with which stent placement for biliary obstruction in patients with normal anatomy whose obstruction is below the bifurcation is successfully achieved and documented	100%	≥ 90
Rate of post-ERCP pancreatitis	6%	N/A**

*HCB: Barretos Cancer Hospital
** N/A: Not Available

► Fig. 1

Results Between Jan/2021-May/2022, 170 ERCPs from 137 patients were included in the REDCap, with malignant biliary strictures in 70.8%. Among the priority indicators, the frequencies for the appropriate indication were 100% (ASGE > 90%), for the cannulation rate, 91% (ASGE > 90%) and success in placing stents in distal stenosis, 100% (ASGE > 90%). The stone extraction rate < 10mm was 92% (ASGE > 90%). Among the non-priority indicators, the frequency for the use of antibiotic prophylaxis with adequate indication was 9.6% (ASGE > 98%). The complication rates were 0% for perforation (ASGE < 0.2%) and 2.4% for post-sphincterotomy bleeding (ASGE < 1%). The pancreatitis rate was 6% (ASGE: N/A) [1–3].

Conclusions The REDCap proved to be useful for monitoring quality indicators and most of these indicators reached a satisfactory level, even in a population with a predominance of malignant biliary strictures. The adequate use of antibiotic prophylaxis must be improved.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Baron TH, Petersen BT, Mergener K, Chak A, Cohen J, Deal SE et al. Quality indicators for endoscopic retrograde cholangiopancreatography. *Gastrointest Endosc* 2006; 63 (4 Suppl): S29–34

[2] Cotton PB. Income and outcome metrics for the objective evaluation of ERCP and alternative methods. *Gastrointest Endosc* 2002; 56 (6 Suppl): S283–90

[3] Adler DG, Lieb JG 2nd, Cohen J, Pike IM, Park WG, Rizk MK et al. Quality indicators for ERCP. *Gastrointest Endosc* 2015; 81 (1): 54–66

OP018 Quality monitoring of gastroscopy and colonoscopy by means of ESGE QIC-app

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DOI 10.1055/s-0043-1765022

Aims We wanted to assess the feasibility of the QIC-app to audit retrospectively gastroscopy and colonoscopy practice in a tertiary center. As a secondary goal, we wanted to calculate the administrative cost for this quality assessment in the absence of automated systems.

Methods 300 gastroscopies and 300 colonoscopies, performed between 01-05-2021 and 01-07-2021, were retrieved from the electronic patient record system. Since therapeutic procedures are excluded for most quality indicators (PMs), we only selected diagnostic procedures, equally representing every endoscopist (n = 11) in the study. These procedures were manually entered into the ESGE QIC-app by an independent collaborator, not performing endoscopies. The ESGE secretary provided an Excel file from the data entered through the QIC-app that was used for analysis. The time spent distributing procedures, entering and analyzing data was closely monitored to get an estimate of the budget needed for quality measurement.

Results Table 1 depicts the audit results for the different domains and PMs revealing a better performance for colonoscopy compared to gastroscopy. The time spent on this study was 53 hours and 25 minutes. Calculated at an hourly wage of €20-30, this would amount to about €1,068.33 to €1,602.50 in costs.

Conclusions The ESGE QIC-app allows monitoring quality of an endoscopy unit with a minimal financial and logistic effort. In addition it can provide to ESGE data to assess which PMs are less important if the prevalence is low. We found that, on parameters that automatically appear in a report, overall scores are clearly better. Accordingly, targets were met more frequently, which thus underlines the importance of standardized structured reporting systems (► Fig. 1).

Domain	COLONOSCOPY	GASTROSCOPY
Pre-procedure and Completeness of procedure	Allocated timeslot 100% Adequate bowel preparation 83% Correct indications 98% Photo documented cecal intubation rate 74%	Correct instructions fastening: 43% Procedure time 39.3% Adequate photo documentation 14%
Identification and Management of Pathology	PDR 51% ADR 30.3% Withdrawal time 95% Polypectomy technique 93.4% Tattooing resection site 40% Polyp retrieval rate 100% Advanced imaging 100% Polyp description 81%	Standardized terminology : 77.8% Inspection time Barrett : 79.2% Seattle protocol 72% MAPS guideline 83%
Complications	0%	NA
Patient experience and Post-procedure	Experience 0% Polypectomy surveillance 89.5%	Experience 0% Barrett registry 100%

► Table 1

Table 1: Results of colonoscopy and gastroscopy for the different domains

Conflicts of interest Authors do not have any conflict of interest to disclose.

Updates in biliary stenting

20/04/2023, 08:30 – 09:30

Ecocem

OP019 Dexamethasone-eluting and self-expandable biodegradable stents suppress fibrosis in biliary stricture

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DOI 10.1055/s-0043-1765023

Aims The aim of this study was to observe the degradation process and therapeutic effect of drug-eluting biodegradable biliary stents (DBBS), and to evaluate sequential changes in their mechanical properties.

Methods We made prototype of DBBS with biodegradable sheath-core monofilaments, polydioxanone (PDO) as the outer sheath and poly-L-lactic acid (PLLA) as an inner core, using the cross-and-hook knitting hand-made method.

Since the degradation time of PLLA is longer than that of PDO, the PLLA core filament may be exposed after the PDO has partially degraded and thinned. Using an *in vitro* bile flow phantom model, we evaluated degradation time, radial force changes, and morphologic changes of DBBS. Using an *in vivo* swine bile duct stricture model, we performed a DPOC examination and histopathologic evaluation to observe the biodegradation process and therapeutic effects of DBBS at regular intervals [1–3].

Results In the bile flow phantom model, DBBS maintained high radial force and kept their original shape up to 12 weeks. A total of 10 DBBS was inserted into the artificially obstructed bile ducts of 10 swine. In this animal model, DPOC examination revealed that DBBS maintained their original shapes for approximately 10 weeks, and the stricture area disappeared, and the accompanying ulcers completely improved after 10 weeks. On histopathologic examination, the thickness of the fibrosis layer was rapidly decreasing after two weeks, and the mucosa maintained a relatively normal layer during follow-up period.

Conclusions This study revealed that DBBS maintained their original shape and radial force for a relatively long time and showed dramatic therapeutic effects.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Kwon C.I. et al. Optimal reproduction of a porcine benign biliary stricture model using endobiliary radiofrequency ablation. *Sci Rep* 2022; 12: 12046

[2] Kwon C.I. et al. Preventive effect of biodegradable stents on biliary stricture and fibrosis after biliary anastomosis in a porcine model. *Ann Surg Treat Res* 2022; 102: 90–99

[3] Kwon C.I. et al. Mechanical properties and degradation process of biliary self-expandable biodegradable stents. *Dig Endosc* 2021; 33: 1158–1169

OP020 Positive bile cultures during initial biliary plastic stenting predict early cholangitis

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DOI 10.1055/s-0043-1765024

Aims Plastic stents are a mainstay of ERCP but can lead to severe complications such as cholangitis. The aim of this study was to identify risk factors for developing early post ERCP cholangitis after biliary plastic stenting.

Methods This is a single center, 2-year prospective follow-up study of patients with native papilla who received biliary plastic stents. Bile was sampled at initial ERCP and after 3 months, when patients were scheduled for the next intervention. Analysis of paired samples of bile was performed and degree of stent occlusion was determined. The main outcome was rate of early cholangitis (defined as cholangitis developing prior to the 3-month scheduled visit).

Results 159 patients (65 ± 11 years; 99 male, 60 female) with 176 stents, most of them for malignant strictures (84%), were included. During follow-up 42 patients died, 17 were lost, 75 stents were retrieved and analyzed. 47/136 patients developed cholangitis after a median of 33 days (IQR 56) with 7 attributable deaths. Stent occlusion was not associated with early cholangitis. At multivariate analysis positive bile culture on index ERCP was the only risk factor for early cholangitis (OR 4.71; CI95% 1.69–13.17). Biliary concentrations of IgG and IgA significantly increased after stenting (p < 0.001) and biliary cholesterol was significantly lower in patients with cholangitis (p = 0.006).

Conclusions Early cholangitis after biliary plastic stenting is more likely in patients with positive biliary cultures at initial ERCP. We suggest routine biliary sampling when considering plastic stenting and scheduling stent exchange at 1 month in these cases.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP021 A randomized trial to study the effect of prophylactic common bile duct stent versus no stent on recurrence of common bile duct stones & biliary complications in patients waiting for cholecystectomy after biliary clearance

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DOI 10.1055/s-0043-1765025

Aims In concomitant gallstones (GS) and common bile duct stones (CBDS), recurrence of biliary events can occur during the waiting period for cholecystectomy even after biliary clearance. Role of prophylactic stenting in this scenario is controversial. Hence, we planned this study.

Methods We performed a randomized trial to compare CBDS recurrence and biliary complications after prophylactic stenting versus no stenting after biliary clearance. Patients with concomitant GS and CBDS were included and those who had evidence of clearance of CBDS (documented on occlusion cholangiogram during ERCP) were randomized to prophylactic stenting or no stenting. CBDS recurrence rate (primary outcome) and biliary complication rates (secondary outcome) were studied till 3 months of follow up/cholecystectomy.

Results Between September 2021 till July 2022, 359 patients who underwent ERCP were screened. Of these, 70 patients were randomized into group A-stenting (n=35) and group B- no stenting (n=35). Sixty-six patients were included in final analysis. On comparing the 2 groups, there was no difference in the recurrence rate of CBDS (primary outcome) (7 versus 3, p=0.306). Two patients in the stented group developed cholecystitis while none of the patients in the no stented group developed any complications. On multivariate binary logistic regression, age was found to be an independent risk factor for recurrence of CBDS (► Fig. 1).

Primary outcome	Group A(Stent) (n=34)	Group B(No stent) (n=32)	p value
CBDS recurrence	7/34	3/32	0.306
Secondary outcome			
Biliary and pancreatic complications			
-Cholecystitis	-2/34	-0/32	
-Gallstone induced pancreatitis	-0/34	-0/32	
-Cholangitis	-0/34	-0/32	

CBDS-Common bile duct stone

► Fig. 1

Conclusions This randomized trial shows no advantage of prophylactic stenting in preventing CBDS recurrence or biliary complications in patients waiting for cholecystectomy after biliary clearance. (Trial registration number-CTRI/2021/09/036538)

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP022 A randomized trial of endoscopic transpapillary gallbladder stenting versus no stenting and the rate of recurrence in acute-calculous-cholecystitis patients during COVID-19 surgical lockdown: a 6-month follow-up

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DOI 10.1055/s-0043-1765026

Aims Endoscopic transpapillary gallbladder stenting (ETGS) is an option for temporary gallbladder drainage in patients (pts) with acute cholecystitis (AC) whose cholecystectomy (CCY) is deferred. We performed a randomized trial with a 6-month follow-up comparing the rate of recurrent cholecystitis in AC pts with deferred CCY between those who received and did not receive ETGS.

Methods Eligible AC pts, who were surgical candidates but could not have an early CCY during COVID-19 surgical lockdown, were enrolled. Pts were randomized into group A (received ETGS) and group B (no ETGS). Definitive CCY was done after 3 months or later in both groups.

Results 80 eligible pts were randomized into group A (n = 40, 9 not suspicious for common duct stone underwent ERCP just to received ETGS) and group B (n = 40). At 3 and 6 months, group A had significantly lower rate of recurrence when compared to group B [0% (0/40) vs. 17.5% (7/40); p = 0.006 and 0% (0/23) vs. 42.8% (9/21); p = 0.001, respectively] (Table). During 3-6 months, 17/40 and 19/40 pts in group A and B underwent CCY, respectively. Of 80 pts, 7 and 2 pts developed recurrence within 3 months and during 3-6 months, respectively, they required only antibiotic (n = 6), percutaneous cholecystostomy (n = 2) and urgent CCY (n = 1) (► Fig. 1).

Outcomes	Group A: ETGS (n=40)	Group B: No ETGS (n=40)	P-value
Age (years), mean (SD)	63 (14.9)	59 (15.4)	0.23
Male, n (%)	23 (57.5)	20 (50)	0.50
Charlson comorbidity index, median (range)	2.5 (0-6)	2 (0-7)	0.50
Reasons for ERCP, n (%)			
• Suspected common bile duct stone seen on imaging	10 (25)	6 (15)	0.26
• Acute cholangitis	21 (52.5)	16 (40)	0.26
• Only for ETGS	9 (22.5)	-	-
CBD stone removal during ERCP	30/31 (96.8)	19/22 (86.3)	0.35
Technical success, n (%)	36 (90)	-	-
Clinical success, n (%)	36/36 (100)	39/40 (97.5)	1.00
Procedure-related adverse events, n (%)	11 (27.5)	5/22 (22.7)	0.68
Length of hospital stay (days), median (range)	4.5 (1-21)	4 (1-76)	0.75
Overall Recurrent cholecystitis, n (%)	0	10 (25)	0.001
• Recurrent cholecystitis at 1 month, n (%)	0/40	3/40 (7.5)	0.08
• Recurrent cholecystitis at 3 months, n (%)	0/40	7/40 (17.5)	0.006
- Cholecystectomy performed during 3-6 months	17/40 (42.5)	19/40 (47.5)	0.90
• Recurrent cholecystitis at 6 months, n (%)	0/23	9/21 (42.8)	0.001
- Cholecystectomy performed during 6-12 months	10/23 (43.5)	6/21 (28.6)	0.44
• Recurrent cholecystitis after 12 months, n (%)	0/13	1/15 (6.7)	0.28
Time to recurrent cholecystitis (days), median (range)	-	53.5 (11-479)	-
Eventually received cholecystectomy, n (%)	28 (70)	29 (72.5)	0.81
Time to cholecystectomy (days), median (range)	128 (98-665)	101 (91-693)	0.93
Follow-up time (days), median (range)	201 (96-725)	169 (91-726)	0.81

► **Table 1** Outcomes of ETGS in acute-calculus-cholecystitis patients with suspected common bile duct stone whose cholecystectomy were deferred.

Conclusions ETGS could prevent recurrent cholecystitis in the pts with AC whose CCY was deferred during COVID-19 surgical lockdown. Without ETGS, majority of recurrence developed within 3 months. At 6 months, those who still waiting for surgery, ETGS was still effective to prevent recurrence [1].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Faknak N, Ridditid W, Piyachaturawat P et al. The efficacy of endoscopic transpapillary stenting in acute-calculus-cholecystitis patients to prevent recurrent attack during COVID-19 surgical lockdown: a randomized controlled trial. *Gastrointest Endosc* 2022; 95: AB290

OP023 Biomechanical pull-out force of fully covered self-expanding metal stents predicts stent migration in distal biliary stenoses

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DOI 10.1055/s-0043-1765027

Aims The use of fully covered self-expanding metal stents (FC-SEMS) in distal biliary stenosis is limited by migration as a frequent complication. In this study, we aimed to define predictors for stent migration based on the biomechanical stent characteristics.

Methods The pull-out force of FC-SEMS was quantified by a tensile test machine pulling the expanded stents out of a silicon tube with a 5 mm inner diameter. We analysed a monocentric, retrospective cohort of 178 FC-SEMS cases for treatment success and complications. Stent dysfunction was defined as need for unscheduled ERCP and complicated retrieval was defined as > 1 intervention required for retrieval of the proximal migrated FC-SEMS.

Results Biomechanical measurements of the 4 stent types used in the clinical cohort revealed a 4-fold higher maximum pull-out force of FC-SEMS with anchoring fins (AF, $F_{max} = 14.2 \pm 0.1$ N) in comparison with FC-SEMS with flare ends (FE, $F_{max} = 3.8 \pm 1.0$ N, $p < 0.0001$). Clinically, 6 stents (8%) in the AF-group versus 43 stents (48%) in the FE-group migrated after a median of 111 days of follow-up ($p < 0.0001$). Complicated retrieval of proximally migrated stents was not observed for AF-stents but for 6 (6%) FE-stents ($p = 0.033$). While the rate of stent dysfunction showed no difference between the groups, the time to dysfunction was 2 times longer in the AF-group ($p = 0.029$). The key findings are summarized in Table 1.

Conclusions The pull-out force of FC-SEMS predicts stent migration in distal biliary stenoses and may thus be used to classify stents for this application (► Table 1).

Key findings	Stents with flare ends (n=80)	Stents with anchoring fins (n=98)	p-value	OR (CI 95%)
Maximum pull-out force, Newton (SD)	3.8 (1.0)	14.2 (0.1)	<0.0001	NA
Stent migration, n (%)	43 (48%)	6 (8%)	<0.0001	0.104 (0.0436 - 0.252)
Complete stent migration, n (%)	22 (22%)	3 (4%)	<0.01	0.135 (0.041 - 0.425)
Stent dysfunction, n (%)	31 (34%)	21 (31%)	NS	0.769 (0.406 - 1.485)
Time to stent dysfunction, Median days (IQR)	43 (44)	91 (146)	<0.05	NA

► **Table 1**

Table 1. Comparison of FC-SEMS with AFs vs. FC-SEMS with FEs for distal biliary stenosis after a median follow-up of 111 days.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP024 Efficacy and safety of plastic, covered and uncovered self-expandable metal stents in the treatment of malignant biliary obstructions (NEOST-ENT)

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DOI 10.1055/s-0043-1765028

Aims To date there is no agreement on which type of stent is the most suitable in patients with malignant biliary stricture. The present study aimed to analyze pros- and cons- of different stents available for biliary drainage.

Methods Data from 2752 procedures (2017-2021) across 23 endoscopic services were reviewed. Stenting was divided in plastic, uncovered SEMS (U-SEMS), partially-covered SEMS (PC-SEMS) and fully-covered SEMS (FC-SEMS).

Results Clinical success was similar between plastic and SEMS ($p = 0.633$) but these latter significantly decreased the need for additional ERCP (odds ratio [OR]: 0.20; 95%CI: 0.15, 0.30; $p = 0.001$). Comparing metallic stents, FC-SEMS significantly increased clinical success rate compared to U-SEMS (OR: 2.20; 95%CI: 1.63, 2.98; $p = 0.001$) but did not prove better than PC-SEMS (OR: 1.58; 95%CI: 0.71, 3.52; $p = 0.256$). FC-SEMS significantly decreased stent' ingrowth (OR: 0.17; 95%CI: 0.09, 0.31; $p = 0.001$) but increased migration rate (OR: 2.14; 95%CI: 0.62, 7.36; $p = 0.001$) when compared to U-SEMS. PC-SEMS showed milder effect than FC-SEMS when compared to U-SEMS ($p > 0.05$ in all cases). Considering post-procedural adverse events, U-SEMS showed the higher safety since both FC-SEMS (OR: 1.97; 95%CI: 1.04, 3.70; $p = 0.036$) and PC-SEMS (OR: 1.59; 95%CI: 1.01, 2.52; $p = 0.047$) significantly increased post-ERCP complications.

Conclusions When potential confounding were adequately handled and clinical success and adverse events were considered, each stent showed pros and cons. FC-SEMS showed a high clinical success at the price of a mild increase in post-ERCP complications.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Third space: the final frontier?

20/04/2023, 10:00 – 11:00

Liffey Meeting Room 2

OP025 Long-term results of endoscopic pyloromyotomy (G-POEM) in the treatment of refractory gastroparesis

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DOI 10.1055/s-0043-1765029

Aims Endoscopic pyloromyotomy (G-POEM) has a promising short-term results in patients with gastroparesis (GP). We aimed to assess its long-term efficacy in patients with refractory GP.

Methods We retrospectively analyzed prospectively collected data of patients with refractory GP who have undergone G-POEM at our institution since 2015 and completed at least 3 months follow-up (FU). Diagnosis of GP had to be confirmed by a gastric emptying study (GES), which was repeated at 3 and 12 months (M). Symptoms were assessed using a Gastroparesis Cardinal Symptom Index (GCSI) at the baseline and at 3, 6, 12, 24 and 36M. The main outcomes were (1) treatment success (TS) defined as a decrease of GCSI by at least 50% within 6M FU and (2) rate of recurrences after initial TS, defined as an absence of TS conditions at any subsequent FU visit. Kaplan-Meier curve was constructed to analyze the long-term effect. Multiple variables were tested as possible predictors of TS.

Results A total of 54 patients with GP [21 postsurgical, 20 diabetic, 13 idiopathic; 22 males (41%), median age 47 (IQR 35-56)] were included. At 6M, TS was achieved in 77% (95% CI 66-89%). The FU visits at 12, 24 and 36M have been completed in 44 (81%), 39 (72%), and 19 (35%) patients with TS rates 71% (60-85%), 67% (55-81%), and 64% (52-79%). Overall, 7 patients experienced a symptom's recurrence (annual recurrence rate 8.1%). Analysis of potential predictors showed that higher baseline gastric retention at 4 hours may predict TS.

Conclusions Endoscopic pyloromyotomy leads to a sustained improvement of symptoms in two thirds of patients with refractory gastroparesis with low rate of recurrences.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP026 Gastric Per-Oral Endoscopic Myotomy (G-POEM) In Patients with Gastric Neurostimulator (GNS): The First Multicenter Experience

Authors Y. Ichkhanian¹, M. Al-Haddad², R. Kim³, L. D'souza⁴, J. Yang⁵, M. A. Khashab⁶, C. Piraka¹

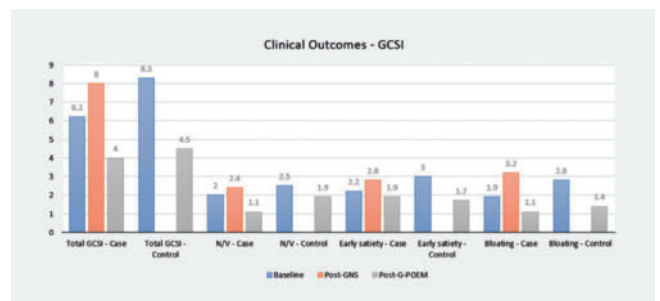
Institutes 1 Henry Ford Hospital, Detroit, United States of America; 2 IU Health University Hospital, Indianapolis, United States of America; 3 University of Maryland Medical Center, Baltimore, United States of America; 4 Stony Brook University, Stony Brook, United States of America; 5 Vanderbilt University Medical Center, Nashville, United States of America; 6 Johns Hopkins University, Baltimore, United States of America

DOI 10.1055/s-0043-1765030

Aims We aimed to investigate the safety and clinical outcomes of Gastric per-oral endoscopic myotomy (G-POEM) in refractory gastroparesis in patients with gastric neurostimulation (GNS).

Methods Consecutive patients who underwent G-POEM at 5 U.S. and 1 International tertiary care center between 2018 – 2021 were included. Patients with GNS were identified as cases, and matched with patients without GNS, controls. The primary outcome was clinical success.

Results A total of 123 [mean age 45.7 ± 14.7, F 88 (72%)] G-POEM patients were enrolled, including 41 cases and 82 controls. G-POEM was performed at a median time of 46.8 months (IQR: 17-71) post-GNS placement. In the case group, clinical success was achieved in 32/41 (78%) patients during a median follow-up time of 7 months (IQR: 2-6). The total GCSI score in the case group decreased from a mean of 8 ± 6 to 4 ± 3.8, with a significant decrease in the subscale "bloating" from 3.2 ± 2.2 to 1.1 ± 1.4, ($p = 0.031$) (► Fig. 1). A total of 10 patients in the case group underwent both post-GNS/pre-G-POEM and post-G-POEM gastric emptying scintigraphy (GES) with an improvement in gastric retention at 4 hrs. from 45 ± 25.8% to 19 ± 13.1%, ($p = 0.124$). On univariate comparison between the case and the control group, post-G-POEM prokinetic use, 14 (34%) vs. 77 (94%), and "nausea/vomiting" sub-scale, 1.1 ± 1.4 vs. 1.9 ± 1.2, were significantly lower in the case group compared to the control group, ($p = 0.021$) and ($p = 0.031$), respectively.



► Fig. 1

Conclusions G-POEM is a safe intervention that could provide symptomatic improvement, predominantly in terms of bloating, and improved gastric emptying.

Conflicts of interest M.K. is consultant for Boston Scientific, Medtronic, and Olympus, C.P. is consultant for Boston Scientific

OP027 Management of Patients After Failed Gastric Peroral Endoscopic Myotomy (G-POEM): A Multi-center Study

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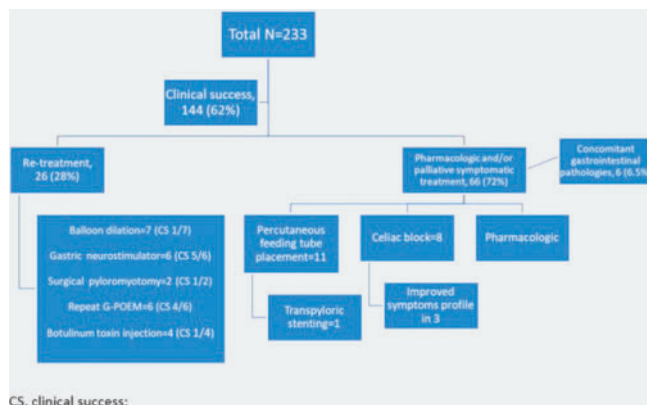
Institutes 1 Henry Ford Hospital, Detroit, France; 2 IU Health University Hospital, Indianapolis, United States of America; 3 Stony Brook University, Stony Brook, United States of America; 4 University of Maryland Medical Center, Baltimore, United States of America; 5 Vanderbilt University Medical Center, Nashville, United States of America; 6 Johns Hopkins University, Baltimore, United States of America; 7 Henry Ford Hospital, Detroit, United States of America

DOI 10.1055/s-0043-1765031

Aims The optimal management of patients who fail G-POEM is not known. We aimed to compare the outcomes of different management strategies in patients who had failed G-POEM.

Methods This was a multicenter retrospective study at 7 tertiary centers between 02/2020 and 10/2022. All patients who underwent G-POEM and experienced clinical failure were included.

Results A total of 233 patients [mean age 47.8 ± 15.6, F 170 (73%)] underwent G-POEM for the management of refractory gastroparesis, and 92 (39%) patients experienced clinical failure with a median GCSI score of 2.4 (IQR 2.1-3.3). During the duration of the study, a total of 25 (27%) underwent re-treatment (balloon dilation 7, gastric neurostimulator 6, surgical pyloromyotomy 2, botulinum toxin injection 4, repeat G-POEM 6), while 67 (73%) underwent pharmacologic and/or palliative symptomatic treatment. Among the patients who underwent re-treatment, clinical success was achieved in 12 (46%) of the patients during a median duration follow-up of 9.4 (IQR 6-13) months, with a decrease in the median GCSI score from 2.8 ± 1.6 to 1.5 ± 1.8, (p=0.024). A total of 9 patients in the re-treatment group underwent both pre- and post-re-treatment GES with an improvement in gastric retention at 4 hrs. from 38 ± 20.83% to 23 ± 19.7%, (p=0.124). The highest clinical success was achieved among patients with GNS, 5 (83%) (► Fig. 1). Having abnormal GES post-G-POEM was found to be the only independent predicting factor (OR 1.6, p=0.031) for clinical success post-re-treatment. Concomitant gastrointestinal pathologies were noted in 6 (6.5%).



► Fig. 1 The management and the outcomes of post-G-POEM clinical failure management

Conclusions In our cohort, 46% of the patients with clinical failure post-G-POEM had clinical success after re-treatment, with abnormal GES post-failed G-POEM being a predictor of clinical response.

Conflicts of interest M.K. is consultant for Boston Scientific, Medtronic, Olympus, C.P. consultant for Boston Scientific Remove

OP028 Endoscopic Submucosal Dissection for Gastric Neuroendocrine Neoplasms: a multicentre retrospective study

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DOI 10.1055/s-0043-1765032

Aims The optimal endoscopic management for Gastric Neuroendocrine Neoplasms (G-NENs) is yet to be determined, and data are limited in the literature [1, 2]. We retrospectively reviewed patients with gastric NETs treated by Endoscopic Submucosal Dissection (ESD), followed by ESD follow-up, to evaluate its overall safety and efficacy in a western scenario.

Methods We retrospectively enrolled patients from 11 international tertiary referral centres. Baseline demographics, tumour characteristics and peri and post procedural adverse events were recorded. Outcomes such as ESD overall efficacy, R1 rate recurrence were considered. Due to the retrospective data collection, the follow up time was not standardized.

Results 73 ESD procedures were performed in 69 patients. Median lesion size was 12 mm (IQR 10–15, range 6–30). ESD was feasible in 72/73 (98.6%) procedure. Peri-procedural complications occurred in 9 cases, including perforation in one patient (1.5%) and 8 cases of bleedings (10.9%) all managed endoscopically. R1 resection was documented in 15/73 (20.5%) of the cases, mostly involving vertical margins (70.5%). Four additional patients required subsequent surgery to achieve a complete resection; 1 patient needed surgery due to multifocal disease. At univariate analysis, no statistically significant correlation between R1 and endoscopic size (p=0.08, OR CI 0.98–1.21) was found, with lesions >20mm having almost a double rate of R1 over the lesion <20mm (38.5% vs. 20.6%, p=0.37). After a median follow up time of 35 months, recurrence occurred in 5 out of 68 cases (8.2%).

Conclusions ESD is a safe treatment with low complications and recurrence rate. Size and gastric NET type are important factors to be considered before performing an ESD for gastric net.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] de Mestier L, Lepage C, Baudin E et al. Digestive Neuroendocrine Neoplasms (NEN): French Intergroup clinical practice guidelines for diagnosis, treatment and follow-up (SNFGE, GTE, RENATEN, TENPATH, FFC, GERCOR, UNICANCER, SFCD, SFED, SFRO, SFR). Dig Liver Dis 2020; 52 (5): 473–92 [2] Deprez PH, Moons LMG, O'Toole D et al. Endoscopic management of subepithelial lesions including neuroendocrine neoplasms: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. Endoscopy 2022; 54 (4): 412–429

OP029 Endoscopic suturing in the upper gastrointestinal tract: A UK case series

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DOI 10.1055/s-0043-1765033

Aims Endoscopic suturing offers a novel minimally invasive technique for deploying full thickness sutures in the gastrointestinal (GI) tract. Here we report our experience of endoscopic suturing for non-bariatric applications using the Apollo OverStitch device.

Methods We retrospectively evaluated cases where the Apollo OverStitch device was used at our tertiary upper GI centre. The primary outcomes were technical and clinical success. Technical success was defined as the successful application of sutures. Clinical success for defect closure was evaluated using on the table fluoroscopy (► **Table 1**).

Indications	Number of patients: Number of applications	Technical success rate	Clinical success rate	Adverse events reported
Fistulas				
Anastomotic tracheoesophageal fistula	8/33 (24%); 16/49 (33%)	15/16 (94%)	15/16 (94%)	Nil
Congenital tracheoesophageal fistula	1/33 (3%); 3/49 (6%)	3/3 (100%)	3/3 (100%)	Nil
Oesophageal pleural fistula post lobectomy	1/33 (3%); 1/49 (2%)	1/1 (100%)	1/1 (100%)	Nil
Post PEG gastrocutaneous fistula	5/33 (15%); 7/49 (14%)	7/7 (100%)	7/7 (100%)	Nil
Perforations				
Iatrogenic oesophageal perforation	4/33 (12%); 6/49 (12%)	6/6 (100%)	5/6 (83%)	Nil
Iatrogenic duodenal perforation	4/33 (12%); 5/49 (10%)	5/5 (40%)	5/5 (100%)	Nil
Iatrogenic gastric perforation	1/33 (3%); 1/49 (2%)	1/1 (100%)	1/1 (100%)	Bleeding
Spontaneous oesophageal perforation	1/33 (3%); 1/49 (2%)	1/1 (100%)	1/1 (100%)	Nil
Other				
Post operative leak	1/33 (3%); 1/49 (2%)	1/1 (100%)	1/1 (100%)	Nil
Stent fixation	7/33 (21%); 8/49 (16%)	8/8 (100%)	4/8 (50% Stent migration rate)	Nil

Table 1: Overview of case series from endoscopic suturing in the upper GI tract

► **Table 1** Overview of case series from endoscopic suturing in the upper GI tract.

Results The Apollo OverStitch device was used a total of 49 times across 33 patients (54.6 % male) between August 2018 and October 2022. The mean age of patients at the time of the index procedure was 54 (+/- 17.2 years). Outcomes according to indication are highlighted below in Table 1.

Conclusions Our case series suggests that the Apollo OverStitch device can be used successfully for a diverse range of indications. Chronic fistulas typically require repeat treatment which may be related to epithelialisation impacting tissue opposition. Technical failure occurred most frequently with duodenal perforations. This was related to acute angulation at the D1/D2 junction impeding the ability to deploy sutures.

Conflicts of interest VS receives honorarium for professional services from Pentax Europe, Medtronic Ltd, Astra Zeneca and PharmacosmosR/JH receives educational grants to support research infrastructure from Medtronic Ltd. Cook endoscopy (fellowship support), Pentax Europe, C2 therapeutics, Beamline diagnostic, and Fractyl Ltd.

OP030 Preliminary report of Non-exposure simple suturing endoscopic full-thickness resection (NESS-EFTR) for early gastric cancer (SENORITA 3 study)

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DOI 10.1055/s-0043-1765034

Aims Non-exposure simple suturing endoscopic full-thickness resection (NESS-EFTR) was developed to prevent tumor exposure to the peritoneal cavity during EFTR. The aim of this study was to evaluate the feasibility of NESS-EFTR for early gastric cancer (EGC).

Methods This trial is a prospective phase II trial. Patients with EGC less than 3 cm in size without absolute indication for endoscopic submucosal dissection were eligible. Sentinel basin was detected using Tc^{99m}-phytate and indocyanine green, and the NESS-EFTR procedure was performed when all sentinel basin nodes were tumor-free by frozen pathologic examination. The primary outcome was the rate of complete resection, and secondary outcomes were the rate of successful NESS-EFTR. Estimated sample size is 88 patients.

Results This is the preliminary report of 44 patients where half of target sample size is registered. Six patients received conventional laparoscopic gastrectomy because metastatic sentinel lymph nodes were detected (n = 5) or withdrew consent. NESS-EFTR was successful in 34 of the 38 remaining patients (89.4%). Reasons of failure of NESS-EFTR were unclear tumor margin (n = 2) or perforations which could not be controlled by endoscopic procedure (n = 2). Complete resection rate as a primary endpoint was 89.4% (34/38). In cases of incomplete resection, immediate additional intraoperative endoscopic submucosal dissections (n = 3) or argon plasma coagulation (n = 1) was performed. There were four perforations.

Conclusions Early preliminary data shows NESS-EFTR with sentinel basin dissection is promising. This study is expected to clarify the feasibility NESS-EFTR with sentinel basin dissection for EGC.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Cholangioscopy world 1

20/04/2023, 10:00 – 11:00

Liffey Meeting Room 3

OP031 Prophylactic antibiotics in endoscopic retrograde cholangiopancreatography with peroral cholangioscopy

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DOI 10.1055/s-0043-1765035

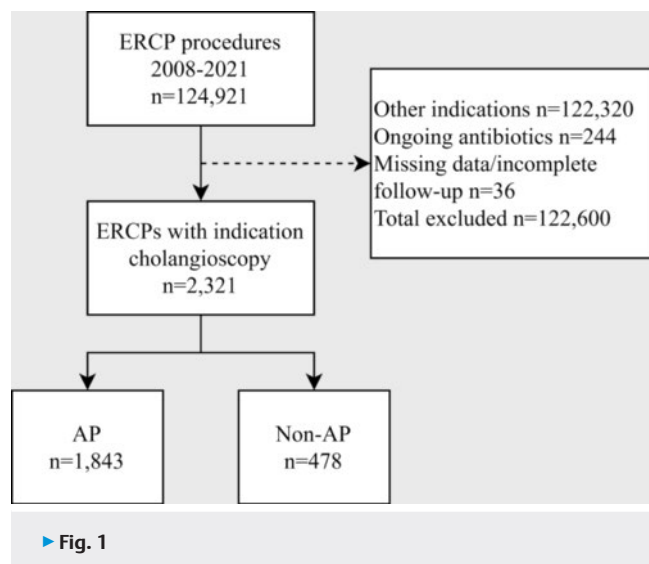
Aims Single-operator peroral cholangioscopy (SOC) has gained increasing attention in modern biliary and pancreatic therapy and diagnosis. This procedure has shown higher rates of infectious complications than conventional endoscopic retrograde cholangiopancreatography (ERCP); therefore, many guidelines recommend prophylactic antibiotics (AP). We aimed to study whether AP affects postprocedural infectious or overall adverse events (AE) in ERCP with SOC.

Methods We retrospectively extracted data from the Swedish Registry for Gallstone Surgery and ERCP (GallRiks). Of the 124,921 extracted ERCP procedures performed between 2008 and 2021, 2,321 were performed with SOC

and represented the study population. The exclusion criteria were incomplete 30-day follow-up and ongoing antibiotic use. Postprocedural infectious complications and overall adverse events at the were the main outcomes [1].

Results AP was administered to 1,843 patients (79.4%). In this group, 3.5% of the patients had infectious complications compared to 3.8% in the non-AP group ($P = .74$). The overall AE rates were 14.7% and 17.0% in the AP and non-AP groups, respectively ($P = .21$). The incidence of cholangitis was identical between the groups (3.1%). Both infectious complications (OR 0.92, 95% CI 0.54-1.58) and AE (OR 0.86, 95% CI 0.65-1.13) remained unaffected by AP administration (► Fig. 1).

Conclusions ERCP with SOC shows a high level of postprocedural infectious complications. However, we were unable to find any differences in complication rates with respect to AP administration.



Conflicts of interest Authors do not have any conflict of interest to disclose.
[1] Subhash A, Buxbaum JL, Tabibian JH. Peroral cholangioscopy: Update on the state-of-the-art. *World J Gastrointest Endosc* 2022; 14: 63-76

OP032 Performance and safety of percutaneous cholangioscopy: a systematic review and meta-analysis

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DOI 10.1055/s-0043-1765036

Aims There has been an increasing trend towards percutaneous cholangioscopy (PerC) use, especially in patients with surgically altered anatomy. This systematic review with meta-analysis aims to evaluate the cumulative performance of this technique in approaching and treating biliary disease.

Methods A systematic search in Medline and Cochrane was performed until October 2022. The primary outcome was technical success, defined as the percutaneous tract preparation and cholangioscope insertion into the biliary tree. Secondary outcomes included clinical success (stone extraction, stricture workup and stenting) and complication rates. A subgroup analysis was planned to evaluate the impact of previous generation and currently available cholangioscopes on the results.

Results Fourteen studies (682 patients) were eligible for analysis. The overall technical success rate of PerC was 99.6% [95% Confidence Interval (CI):99.1-100]. Clinical success was achieved at a rate of 87.6% (95%CI:82.1-93.1). Adverse events were recorded in 16.1% (95%CI:10-22.2), with the vast majority being minor [17.5% (95%CI:10.5-24.5) minor vs 0.6% (95%CI: 0.00-1.3) major]. Regarding subgroup analysis, the recently developed digital cholangioscopes resulted in null heterogeneity for all outcomes, but when compared with older generation endoscopes yielded significantly superior clinical success [93.7% (95%CI:86-100) vs 85.7% (95%CI: 78.9-92.5), $p = 0.017$].

Conclusions Percutaneous cholangioscopy, and especially using currently available digital cholangioscopes, is associated with high clinical success.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP033V Percutaneous single operator cholangioscopy-assisted ERCP in a patient with surgically altered anatomy

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DOI 10.1055/s-0043-1765037

Abstract Text Biliary access in surgically altered anatomy is challenging. We present a case of a 67 years old man who presented with symptomatic large common bile duct (CBD) stones and a background of Billroth II partial gastrectomy. Access to the afferent loop was achieved with conventional duodenoscopy, but this did not allow an adequate position for stone clearance using advanced techniques. Percutaneous single operator cholangioscopy (pSOC) allowed targeted lithotripsy, but stone fragments could not be removed. Therefore, we used pSOC to guide the duodenoscope to an optimal duodenal position, with complete stone clearance achieved through a combined anterograde and retrograde approach.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP034V Cholangioscopic removal of post-cholecystectomy surgical clips migrated into the common hepatic duct

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DOI 10.1055/s-0043-1765038

Abstract Text This is the case of a 75-year-old man with cholangitis, due to the presence of a common hepatic duct stricture close to multiple surgical clips of previous laparoscopic cholecystectomy, complicated by biliary fistula requiring surgical and radiological interventions. To date, the gold standard treatment has been ERCP and clip extraction with balloon or retrieval basket. Nowadays, cholangioscopy may be more suitable in this case, since the direct view allows precise and targeted use of removal devices, with higher chance of clinical success.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP035 Indeterminate biliary strictures in the era of cholangioscopy: comparison of the diagnostic techniques in a tertiary referral center

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DOI 10.1055/s-0043-1765039

Aims Biliary strictures remain often indeterminate (IBS) after the basic work up, due to the poor diagnostic yield of radiological imaging and low sensitivity of standard ERCP/EUS. In the last years the growth of digital single-operator

cholangioscopy (DSOC) with guided-biopsies (DSOC-GB) and other techniques, such as confocal laser endomicroscopy probe-based (pCLE) and intraductal ultrasound (IDUS), is driving mutation in this scenario. Aim of our study is to compare DSOC, IDUS and pCLE with cytology and DSOC-GB in patients with IBS.

Methods This is a monocentric, observational, prospective study on patients with IBS, underwent to DSOC in our center between January 2018 and March 2022. Every patient had at least a previous inconclusive attempt to characterize IBS. DSOC, IDUS and pCLE findings were considered suspicious for malignancy according to previous published criteria. Final diagnosis was based on surgical pathology or follow up of at least 6 months. Diagnostic accuracy, sensitivity, specificity, PPV and NPV were compared with Fisher's exact test [1–2].

Results Fiftyfour patients were enrolled. Technical success rate of DSOC was 94%. Final diagnosis was congruent with malignancy in 59% patients, mainly due to cholangiocarcinoma. DSOC visual evaluation, pCLE and IDUS had the highest accuracy (91%, 91%, 86% respectively) and sensitivity rates (88%, 93%, 89%). DSOC evaluation showed significantly higher accuracy compared to DSOC-GB and brushing cytology (respectively 80% and 64%, $p < 0.01$). pCLE had the highest sensitivity (93%), followed by IDUS (89%) and DSOC view (88%).

Conclusions In our cohort DSOC, IDUS and pCLE demonstrated the highest diagnostic accuracy, helping to define IBS in a single-shot-procedure (► Fig. 1).

Technique	Diagnostic performances (95% CI)	
DSOC visual evaluation	Sensitivity	88% (72-95 %)
	Specificity	95% (78-99 %)
	PPV	96% (83-99 %)
	NPV	84% (65-94 %)
	Accuracy	91% (80-96 %)
IDUS	Sensitivity	89% (74-96 %)
	Specificity	80% (58-92 %)
	PPV	86% (70-95 %)
	NPV	84% (62-94 %)
	Accuracy	86% (73-93 %)
pCLE	Sensitivity	93% (69-99 %)
	Specificity	83% (44-97 %)
	PPV	93% (69-99 %)
	NPV	83% (44-97 %)
	Accuracy	91% (71-97 %)
Cytology	Sensitivity	55% (37-72 %)
	Specificity	100% (68-100 %)
	PPV	100% (80-100 %)
	NPV	40% (22-61 %)
	Accuracy	64% (48-78 %)
DSOC-guided biopsies	Sensitivity	66% (49-81 %)
	Specificity	100% (83-100 %)
	PPV	100% (84-100 %)
	NPV	66% (47-80 %)
	Accuracy	80% (66-89 %)

► Fig. 1

DSOC: digital single-operator cholangioscopy; IDUS: intraductal ultrasound; pCLE: confocal laser endomicroscopy probe-based

Conflicts of interest Claudio Giovanni De Angelis is a consultant for Boston Scientific, Olympus and Medi-Globe

[1] Almadi MA, Itoi T, Moon JH et al. Using single-operator cholangioscopy for endoscopic evaluation of indeterminate biliary strictures: results from a large multinational registry. *Endoscopy* 2020; 52: 574–82

[2] Arvanitakis M. Digital single-operator cholangioscopy-guided biopsy for indeterminate biliary strictures: Seeing is believing? *Gastrointestinal Endoscopy* 2020; 91: 1114–1116

OP036V Staged Hepaticogastrostomy (HGS) and Retrograde Cholangiopertoneoscopy (RCPS) to Reconnect a Transected Bile Duct (TBD) after Laparoscopy Cholecystectomy (LC)

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DOI 10.1055/s-0043-1765040

Abstract Text Standard management of TBD is surgery with prior PTBD. Rendezvous (PMID:29351705) or interventional EUS (PMID:34816304) can reconnect TBDs; yet, recanalization may fail [1–2].

High-output bile leakage shortly after LC. Complete bile duct cut-off with large biloma contrast filling on ERCP. EUS-HGS was performed with covered-biliary SEMS. 2-weeks later, a guidewire was coiled within biloma thru HGS. Cholangioscope passed from distal TBD into biloma grasps antegrade wire. After biliary stenting across TBD, leakage stops.

HGS is feasible in TBDs with intrahepatic biliary dilatation and helps control acute leaks. Staged antegrade access thru HGS combined with RCPS facilitates recanalization & cure.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] de Benito Sanz M, Carbajo AY, Sanchez-Ocana R et al. Combined endoscopic retrograde and endosonography-guided (CERES) cholangiography for interventional repair of transected bile ducts after cholecystectomy: treatment approaches and outcomes. *Surg Endosc* 2022; 36: 2197–2207. doi:10.1007/s00464-021-08809-z

[2] Schreuder AM, Booij KAC, de Reuver PR et al. Percutaneous-endoscopic rendezvous procedure for the management of bile duct injuries after cholecystectomy: short- and long-term outcomes. *Endoscopy* 2018; 50: 577–587. doi:10.1055/s-0043-123935

ERCP, EUS, and the pancreas

20/04/2023, 10:00 – 11:00

Lifey Meeting Room 1

OP037 Predictors of pain relief after extracorporeal shockwave lithotripsy for painful chronic calcific pancreatitis

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DOI 10.1055/s-0043-1765041

Aims ESGE suggests ESWL and/or ERCP as first-line therapy for painful uncomplicated chronic pancreatitis with an obstructed main pancreatic duct in the head/body of the pancreas.

However, predictors of pain relief after ESWL are unknown. We aimed to evaluate the independent predictors of pain relief in patients with chronic calcific pancreatitis after ESWL.

Methods A total of 500 consecutive adult patients of chronic pancreatitis, who underwent successful pancreatic lithotripsy and ERCP and PD stent placement were followed for 12 months. The pain was assessed at baseline and at 12 month using Izbicki pain score. The independent predictors of complete pain relief were derived from logistic regression analysis.

Results Of 500 patients, 434 (86.8%) had complete or partial pain relief while remaining 66 did not had pain relief. On univariate analysis, older age, MPD size, active smoking, MPD stricture, requirement of more than one ESWL session, pancreas divisum were associated persistent pain at 6 month after pancreatic lithotripsy ($p < 0.05$). While gender, CBD stricture, active alcohol abuse and presence of DM were not associated with persistent pain ($p > 0.05$). On

logistic regression analysis; active smoking (p 0.003, OR 3.06; 95%CI 1.47 – 6.41), and MPD stricture (p 0.0001, OR 4.33; 95%CI 2.34 – 8.00) were independent predictors of absence of complete pain relief at 12 month

Conclusions Active smoking and MPD stricture are independent predictors of persistent pain after successful pancreatic lithotripsy. A multidisciplinary team approach which includes behavioral therapy and surgical options should be considered in such patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP038 Long-term efficacy of a modified non-flared fully covered metal stent for benign main pancreatic duct strictures: results of a 6-year follow-up study

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DOI 10.1055/s-0043-1765042

Aims Despite fully covered self-expandable metal stents (FCSEMSs) can be effective for the treatment of main pancreatic duct (MPD) strictures associated with chronic pancreatitis, relevant long-term results are rarely reported. We evaluated the long-term efficacy of the modified non-flared FCSEMS (M-FCSEMS) in patients with benign MPD strictures due to chronic pancreatitis.

Methods We reviewed our database for patients who underwent complete resolution of MPD stricture after placement of M-FCSEMS. The M-FCSEMS was placed intraductally or transpapillary according to the location and length of the stricture. Stent removal was performed at 3 months after placement. The primary outcome was the recurrence of MPD stricture that requires re-intervention during the follow-up period.

Results Endoscopic placement of M-FCSEMSs was technically successful for all 25 patients, and achieved the resolution of stricture. Intraductal placement was performed in 11 patients (44.0%). Intended stent removal was successful in all patients. Re-intervention for the management of MPD stricture recurrence was performed in 12.0% (3/25) of patients during 76.9 months of median duration of follow-up (interquartile range [IQR], 52.5 – 93.8 months). No FCSEMS-related de novo stricture was observed.

Conclusions These findings from long-term follow-up results suggest that M-FCSEMS shows long-term efficacy for stricture resolution without de novo stricture in patients with benign MPD stricture.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP039V A hidden cause of pancreatitis in a child with a previous choledochal cyst resection – Diving for pearls in bile duct remnant

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DOI 10.1055/s-0043-1765043

Abstract Text We present an unusual case of acute pancreatitis in a child with medical history of partial resection of main bile duct due to a type I choledochal cyst (Todani's classification). MRCP showed a dilated remnant intrapancreatic bile duct with intraluminal filling defects suggestive of lithiasis. During ERCP, there was no evidence of lithiasis, but a large amount of soft whitish material, compatible with protein plugs, was extracted from the remnant bile duct. In addition, an anomaly of the biliopancreatic junction, often associated to choledochal cysts, was present. Acute pancreatitis due to protein plugs is a complication described in patients with incomplete resection of the choledochal cysts [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Kaneko K, Ando H, Seo T et al. Proteomic Analysis of Protein Plugs: Causative Agent of Symptoms in Patients with Choledochal Cyst. *Digestive Diseases and Sciences* 2007; 52 (8): 1979–1986

[2] Chiba K, Kamisawa T, Egawa N. Relapsing acute pancreatitis caused by protein plugs in a remnant choledochal cyst. *Journal of Hepato-Biliary-Pancreatic Sciences* 2010; 17 (5): 729–730

[3] Kim E, Kang M, Lee J et al. Two Cases of Plug or Stone in Remnant Intra-pancreatic Choledochal Cysts Treated with Endoscopic Retrograde Cholangiopancreatography. *Clinical Endoscopy* 2017; 50 (5): 504–507

OP040 Clinical consequences, management strategies and long term outcomes of disconnected pancreatic duct syndrome in acute pancreatitis: A Decade's Experience from a Tertiary Centre

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DOI 10.1055/s-0043-1765044

Aims To study the real-world management strategies and long-term outcomes for disconnected pancreatic duct syndrome (DPDS) in acute pancreatitis.

Methods The database of patients with acute necrotizing pancreatitis (ANP) with DPDS including demographics, site of duct disruption, details of endoscopic/radiological or surgical interventions along with long-term outcomes over a decade were retrospectively analysed.

Results Sixty-eight patients (mean age: 30 ± 8.16 years; male: female was 5.8) had duct disruption at neck, body, and tail in 33.8%, 63.2%, and 2.9%, respectively. Majority of patients with DPDS had refractory external pancreatic fistula (EPF) consequent to image-guided percutaneous drainage 53 (77.9%) while three (4.41%) patients developed EPF post-surgery. Other presentations were recurrent pancreatic fluid collection (PFC) following successful transmural drainage of walled off necrosis (WON) in 11 (16.2%) patients and recurrent pain/pancreatitis in 4 (5.9%) patients. None of these patients with recurrence had a permanent indwelling transmural stent. Management of EPF was done by endoscopic ultrasound (EUS) guided drainage in 25 (36.8%), surgery in 8 (11.8%), and one patient required medical therapy only. Recurrence of PFC was managed by repeat EUS intervention in 5/11 (45.45%). Following successful endoscopic or surgical management of symptomatic DPDS, no recurrence of PFC or pain was observed in any patient while 18 (26.5%) patients developed Diabetes mellitus (DM) over a mean follow-up period of 54.43 ± 29.46 months.

Conclusions EUS guided interventions seem to be safe and effective for management of DPDS. Despite successful drainage of disconnected segments, one third of patients develop DM.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP041 Endoscopic Ultrasound Shear Wave for Assessing Chronic Pancreatitis and Solid Pancreatic Neoplasm: A Nested Case-Control Study

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DOI 10.1055/s-0043-1765045

Aims To estimate EUS-guided shear wave elastography (EUS-SW) diagnostic accuracy for chronic pancreatitis (CP) and solid pancreas neoplasms (PN).

Methods Included cases with recent diagnosis of CP or PN undergoing EUS-SW (12/20-11/22); a control group (CG) with cases requiring EUS evaluation for subepithelial lesion. Fatty pancreas score, strain ratio (SR), histogram (SH), and ten EUS-SW elasticity (SWE) measurements and dispersion (SWD) were assessed. SWE/SWD variation was based on quotient among IQR and median.

SWE and SWD association was estimated with a MANOVA in <30% variation. SWE and SWD cut-off values were calculated with Youden's index [1–2].

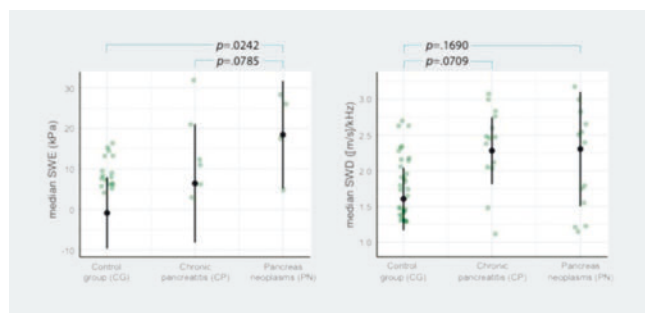
	Total (N=88)	Control Group (CG) (N=37)	Chronic pancreatitis (CP) (N=14)	Pancreas neoplasms (PN) (N=37)	p-value
Age (years), median (IQR)	62.5 (53.0 - 70.0)	58.0 (49.0 - 65.0)	63.0 (57.5 - 69.3)	69.0 (61.0 - 73.0)	<.001*
Gender (female), n (%)	42 (47.7)	17 (45.9)	8 (57.1)	17 (45.9)	.744 ^b
BMI (kg/m ²), median (IQR)	26 (22.6 - 28.1)	27.6 (25.8 - 30.9)	27.6 (26.5 - 30.0)	22.6 (21.2 - 25.1)	<.001*
Diabetes, n (%)	27 (30.7)	5 (13.5)	6 (42.9)	16 (43.2)	.0101 ^c
Fatty liver, n (%)	35 (39.8)	25 (67.6)	9 (64.3)	1 (2.7)	<.001*
Smokers, n (%)					.466 ^b
No	77 (87.5)	34 (91.9)	11 (78.6)	32 (86.5)	
Ex (<15 years)	11 (12.5)	3 (8.1)	3 (21.4)	5 (13.5)	
Yes	-	-	-	-	
Alcohol intake, n (%)	12 (13.6)	4 (10.8)	2 (14.3)	6 (16.2)	.777 ^b
Location, n (%)					n/a
Head	-	-	-	27 (73.0)	
Isthmus	-	-	-	7 (18.9)	
Body	-	-	-	2 (5.4)	
Missing	-	-	-	1 (2.7)	
Size (mm), median (IQR)				35.5 (30.0 - 43.5)	n/a
Fatty pancreas score, n (%)					.009 ^c
I	-	-	-	-	
II	31 (35.2)	14 (37.8)	8 (57.1)	9 (24.3)	
III	42 (47.7)	21 (56.8)	6 (42.9)	15 (40.5)	
IV	13 (14.8)	2 (5.4)	-	11 (29.7)	
Missing	2 (2.3)	-	-	2 (5.4)	
Strain ratio, median (IQR)	4.35 (3.55 - 6.54)	3.55 (2.92 - 4.34)	3.95 (3.62 - 4.65)	7.57 (5.29 - 11.1)	<.001*
Strain histogram, median (IQR)	69.8 (58.2 - 81.2)	77.0 (67.0 - 85.2)	79.7 (72.7 - 86.2)	57.2 (46.2 - 65.5)	<.001*
SWE (kPa), median (IQR)	10.5 (7.26 - 16.6)	9.73 (7.14 - 13.8)	18.7 (12.5 - 21.9)	10.3 (7.00 - 16.6)	.014 ^a
SWE IQR/median <30%, n (%)	27 (30.7)	17 (45.9)	6 (42.9)	4 (10.8)	.002 ^c
SWD (m/s)/kHz, median (IQR)	1.90 (1.55 - 2.37)	1.87 (1.54 - 2.16)	2.50 (2.04 - 2.69)	1.85 (1.52 - 2.31)	.023 ^a
SWD IQR/median <30%, n (%)	57 (64.8)	30 (81.1)	14 (100.0)	13 (35.1)	<.001*

IQR, interquartile range
a. Kruskal-Wallis rank-sum test.
b. Pearson's Chi-squared test.
c. Fisher's Exact Test for Count Data.

► **Table 1** ANOVA predicted values of endoscopic ultrasound (EUS)-guided shear wave elasticity (SWE) and dispersion (SWD).

Results 88 enrolled cases (37 CG, 14 CP, 37 PN). Fatty pancreas score II and III was similar in CG (37.8%/56.8%) and CP (57.1%/42.9%); there was a significant difference in PN, with a score II, III, and IV of 24.3%, 40.5%, and 29.7%, respectively ($p < .001$). Median SR was similar among CG (3.6; IQR 2.9 – 4.3) and CP (3.9; IQR 3.6 – 4.7), but significantly different to PN (7.6; IQR 5.3 – 11.1; $p < .001$). Median SWE and SWD were 10.5 kPa (7.3 – 16.6) and 1.9 [m/s]/kHz (1.6 – 2.4), with a <30% variation in 30.7% and 64.8%, respectively (table 1). Diabetes was associated to higher SWE and SWD ($p < .05$). Predicted SWE were significantly different among PN vs CG (-13.1; -24.4 to -1.7; $p = .0242$) (► **Fig. 1**). SWE ≥ 17.4 diagnosed PN with a 75% sensitivity, 91% specificity, 60% PPV and 95% NPV; while SWD ≥ 2.31 predicted PN with a diagnostic accuracy of 54%, 70%, 35%, 84%, respectively.

Conclusions EUS-SW is a valuable measuring tool for CP and PN diagnostic workups. NCT05095831 (► **Fig. 2**).



► **Fig. 2**

Conflicts of interest Carlos Robles-Medrand is a key opinion leader and consultant for Pentax Medical, Boston Scientific, Steris, Medtronic, Motus, Micro-tech, G-Tech Medical Supply, CREO Medical, EndoSound, and Mdcgroup. The other authors declare no conflicts of interest.

[1] Gerber L, Kasper D, Fitting D, Knop V, Vermehren A, Sprinzl K, Hansmann ML, Herrmann E, Bojunga J, Albert J, Sarrazin C, Zeuzem S, Friedrich-Rust M. Assessment of liver fibrosis with 2-D shear wave elastography in comparison to transient elastography and acoustic radiation force impulse imaging in patients with chronic liver disease. *Ultrasound Med Biol* 2015; 41 (9): 2350–9. doi:10.1016/j.ultrasmedbio.2015.04.014 Epub 2015 Jun 24 PMID: 26116161 [2] Piscaglia F, Salvatore V, Mulazzani L, Cantisani V, Schiavone C. Ultrasound Shear Wave Elastography for Liver Disease. A Critical Appraisal of the Many Actors on the Stage. *Ultraschall Med* 2016; 37 (1): 1–5. doi:10.1055/s-0035-1567037 Epub 2016 Feb 12 PMID: 26871407

OP042 Shear-wave elastography versus Strain elastography with histogram analysis in solid pancreatic lesions: a head-to-head comparison

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DOI 10.1055/s-0043-1765046

Aims To assess the diagnostic value of shear wave endoscopic ultrasound elastography (SWM) as compared to Strain elastography histogram endoscopic ultrasound (SH) in solid pancreatic lesions.

Methods Our prospective study was started in February 2022 in two hospitals. We recruited patients with solid pancreatic masses >2cm in diameter identified at a CT (computer tomography) scan who were referred for EUS. Patients were assessed with strain histogram (SH, three measurements), followed by EUS-SWM (at least 3 measurements). The final diagnosis was based on surgery, EUS tissue acquisition results and 6 months follow up.

Results We evaluated 92 patients with solid pancreatic lesions, mean age 66 ± 10 years, 56 men. The final diagnosis was pancreatic adenocarcinoma (65 patients), benign lesions (10 cases), neuroendocrine tumors (8 cases), 9 other malignancies. The mean values observed for SH and SWM were 31,21 and 2,53m/s for benign masses, 33,95 and 2,27m/s for pancreatic adenocarcinoma, 49,21 and 2,26m/s for neuroendocrine tumors. No significant differences were observed between groups or between malign and benign masses (p -values > 0.25).

Conclusions In this prospective study we found no significant difference between SE-EUS and EUS-SMW. Further research is needed on this topic in order to face the challenges in standardize the EUS-SMW procedure in pancreatic lesions.

EUS needles in the pancreas, 20/04/2023, 10:00 – 11:00 Ecocem

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP043 Comparison of needle tip designs for sampling of solid pancreatic masses: A network meta-analysis of randomized controlled trials

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DOI 10.1055/s-0043-1765047

Aims Five needle tip designs (Menghini, Forward bevel, Reverse bevel, Franseen, Fork-tip) are used for tissue acquisition of solid pancreatic masses. This study aimed to compare the diagnostic adequacy of these by network meta-analysis.

Methods Randomized controlled trials comparing size or design of needles for TA of solid pancreatic masses, were included. MEDLINE (via PubMed), CENTRAL, Embase, Web of Science and Scopus were searched in May 2022, without filters or restrictions. Odds ratios were calculated, a random effects model applied and P-scores (0 to 1) calculated to rank the needles. The risk of bias was assessed using the Cochrane Risk of Bias tool (RoB2).

Results 4913 records were identified, and 37 were included for analysis. For histological adequacy, the 25G (P-score: 0.748) and 22G (0.746) Fork-tip performed best, the 25G (0.279) and 22G (0.264) Menghini worst. For cytological adequacy, the best performing needles were the 22G Fork-tip (0.814) and 25G reverse-bevel (0.767), and worst were the 22G reverse-bevel (0.332) and 22G Menghini (0.175). For adverse events, the 25G reverse-bevel (0.797) and 20G forward-bevel (0.689) performed best, the 22G Franseen (0.319) and 19G Menghini (0.228) worst. For technical failures, the 25G (0.845) and 22G (0.742) Franseen were best; the worst were the 22G (0.199) reverse-bevel and 19G (0.060) Menghini needles.

Conclusions Based on our results, fork-tip needles have higher diagnostic adequacy but a slightly increased risk of adverse events. Menghini needles performed worst. Limitations of the review are large uncertainties due to low event numbers for adverse events and technical failures and a small number of direct comparisons.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP044 Initial experiences with a novel EUS-FNB derived organoid coculture system for drug screening in patients with pancreatic cancer

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DOI 10.1055/s-0043-1765048

Aims Choice of chemotherapeutic treatment based on drug screening of patient-derived tumor organoids (PDTOs) may present a breakthrough in personalized medicine. Here we present our initial experiences with a next-generation organoid model, including PDTOs and patient-derived Cancer Associated-Fibroblasts (CAFs) from pancreatic cancer derived from EUS-FNB samples to use for drug screening purposes.

Methods Patients were included prospectively with the purpose of creating cocultures for drug screening. PDTO and CAF cultures were established from EUS-FNB samples obtained during diagnostic procedures. Drug screening response was measured by analysis of image metrics.

Results We included 39 patients (41 biopsy samples) undergoing a diagnostic EUS-FNB procedure. PDTOs could be established in 80%, but only expanded sufficiently for a potential drug screen in 37.5 % of cases if the corresponding biopsy was diagnostic for adenocarcinoma. Similar success rates were seen for CAFs. The addition of CAFs in cocultures significantly improved organoid viability during drug screening conditions (38% difference in organoid area, $p = 0.045$).

Conclusions Advanced organoid cocultures could be created from EUS-FNB samples from pancreatic cancer and they may provide a more accurate disease model compared with traditional monocultures. However, challenges related to growing and expanding cells from biopsies may limit their clinical potential.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP045 Incremental yield of combined cytohistological processing of EUS FNB specimens compared to cytological processing alone (Formalin plus Cytolyt preserved samples compared to Cytolyt alone)

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DOI 10.1055/s-0043-1765049

Aims The practice amongst most European and North American centers, use Cytolyt as the preferred preservative compared to formalin or alcohol for EUS FNB samples. 1

Methods Retrospective analysis of all patients undergoing EUS guided FNB from January 2020 to December 2021 (during the CoVid-19 pandemic), for all non-cystic HPBlesions. FNB was performed using Cook Echotip Procore 20G needle or 22-gauge Acquire needle. All patients had minimum 2 passes done with the same needle, specimens from each pass were randomly collected in BD Cytolyt or 10% neutralbuffered Formalin (4% formaldehyde). Each preservative had either 1 or 2 passes of material [1].

Results In total, 225 patients had EUS guided FNB sampling. 128M: 97F. Average age was 69.7 years (± 11.3). Of these, only 75 had samples were both processed in Cytolyt and formalin, with rest of 146 samples in Cytolyt only. Final diagnosis was made in 203 patients (91.3%) patients. 84.6% was the diagnostic yield with Cytolyt alone compared to 91.3% with both preservatives combined, with an incremental yield of 6.7% ($P = 0.5$, N.S).

Conclusions Combined processing with pap-smear plus cell block (via samples collected with Cytospin) and core specimens processed as standard histology cell blocks (via formalin and fixation) improves diagnostic yield, compared to current practice of Cytolyt based cytohistology.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] van Riet PA, Cahen DL, Poley JW, Bruno MJ. Mapping international practice patterns in EUS-guided tissue sampling: outcome of a global survey. *Endosc Int Open* 2016; 4 (3): E360–70

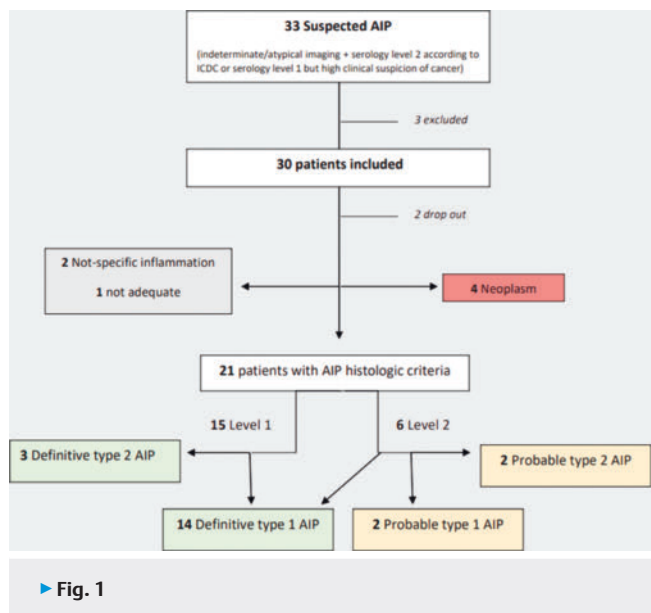
OP046 Utility of EUS-FNB with end-cutting needles in suspected focal/segmental autoimmune pancreatitis: results from a prospective study

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DOI 10.1055/s-0043-1765050

Aims We aimed to evaluate the capability of EUS-FNB using end-cutting needles to provide tissue samples useful in enhancing the diagnostic level of AIP according to the existing consensus criteria (ICDC).



Methods Adult patients referred for EUS-FNB in suspected focal/segmental type 1 or type 2 AIP at the Pancreatic Endoscopy of Verona were prospectively recruited. Ongoing or recent steroid therapy and previous AIP diagnosis were excluded. The primary endpoint was the rate of the enhanced diagnostic level after EUS-FNB. Secondary endpoints were the neoplasm rate and safety of EUS-FNB.

Results Thirty patients (21 male, mean age 62.2 ± 15.9) with suspected AIP (19 focal and 11 segmental) were included. Jaundice was the most frequent symptom (42.8%). Two patients dropped out for normal pancreatic appearance at EUS. The adequacy rate was 96.4%. Four patients were diagnosed with pancreatic cancer (neoplasm rate 14.3%). EUS-FNB provided 15 histologic level 1 and six level 2 resulting in definitive AIP diagnosis in 17/24 (70.8%) cases. In 2 patients a not specific inflammation was found. The remaining four NOS-type AIP patients were implemented in probable type 1 or 2 AIP (► Fig. 1). Specificity and Sensitivity were 100%. No EUS-FNB-related adverse events were observed.

Conclusions EUS-FNB enhanced the ICDC diagnostic level of AIP in 70.8% of patients, with a good safety profile when performed in a tertiary center with dedicated pathologists. These data suggest that, in patients with suspected focal/segmental AIP, EUS can allow a prompt histological diagnosis before starting steroid therapy.

Figure: results overview.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP047 Description of technique for EUS-guided tissue acquisition in pancreatic cancer for comprehensive molecular profiling: Results of a randomized trial

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DOI 10.1055/s-0043-1765051

Aims As theoretically actionable genomic lesions are found in 50% of pancreatic cancers which can impact clinical management in up to 30% of patients, there is increased focus on molecular profiling. Although EUS-FNB is an established method for pathological diagnosis in pancreatic cancers, technique for comprehensive molecular profiling (CMP) has not been described.

Methods Patients with pancreatic adenocarcinoma on ROSE at EUS were randomized to 2 or 3 dedicated FNB passes for CMP. Tissue was procured using 22G Franseen needle adopting fanning technique and stylet-retraction maneuver. Genomic DNA and total RNA were extracted from cell blocks. Next-generation sequencing was performed for analyzing 69 gene DNA mutations and 53 RNA somatic oncogenic gene fusions. Main outcome measure was specimens in which adequate DNA and RNA were extracted for CMP.

Results 33 patients were randomized to 2 (n = 17) or 3 (n = 16) FNB passes. While sufficient DNA was extracted from all 33 cell blocks, adequate RNA was extracted from 93.8% in 3-pass vs. 94.1% in 2-pass cohort (p = 0.99). There was no significant difference in mean DNA concentration (2-pass 10.7[SD 7.1] vs. 3-pass 7.9ng/ul[SD 4.4]; p = 0.19) or RNA (2-pass 37.1[SD 26.5] vs. 3-pass 28.9ug/ul[SD 13.2]; p = 0.29) between groups. While somatic oncogene RNA fusion (LDAH-ETV1) predictive of metastatic disease was identified in 1, DNA mutations were identified in all 33 pts (inc. 1 BRCA1 for Oxaliplatin based chemotherapy) (► Table 1).

	Two passes (n=17)	Three passes (n=16)	P-value
Adequate DNA extracted: n (%)	17 (100)	16 (100)	0.99
DNA concentration: ng/uL Mean (SD)	10.7 (7.1)	7.9 (4.4)	0.19
Adequate RNA extracted: n (%)	16 (94.1)	15 (93.8)	0.99
RNA concentration: ng/uL Mean (SD)	37.1 (26.5)	28.9 (13.2)	0.29

► Table 1

Conclusions Specimens of adequate quantity and of high quality for CMP in pancreatic cancer can be procured in nearly 95% of patients by performing 2 dedicated passes using 22G Franseen needle, adopting fanning maneuver and stylet-retraction technique.

Conflicts of interest Dr. Ji Young Bang is a Consultant for Boston Scientific Corporation and Olympus America Inc. Dr. Shyam Varadarajulu is a Consultant for Boston Scientific Corporation, Olympus America Inc. and Medtronic. Dr. Robert Hawes is a Consultant for Boston Scientific Corporation, Olympus America Inc., Medtronic and Cook Medical. Dr. Udayakumar Navaneethan is a Consultant for Janssen, Pfizer, Takeda, AbbVie, Bristol Myers Squibb and GIE Medical Inc.

OP048 The accuracy of EUS-guided through-the-needle biopsy in the preoperative diagnosis of rare pancreatic cysts

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DOI 10.1055/s-0043-1765052

Aims Due to overlapping macroscopic appearance, rare pancreatic cysts (RPC) are often misdiagnosed as mucinous lesions and improperly resected. We aimed to evaluate the EUS-guided through-the-needle biopsy (TTNB) capability of assessing their preoperative diagnosis.

Methods Overall, 135 patients with PCLs referred for EUS-TTNB between 2016 and 2022 were retrospectively identified. Common histotypes (e.g., IPMN, serous cystadenoma, and mucinous cystadenoma) were excluded, and EUS findings, adverse events (AEs), and TTNB outcomes in RPCs were evaluated.

Results Twenty-five (18.5%) RPCs patients (14 female, mean age 53.7 ± 10.4) were analyzed. The cysts histotypes were accurately diagnosed by TTNB in 22 (88%) cases (7 cystic neuroendocrine tumors, 4 squamoid cysts, 3 acinar cells cystadenomas, 2 lymphoepithelial cysts, 2 mucinous non-neoplastic cysts, 2 bronchogenic cysts, 1 cystic lymphangioma, 1 solid-pseudopapillary neoplasm). In the remaining 3 cases, a lymphangioma was eventually diagnosed. Surgery was performed in 56% of patients. The mean follow-up of not surgical patients was 29.7 ± 12.5 months. One severe acute pancreatitis (4%) occurred

after EUS-TTNB and required surgical treatment. Data of RPC are resumed in the table.

Conclusions Rare pancreatic cysts represent the 18.5 % of PLCs in our series, with histotypes often benign. TTNB demonstrated high diagnostic performance with low AEs rate in this setting, representing a reliable tool to avoid useless surgery (► [Table 1](#)).

N=25	eNET	SCOP	aCC	CL	LeC	MNC	BC	SPN
N° of cases	7	4	3	4*	2	2	2	1
Mean size (mm)	25.8±6.7	29±7.5	47.6±15.8	57.5 ±8.3	56.5±8.5	29±11	65 ±5	25
Location								
Head	1	2	1	2	1	1	0	1
Body	2	2	1	1	1	0	0	0
Tail	4	0	1	1	0	1	2	0
Wall thickness	100%	25%	33%	0%	0%	0%	0%	0%
Adverse event	0 (0%)	1/4 (25%) Pancreatitis	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0%	0 (0%)
Malignant potential	yes	no	uncertain	no	no	no	uncertain	yes
Surgery	4/7 (57.1%)	2/4 (50%)	1/3 (33%)	3 (75%)	0 (0%)	1/2 (50%)	2 (100%)	1/1 (100%)

* 3 cases diagnosed after surgery: eNET, cystic neuroendocrine tumor; SCOP, squamous cyst of pancreatic ducts; aCC, acinar cell cystadenoma; CL, cystic lymphangioma; LeC, lymphoepithelial cyst; MNC, mucinous non-neoplastic cyst; BC, bronchogenic cyst; SPN, solid pseudopapillary neoplasm

► [Table 1](#)

Conflicts of interest Authors do not have any conflict of interest to disclose.

Esophagus – transmural defects: vacuum it or stent it?

20/04/2023, 11:30 – 12:30

Liffey Meeting Room 2

OP049V A Successful Case of Vacuum-Stent Treatment of Boerhaave Syndrome

Authors L. M. Pattynama^{1,2}, W. J. Eshuis², R. E. Pouw³

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DOI 10.1055/s-0043-1765053

Abstract Text Boerhaave syndrome is a rare disease, associated with severe morbidity and mortality. Recently, a vacuum-stent was introduced as novel treatment option, combining the benefits of endoscopic vacuum therapy and an intraluminal stent.

A 36-year-old male presented with severe abdominal pain after emesis. CT-scan and endoscopy showed a defect of 2 cm in length with a contaminated cavity. After 31 days, defect closure was achieved with vacuum-stent treatment and surgical decortication of the empyema. During treatment, oral intake was extended to a soft diet. One day after removal, the patient resumed oral intake and was discharged.

Conflicts of interest R.E. Pouw is consultant for MicroTech Europe and Medtronic bv., received speaker fee from Pentax and is on the advisory board for EsoCap AG.

OP050 Experience with endoluminal vacuum therapy for the management of upper gastrointestinal tract defects in a tertiary hospital

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DOI 10.1055/s-0043-1765054

Aims Upper gastrointestinal tract leaks, fistulae, and perforations often represent a management challenge. Endoluminal vacuum therapy (E-VAC) is a new treatment which is still under investigation. The aim of this study is to describe the clinical course of patients treated with this technique in our center and to analyze which factors were associated with its success.

Methods Single-center, observational, retrospective study conducted at the Gregorio Marañón General University Hospital in Madrid. All patients with upper gastrointestinal tract defects who were treated with E-VAC since the introduction of this technique in our center were included (from August 2019 to November 2022) [1–6].

Results Data from 21 patients were analyzed. Main indications for E-VAC were anastomotic leaks (90.5 %) followed by esophageal perforations (9.5 %). The mean number of procedures per patient was 4.95 (SD 3.28). Median treatment duration was 18 days (range 9–28.5).

18 patients (85.7 %) achieved complete closure of the defect. 10 of them only needed E-VAC, while 8 required adjuvant therapies. Treatment failed in 2 patients (9.5 %), who required surgical reintervention. Adverse effects occurred in 5 patients (23.8 %), only one of them was directly related to E-VAC. Lower PCT levels and a longer time to leak diagnosis were two factors associated with treatment success. There was one death from unrelated causes.

Conclusions In our study, E-VAC showed a good safety and efficacy profile, with results similar to those reported in the literature. Randomized studies are necessary to demonstrate its superiority over standard therapy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Scognamiglio P, Reeh M, Karstens K, Bellon E, Kantowski M, Schön G et al. Endoscopic vacuum therapy versus stenting for postoperative esophagoenteric anastomotic leakage: Systematic review and meta-analysis. *Endoscopy* 2020; 52 (8): 632–42

[2] Scognamiglio P, Reeh M, Melling N, Kantowski M, Eichelmann AK, Chon SH et al. Management of intra-thoracic anastomotic leakages after esophagectomy: updated systematic review and meta-analysis of endoscopic vacuum therapy versus stenting. *BMC Surg* [Internet] 2022; 22 (1): 1–13

[3] Berlth F, Bludau M, Plum PS, Herbold T, Christ H, Alakus H et al. Self-Expanding Metal Stents Versus Endoscopic Vacuum Therapy in Anastomotic Leak Treatment After Oncologic Gastroesophageal Surgery. *J Gastrointest Surg* 2019; 23 (1): 67–75

[4] Tavares G, Tustumi F, Tristão LS, Bernardo WM. Erratum: Endoscopic vacuum therapy for anastomotic leak in esophagectomy and total gastrectomy: A systematic review and meta-analysis (*Diseases of the Esophagus*. *Dis Esophagus* 2021; 34 (5): 1–24. doi:10.1093/dote/daaa132)

[5] Aziz M, Haghbin H, Sharma S, Weissman S, Saleem S, Lee-Smith W et al. Safety and effectiveness of endoluminal vacuum-assisted closure for esophageal defects: Systematic review and meta-analysis. *Endosc Int Open* 2021; 09 (9): E1371–80

[6] do Monte Junior ES, de Moura DTH, Ribeiro IB, Hathorn KE, Farias GFA, Turiani CV et al. Endoscopic vacuum therapy versus endoscopic stenting for upper gastrointestinal transmural defects: Systematic review and meta-analysis. *Dig Endosc* 2021; 33 (6): 892–902

OP051 Endoscopic vacuum therapy for the treatment of upper gastrointestinal defects. Results of a Spanish multicenter registry

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9 Marqués de Valdecilla University Hospital, Santander, Spain; 10 Palma de Mallorca, Spain; 11 Toledo, Spain; 12 Terrassa, Spain
DOI 10.1055/s-0043-1765055

Aims To evaluate the effectiveness and safety of endoscopic vacuum therapy (EVT) for the treatment of upper gastrointestinal (GI) defects. To assess risk factors associated with EVT failure and in-hospital mortality in these patients.

Methods Retrospective study of a Spanish multicenter registry where all patients treated with EVT were consecutively included between November 2018 and March 2022.

Results 102 patients from 18 hospitals were included, 89 (87.3%) with an anastomotic dehiscence and 13 (12.7%) with an acute perforation. 20 (19.6%) patients were reoperated and 19 (18.6%) received an esophageal stent as primary treatment before starting EVT. The average delay in the onset of EVT was 13 days (IQR 7-28). Intracavitary EVT was used in 66 (64.7%) cases and intraluminal EVT in 36 (35.3%). The average number of sponges was 5 (IQR 3-7). The median duration of EVT was 19 days (IQR 11-27). Closure of the defect was achieved in 84 cases (82%). 6 patients (5.9%) presented some adverse event related to EVT: 1 fatal bleeding, 1 jejunal perforation and 4 minor events. 11 (10.7%) patients presented anastomotic strictures. In-hospital mortality was 12.7% (n = 13). The delay in the initiation of EVT and the development of a fistula during therapy were independent predictors of EVT failure. EVT failure and the development of pneumonia were independent predictors of in-hospital mortality.

Conclusions EVT is effective and safe for treating upper GI defects. Early use could improve the effectiveness of the therapy and therefore reduce the in-hospital mortality of these patients.

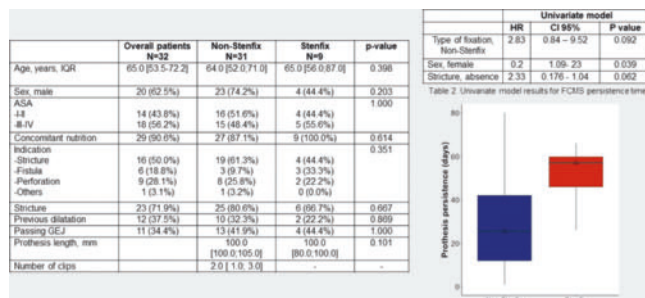
Conflicts of interest A. M. de Lacy is a consultant for B. Braun. Cardenas is a consultant for B. Braun and Boston Scientific. Ibarzabal is a consultant for B. Braun. Momblan is a consultant for B. Braun. Oriol Sendino is a consultant for B. Braun.

OP052 Usefulness of the OTSC Stentfix clip in preventing migration of fully covered metal stents in benign esophageal disease

Authors D. A. Hernandez Castillo¹, O. Nogales Rincón¹, H. Martínez Lozano¹, L. A. Perez Garvín¹, P. Saralegui¹, Y. Rubio Fernandez¹, J. García Lledó¹, J. Aranda Hernández¹, L. Pérez Carazo¹, B. Merino Rodríguez¹
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DOI 10.1055/s-0043-1765056

Aims Migration in fully covered metal stents (FMCS) occurs in up to 1/3 of patients with benign esophageal disease. Primary Aim: to compare the migration rates of FMCS against conventional TTS clips. Secondary Aims: to compare the FCMS permanence time between groups and the technical success of application and removal of OTSC Stentfix clip

Methods Retrospective cohort study from the series of consecutive patients between 2019-2022 in our center, to whom FCMS was applied in a benign esophageal disease indication (► Fig. 1).



► Fig. 1

Results 32 patients required 40 FCMS: 31 FCMS in the conventional TTS clips group (Non-Stentfix) and 9 in the Stentfix group. Median age 65 years. Main indication was stenosis (16/32 50%) followed by perforation (9/32 28.1%). There were no differences in base patient characteristics, stenosis rates, previous need for dilation or FCMS that passed through GEJ. Non-Stentfix migration rate was superior to Stentfix group: 13/31 stents (41.9%) vs 2/9 (22.2%) (p = 0.494 NS). Permanence time before removal or migration of FCMS was longer in the Stentfix group vs Non-Stentfix (57 vs 24 days P = 0.01). In univariate analysis the fixation with conventional TTS clips was the main variable for migration (HR 2.83 CI95% 0.105 - 1.19; p = 0.092 NS), not confirmed in multivariate analysis. OTSC-Stentfix application and removal was possible in all cases. There were no related complications [1]

Conclusions FCMS fixation with OTSC-Stentfix clips might decrease the migration rates and increase stent permanence time in benign esophageal disease. Application and removal of OTSC-Stentfix is safe. RCTS with larger number of patients are required to confirm these results.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Conio M, Savarese MF, Baron TH et al. A newly designed over-the-scope-clip device to prevent fully covered metal stents migration: A pilot study. Techniques and Innovations in Gastrointestinal Endoscopy 2020; Volume 22 (Issue 4): Pages 167-171

OP053 Endoscopic vacuum therapy (EVT) versus self-expanding metal stent (SEMS) in the treatment of non-large anastomotic dehiscence after oncologic Ivor-Lewis esophagectomy: a case-control matching study

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DOI 10.1055/s-0043-1765057

Aims Anastomotic leak remains a critical complication after Ivor-Lewis esophagectomy. Our aim was to compare efficacy of intraluminally EVT versus SEMS in the management of non-large (<3 cm) anastomotic dehiscences.

Methods We included patients who received EVT for non-large (<3 cm) anastomotic dehiscences after oncologic Ivor-Lewis esophagectomy between May 2014 and July 2022. Exclusion criteria were: anastomotic dehiscences > 3 cm, early (≤ 2 days) and late (4 weeks) diagnosis of dehiscence, severe gastric conduit necrosis, sepsis. Controls were patients, which underwent stent placement, matched 1:1 with cases by age (± 3 years), sex, BMI (± 5), previous neoadjuvant radio/chemotherapy, leak size (± 5 mm), defect type (leak or fistula).

Results Between EVT and stents (22 vs 22 patients), age (p = 0.070), sex (p = 0.262), BMI (0,247), American Society of Anesthesiologists (p = 0.386), neoadjuvant radio/chemotherapy (p = 0.15), dehiscence diagnosis modality (0.761), defect type (p = 1.00), PCR values (p = 0.103), surgical reintervention before endoscopy (p = 0.472) and leak size (p = 0.931) showed no difference. EVT and stents revealed no difference in leak resolution (90.9% vs 72.7%, respectively; p = 0.21), whereas EVT was associated with higher number of procedures (4.41 vs 2.18, p = 0.05, respectively). Concerning adverse events, both EVT and SEMS showed no difference (p = 0.61).

Conclusions EVT and SEMS has shown similar efficacy outcomes in the treatment of non-large anastomotic defects after Ivor-Lewis esophagectomy. Prospective comparison data are needed to validate these findings.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP054 VACStent: A Combination of Endoscopic Vacuum Therapy and an Intraluminal Stent for Treatment of Esophageal Transmural Defects

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DOI 10.1055/s-0043-1765058

Aims Transmural defects in the upper gastro-intestinal (GI) tract (e.g. anastomotic leak, Boerhaave syndrome, iatrogenic defects) are associated with severe morbidity. Recently, a vacuum-stent was introduced as novel treatment device, combining the benefits of negative pressure wound therapy and an intraluminal stent, while allowing for oral intake of a soft diet. The aim of this prospective case series was to describe the first experiences with the vacuum-stent in the upper GI tract in an academic hospital.

Methods All patients treated with a vacuum-stent between March 2022 and October 2022 were included and data was prospectively collected. Patients who were already treated with vacuum-sponge and received a vacuum-stent when it became available were also included. Outcome measures included successful closure of the defect, adverse events, number of EVT-related endoscopies and treatment duration (► **Table 1**).

	Anastomotic leak (n = 9)	Boerhaave syndrome (n = 4)	Iatrogenic (n = 3)
Defect size*, n	9	4	3
Small, n (%)	6 (67%)	0 (0%)	1 (33%)
Intermediate, n (%)	2 (22%)	1 (25%)	1 (33%)
Large, n (%)	1 (11%)	3 (75%)	1 (33%)
Success rate (%)	100%	100%	100%
EVT-related endoscopies, median (IQR)	4 (3-12)	8 (3-12)	3 (3-4)
Treatment duration in days, median (IQR)	18 (12-51)	38 (13-65)	12 (10-13)

*Defect size was classified in dehiscence of the circumference as small (<10%), intermediate (10-40%) and large (>40%) for anastomotic leak and in defect length as small (<10mm), intermediate (10-19mm) and large (≥ 20mm) for Boerhaave and pneumodilation. Abbreviations: EVT, endoscopic vacuum therapy; IQR, interquartile range.

► **Table 1** Outcome measures per etiology of defect.

Results Sixteen patients were included. Treatment and outcome measures are displayed in Table 1. In addition to vacuum-stent, three Boerhaave patients underwent surgery for nettoyage of a large mediastinal cavity with decortication and placement of an intracavitary muscle flap. Successful defect closure was obtained in all patients (100%), requiring a median of 4 (IQR 3-10) EVT-related endoscopies, and treatment course of 16 (IQR 11-47) days. During median 81 (IQR 15-221) days follow-up, one patient developed an anastomotic stricture for which an endoscopic dilation was performed. No other adverse events were observed.

Conclusions The vacuum-stent is a feasible, efficient and possibly organ-sparing treatment for transmural defects in the upper GI tract.

Conflicts of interest R.E. Pouw is consultant for MicroTech Europe and Medtronic bv., received speaker fee from Pentax and is on the advisory board for EsoCap AG.

Therapeutic EUS for upper GI diseases

20/04/2023, 11:30 – 12:30

Liffey Meeting Room 3

OP055 EUS-guided Gastroenterostomy versus Enteral Stenting for frailer patients with malignant gastric outlet obstruction: a matched prospective comparison

Authors G. Vanella¹, G. Dell'Anna¹, G. Capurso¹, S. Crippa², D. Tamburrino², A. Casadei-Gardini³, L. Aldrighetti⁴, M. Reni³, M. Falconi², P. Arcidiacono¹

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DOI 10.1055/s-0043-1765059

Aims Despite the advantages of EUS-guided Gastroenterostomy (EUS-GE) in retrospective series, enteral stenting (ES) is still advocated for patients with malignant Gastric Outlet Obstruction (mGOO) and shorter life expectancy, whilst no prospective comparison is available.

Methods All consecutive patients with mGOO treated between March-2021 and June-2022 in an academic center were allocated to EUS-GE versus ES after multidisciplinary discussion and included in a prospective registry (NCT04813055) with monthly follow-up. Technical/Clinical Success (TS/CS), Adverse Events (AEs), Symptoms' recurrence, and Survival were compared after 1:1 matching for primary disease, disease stage, ASA score and Charlson Comorbidity Index (CCI).

Results 52 EUS-GE and 28 ES were included (higher baseline ASA score [$p = 0.02$] in the ES group). After matching, 22 patients per arm were analysed, with no baseline differences in age, sex, BMI, primary disease (pancreatic cancer = 86%) and stage (metastatic = 69%), CCI (8[5-9]) and ASA score. TS was 100% in both arms ($p = 1$). EUS-GE showed higher clinical success (ability to eat at least a soft solid: 100% vs 73%, $p = 0.01$) and shorter refeeding time (2[1-2] versus 3.5[2-7] days, $p = 0.002$), with a trend to reduced AEs (5% vs 14%, $p = 0.3$). During a median follow-up of 75[42-103] and 45[18-143] days respectively, symptoms' recurrence was 5% vs 29% ($p = 0.04$) without any difference in overall survival.

Conclusions In this first, prospective, matched comparison including frailer patients with more advanced neoplasms, EUS-GE confirmed higher and faster clinical success than ES, with reduced dysfunction and without any increased invasiveness.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP056 EUS-guided gastroenterostomy in malignant gastric outlet obstruction: a comparative study between first- and second-line approaches after enteral stent placement

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DOI 10.1055/s-0043-1765060

Aims To compare the outcomes of endoscopic ultrasound-guided gastroenterostomy (EUS-GE) using the freehand technique as first- and second-line approach after enteral stenting (ES) in patients with gastric outlet obstruction (GOO).

Methods Observational single-center study. All consecutive patients who underwent a EUS-GE using the freehand technique due to malignant GOO were included. The primary outcome was the clinical success, defined as a solid oral intake at 1 week (GOOSS ≥ 2). The secondary outcomes were technical success and adverse event (AE) rates.

Results Twenty-eight patients (mean age: 63 ± 17.2 years, 57.1 %male) with ($n = 13$, 46.4%) and without ($n = 15$, 53.6%) a previous ES were included. The technical success was 89.3%, with no differences between the two groups (92.3% vs. 86.7%, $p = 1$). Overall, clinical success was achieved in 22 cases (88%), with three failures due to AEs ($n = 2$) or peritoneal carcinomatosis ($n = 1$). The diet progression was quicker in patients with a previous ES (GOOSS at 48h, 2 vs. 1, $p = 0.023$), but the GOOSS at 1 week ($p = 0.299$), albumin ($p = 0.366$) and BMI gain (0.257) were comparable. The AE rate was 7.1%.

Conclusions EUS-GE achieves a high technical and clinical success in patients with GOO regardless of the presence of a previous ES. Patients with previous ES may have a quicker progression of their diet, but the GOOSS and nutritional status at long term are comparable. Primary EUS-GE might require fewer procedures and less discontinuation of chemotherapy to achieve a comparable result.

Conflicts of interest Enrique Perez-Cuadrado-Robles is consultant of Boston Scientific

OP057 Endoscopic ultrasound-directed gastrojejunostomy to treat gastric outlet obstruction: which technique is the best?

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DOI 10.1055/s-0043-1765061

Aims Endoscopic ultrasound guided gastroenterostomy (EUS-GE) using lumen-apposing metal stents (LAMSs) appears to be effective and safe in gastric outlet obstruction (GOO). However, the EUS-GE procedure is not standardized. The use of assisted or direct methods is still debated. The aim of this study was to compare the outcomes of EUS-GE techniques with focus on freehand WEST and wire-guided direct approaches.

Methods This is a multicenter European retrospective study including four tertiary centers. Consecutive patients who underwent EUS-GE between 2017 and 2022 for GOO were included. Technical success was defined as the creation of an EUS-GJ without rescue or redo technique. The primary endpoint was to compare the technical success and adverse event (AE) rates of the different EUS-GE techniques. The secondary endpoint was clinical success.

Results A total of 85 patients were included (39% male; mean age 65.6 ± 10 years; 69% malignant etiology). The two main methods were freehand WEST (48.2%) and wire-guided direct technique (35.8%). Technical success was higher in the first group (95.1% vs. 73.3%, OR:6.9; 95%CI [1.23; 72.12], $p = 0.014$). The rate of AEs was lower with the WEST technique (14.6% vs. 46.7%, OR 4.98; 95%CI [1.47; 18.93], $p = 0.007$). Procedure-related mortality was 3.5% (3 patients). The clinical success was comparable in the two groups (97.5% vs. 89.3%) during a median follow-up of 7.2 months.

Conclusions The freehand WEST technique has a higher technical success and less AEs, with a clinical success comparable to the wire-guided direct modality. Therefore, the WEST technique should be preferred (► **Table 1**).

Outcome	Total cohort (n=71)	Freehand WEST EUS-GE (n=41)	Wire-guided direct EUS-GE (n=30)	P-Value
Technical success (n, %)	61 (85.9%)	39 (95.1%)	22 (73.3%)	0.014*
Technical success with salvage therapy (n, %)	68 (95.8%)	40 (97.6%)	28 (93.3%)	0.57
Technical failure	10	2	8	
Misdeployment				
Misdeployment type I	2	0	2	
Misdeployment type II	5	2	3	
Misdeployment type III	1	0	1	
Misdeployment type IV	0	0	0	
Punction without stent deployment	2	0	2	
Salvage therapy	7	1	6	
- Stent in stent	3	0	3	
- Redo-EUSGE	2	1	1	
- Redo-EUSGE 2 nd time	2	0	2	
Other therapy	2	1	1	
- Duodenal stent	1	0	1	
- Surgical GE	1	1	0	
AEs (n, %)	20 (28.2%)	6 (14.6%)	14 (46.7%)	0.007*
AGREE classification				
- AGREE I	7	3	4	
- AGREE II	6	0	6	
- AGREE IIIa	2	1	1	
- AGREE IIIb	1	1	0	
- AGREE IVa	0	0	0	
- AGREE IVb	1	0	1	
- AGREE V	3	1	2	

EUS-GE, endoscopic ultrasound-guided gastroenterostomy; GOO, gastric outlet obstruction; SD, standard deviation; WEST, wireless EUS-GE simplified technique; OR, odds ratio; CI, confidence interval.
*Statistically significant

► **Table 1** Outcomes of the 71 patients who underwent EUS-GE because of GOO by freehand WEST or direct wire-guided techniques.

Outcomes of the 71 patients who underwent EUS-GE because of GOO by freehand WEST or Direct wire-guided techniques.

Conflicts of interest Boston Scientific Olympus Europe Braun Medical Prion Medical

OP058 Endoscopic ultrasonography-guided gastroenterostomy for the management of malignant gastric outlet obstruction: does etiology affect procedural and clinical outcomes?

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DOI 10.1055/s-0043-1765062

Aims It is currently unclear whether tumor etiology affects clinical and procedural outcomes after endoscopic ultrasonography-guided gastroenterostomy (EUS-GE) in patients with malignant gastric outlet obstruction (GOO). We

therefore compared outcomes of EUS-GE for GOO originating from gastric cancer (g-GOO) to other tumor etiologies (o-GOO).

Methods This multicenter study retrospectively included patients who underwent EUS-GE as palliative treatment for malignant GOO between January 2018 and October 2022. Primary outcomes were technical and clinical success. Secondary endpoints were recurrent GOO and procedural adverse events (AEs) (► **Table 1**).

	Patients with g-GOO (n=25)	Patients with o-GOO (n=132)
Technical success (%)*	24/25 (96.0)	24/132 (90.2)
Clinical success (%)*	19/19 (100.0)	74/78 (94.9)
GOO recurrence*	1/20 (5.0)	4/85 (4.7)

* Missing cases excluded; GOO gastric outlet obstruction; g-GOO GOO originating from gastric cancer; o-GOO GOO originating from other tumor etiologies

► **Table 1** Procedural and clinical outcomes.

Results A total of 157 patients (median 70.0 years, 54.8% male) were included, of whom 25 patients (15.9%) had g-GOO and 132 had o-GOO (84.1%). Patients with g-GOO had more frequently metastases (92.0% vs. 58.8%; $p = 0.002$) and peritoneal carcinomatosis (44.0% vs. 22.7%; $p = 0.026$) compared to patients with o-GOO. Technical success was achieved in 143 of 157 patients (91.1%). Of 105 patients with technical success and sufficient follow-up, 93 (95.9%) returned to at least a soft solid diet. There were no differences in technical (96.0% vs. 90.2%; $p = 0.700$) and clinical success (100.0% vs. 94.9%; $p = 0.583$) between patients with g-GOO and o-GOO. Corrected for ascites and peritoneal carcinomatosis, gastric malignancies compared to other tumor etiologies were not associated with technical failure (OR 0.39, CI: 0.05–3.19). Recurrent GOO occurred in 5 patients (4.8%) and a total number of 17 patients (16.2%) presented with mostly mild AEs (1 fatal).

Conclusions These results suggest that EUS-GE is safe and effective, regardless of etiology.

Conflicts of interest FV is consultant for Boston Scientific RV is consultant for Boston Scientific RV reports research grants from Boston Scientific and Pri- on Medical, performed as a consultant for Boston Scientific, and received speaker's fee from Mylan and Zambon LM is consultant for Boston Scientific

OP059V “Hunting” for the pseudoaneurysm in a vascular maze: endoscopic ultrasound-guided angiotherapy

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DOI 10.1055/s-0043-1765063

Abstract Text Chronic pancreatitis can have multiple vascular complications and co-existence of both venous and arterial abnormalities within the same anatomical field is rare. We present a 43-year-old gentleman, a diagnosed case of chronic calcific pancreatitis, with melena and postural symptoms. On CT angiography, a pseudoaneurysm was noted surrounded by a vascular maze of collaterals from portal venous cavernoma. Considering poor candidate for both radiological and surgical intervention, EUS-guided angiotherapy was performed. The pseudoaneurysm was searched in a maze of venous collaterals using power Doppler and coil-glue embolization was done. The patient on 6-month follow-up is doing fine with no further bleeding episodes.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP060 EUS-guided Gastroenterostomy for management of malignant Gastric Outlet Obstruction: a prospective series from the PROTECT registry

Authors G. Vanella¹, G. Dell'Anna¹, G. Capurso¹, S. Crippa², D. Tamburrino², A. Casadei-Gardini³, M. Macchini³, L. Aldrighetti⁴, M. Falconi², P. Arcidicono¹

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DOI 10.1055/s-0043-1765064

Aims For malignant Gastric Outlet Obstruction (GOO), retrospective studies have shown several advantages of EUS-guided Gastroenterostomy (EUS-GE) compared to enteral stenting and surgical bypass. However no prospective data is available.

Methods All consecutive EUS-GE performed between March-2021 and June-2022 in an academic, referral center were included in a prospective registry (NCT04813055) with monthly follow-up. The primary aims were Clinical Success (CS; possibility to eat at least soft solids), Adverse Events (AEs, according to ASGE Lexicon) and long-term Dysfunction.

Results 51 patients [male 57%; median age 64(58-72), pancreatic cancer 75%, 65% metastatic] underwent EUS-GE through the Wireless Simplified (WEST) Technique, using an electrocautery-enhanced Lumen Apposing Metal Stent (20mm in 96.1% of cases). Technical success was 98%. CS was reached in 98% of the as-treated population after 2(1-2) days. AEs were registered in 6(11.8%) patients, 3 moderate, 1 severe and 2 fatal (exacerbations of pre-existing cholangitis). Median hospital stay was 6(4-11) days. After a median follow-up of 73(30-126) days, GOO recurred in 3/48(6%). Median estimated Dysfunction-Free Survival at Kaplan-Meier analysis was 376(95%CI 323-430) days.

Conclusions In this first, prospective, single-center experience, EUS-GE shows excellent efficacy in relieving malignant GOO, with an acceptable safety profile and long-term patency. These data suggest potential advantages of EUS-GE over both standard alternatives, to be confirmed in randomized comparisons.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Pancreas and liver: New techniques in EUS

20/04/2023, 11:30 – 12:30

Liffey Meeting Room 1

OP061 Contrast-enhanced endoscopic ultrasound for tissue acquisition of solid pancreatic masses provides no benefit: A systematic review and meta-analysis of randomized controlled trials

Authors M. A. Engh¹, Y. Hadani¹, O. Almog¹, B. Teutsch^{1,2}, D. S. Veres^{3,3}, P. Hegyi^{3,4,5}, B. Eröss^{3,4,5}

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DOI 10.1055/s-0043-1765065

Aims Solid pancreatic masses are assessed by tissue acquisition by endoscopic ultrasound (EUS). This study aimed to assess the rate of diagnostic sampling when using contrast-enhanced harmonic endoscopic ultrasound (CEH-EUS) compared to conventional EUS.

Methods Five databases (PubMed, Embase, CENTRAL, Scopus, Web of Science) were searched in April 2022. Randomized controlled trials comparing CEH-EUS to conventional EUS for tissue acquisition of solid pancreatic masses were included. Outcomes were diagnostic adequacy, technical failures and adverse events secondary. Risk of Bias was assessed using the Cochrane risk-of-bias tool for randomized trials (RoB2). Risk Ratios (RR) with 95% Confidence intervals (CI) were pooled, a random-effects model applied. I² quantified heterogeneity.

Results 343 records were found, three were included. RR for adequacy was 1.16 (95% CI: 0.71 – 1.87). One study was significantly in favor of CEH-EUS (RR: 2.40, 95% CI: 1.04-5.55) for the first pass, performed by inexperienced endoscopists. Using the second pass from their study, the RR was 0.99 (95% CI: 0.92-1.07). Adverse events and technical failures could not be pooled but were equal in both arms. Heterogeneity was low, risk of bias “Low” to “Some Concerns” for most outcomes, “High” for adverse events and technical failures.

Conclusions There appears to be no difference in diagnostic adequacy when using CEH-EUS compared to conventional EUS. Adverse events and technical failures are rare and appeared equally in both arms.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP062 Contrast enhanced endoscopic ultrasound FNA versus standard FNA in diagnosis of biliary duct tumors

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DOI 10.1055/s-0043-1765066

Aims Contrast enhanced endoscopic ultrasound (CH-EUS) is superior to standard endoscopic ultrasound (EUS) for T staging of biliary duct tumors (BDT) but its role in guiding EUS-fine needle aspiration (EUS-FNA) is unknown. We compared the diagnostic performance of CH-EUS-fine needle aspiration (CH-EUS-FNA) and standard EUS-FNA in BTD and aimed to determine the factors influencing the results.

Methods This randomized controlled study was conducted in a tertiary medical center and included jaundiced patients with BDT on CT scan. Patients were randomly assigned to EUS-FNA or to CH-EUS-FNA group. Final diagnosis was based either on EUS-FNA or surgical specimen results or endoscopic retrograde cholangiopancreatography (ERCP) or 12-month follow-up.

Results 61 patients were included in the study, 31 in EUS-FNA and 30 in CH-EUS-FNA group (mean age 74 ± 11.04 years, mean tumor dimension 20.39 ± 9.17mm). Most BDT were located in the distal bile duct (n = 40). Final diagnosis (based on: surgery in 9 cases, ERCP in 7, EUS-FNA in 41, follow-up in 4) were: cholangiocarcinoma (n = 37), pancreatic ductal carcinoma (n = 12), other malignancy (n = 3), benign lesion (n = 9). Diagnostic sensitivity, specificity and accuracy were 84%, 100% and 87% respectively in EUS-FNA and 82%, 100%, and 83% respectively in CH-EUS-FNA group (p = 0.22). Plastic biliary stent placement or tumor location did not influence the results. CH-EUS hyperenhancement with rapid wash-out was seen in 81.8% of cholangiocarcinoma cases.

Conclusions Most but not all of cholangiocarcinoma are hyperenhanced, but CH-EUS-FNA had similar value with standard EUS-FNA in diagnosing bile duct tumors.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP063 Factors related to common bile duct stones in patients with previous cholecystectomy – a multicenter EUS-controlled study

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DOI 10.1055/s-0043-1765067

Aims Studies assessing risk factors for common bile duct (CBD) stones were conducted on patients with gallbladder in situ [1]. Our aim was to assess predictive factors for CBD stones in patients with previous cholecystectomy.

Methods A prospective multicenter study on patients with previous cholecystectomy who underwent EUS for suspected symptomatic CBD stones was conducted; patients from each endoscopic center were included in training or validation set. A predictive model, based on the presence and number of independent risk factors identified on multivariate analysis in the training set, was tested on the validation set (► Fig. 1).

No risk factor	CBD Stone incidence: 9.5%
1 risk factor	CBD Stone incidence: 26.7%
2 risk factors	CBD Stone incidence: 53.2%
3 risk factors	CBD Stone incidence: 66.7%
4 risk factors	CBD Stone incidence: 100%

► Fig. 1

Results 211 (25.6% male) patients (124 training set and 87 in the validation set) were included. Median age was 66 [49-75] years. 77.7% of patients showed abdominal pain, 30.3% jaundice, 26.5% pancreatitis, 61.1% liver function tests (LFT) alterations, 37.4% CBD dilation. EUS showed CBD stones in 45.5% of cases. On multivariate analysis (training set), male gender (OR 2.54[1.26 – 5.09]; P = 0.009), age > 63 year-old (OR 3.06[1.63 – 5.72]; P < 0.001), LFT alteration (OR 2.62[1.40 – 4.91]; P = 0.003), and CBD dilation (OR 2.46[1.31 – 4.65]; P = 0.005) were independently related to the presence of CBD stones. The number of predictive factors significantly matched with the risk of CBD stones in the validation set as shown in the table.

Conclusions Male gender, age, LFT alteration and CBD dilation were confirmed as predictive factors of CBD stones in patients with previous cholecystectomy. The adequate assessment of the pre-test probability could guide the subsequent management.

Conflicts of interest Authors do not have any conflict of interest to disclose.
[1] Manes G, Paspatis G, Aabakken L et al. Endoscopic management of common bile duct stones: European Society of Gastrointestinal Endoscopy (ESGE) guideline. *Endoscopy* 2019; 51: 472–491

OP064 Comparison of Diagnostic Performances in Endoscopic Ultrasound-guided Liver Biopsy using Different Techniques

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DOI 10.1055/s-0043-1765068

Aims Endoscopic ultrasound-guided fine needle biopsy (EUS-FNB) for hepatic solid lesions has emerged as a safe technique to diagnosis. However, the optimal FNB techniques have not been evaluated. Our study aimed to compare the diagnostic yield and specimen adequacy of EUS-FNB in hepatic solid lesions using different FNB techniques (► Table 1).

	Slow-pull suction	Suction	P value
Histologic diagnosis			0.203
Malignancy	91 (76.5)	86 (72.3)	
Suspicious for malignancy	7 (5.9)	6 (5.0)	
Atypical	11 (9.2)	6 (5.0)	
Benign	4 (3.4)	6 (5.0)	
Inadequate specimen	9 (5.0)	15 (12.3)	0.040
Diagnostic accuracy	101 (84.9)	95 (79.8)	0.308
Grossly core tissue acquisition	111 (93.3)	103 (86.6)	0.085

► **Table 1** Diagnostic performances according to EUS-FNB techniques.

Methods This is a single center retrospective study of EUS-FNB for hepatic solid lesions between Mar. 2015 and Jun. 2022. Each one needle pass of suction and slow-pull suction was applied for same hepatic lesions and the sequence was randomly assigned. The primary outcomes were diagnostic yield to attain a histological diagnosis and rate of adequate specimen acquisition.

Results A total of 119 patients (40 females, median age 70 years) underwent EUS-FNB for hepatic solid lesions. The mean lesion size was 34.9 ± 27.3 mm (range 7-150). The overall diagnostic yield was 90.8%. There was statistically no difference in diagnostic accuracy between suction and slow-pull suction (79.8% vs. 84.9%, $P=0.308$). Slow-pull suction obtained more adequate specimen comparing to suction (95.0% vs. 87.4%, $P=0.040$) [1–2].

Conclusions The use of slow-pull suction EUS-FNB demonstrated improved specimen adequacy compared with suction technique with no difference in diagnostic accuracy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Madhok IK, Parsa N, Nieto JM. Endoscopic Ultrasound-Guided Liver Biopsy. *Clin Liver Dis* 2022; 26: 127–138

[2] Gheorghiu M, Seicean A, Bolboaca SD et al. Endoscopic Ultrasound-Guided Fine-Needle Biopsy versus Fine-Needle Aspiration in the Diagnosis of Focal Liver Lesions: Prospective Head-to-Head Comparison. *Diagnostics (Basel)* 2022; 12:

OP065V EUS-guided portal pressure gradient measurement: improving its safety and accuracy

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DOI 10.1055/s-0043-1765069

Abstract Text We performed EUS-guided portal pressure gradient (EUS-PPG) with a dedicate 25G needle in 21 patients. Anticoagulants were withdrawn in 4 patients. Bilobar liver biopsies were also performed in 18 patients (86%). In 2 cases PPG was not obtained, for rapid breathing movements and for non-reliable pressure measurements (probably for bending of the needle and use of the elevator). In one case the 25G needle passed in close proximity to the hepatic artery. We found difficulty punction the hepatic and the portal vein (one and two cases, respectively). We present these cases aiming to make the procedure more safe and accurate (video).

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Huang JY, Samarasena JB, Tsujino T, Lee J, Hu KQ, McLaren CE et al. EUS-guided portal pressure gradient measurement with a simple novel device: a human pilot study. *Gastrointest Endosc* 2017; 85 (5): 996–1001

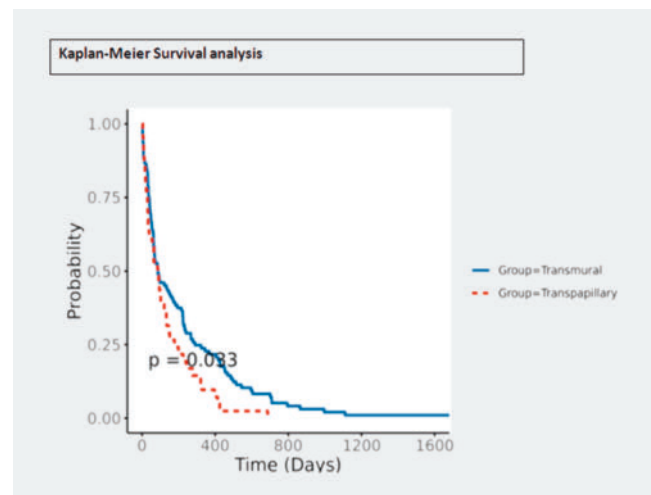
OP066 LONG TERM PATENCY RATES OF TRANSMURAL AND TRANSPAPILLARY EUS GUIDED BILIARY DRAINAGE – Time to choose transmural over transpapillary?

Authors M. Borkar¹, H. Bapaye², J. Ansari¹, A. Bale¹, H. Raina¹, S. Bhagwat¹, A. Gandhi¹, R. Pujari¹, H. Gadhikar¹, A. Bapaye¹

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DOI 10.1055/s-0043-1765070

Aims EUS-BD can be performed by TP[antegrade(AG), rendezvous(RA)]or TM[Hepatogastrostomy(HG)], Choledochoduodenostomy(CDS), Choledoch-antrostomy(CA)]approach. This study compares long-term success rates of EUS-BD by TM or TP approach with reference to stent patency rates and survival. (► Fig. 1).



► **Fig. 1**

Methods Retrospective analysis of prospectively maintained database of patients undergoing EUS-BD for MBO and failed ERCP. Study duration–11years(2011–2022). Patients were followed up until stent occlusion or death, whichever was earlier. Stent patency, adverse events, re-intervention rates and survival were compared for both groups. P -value <0.05 was considered significant [1].

Results $N=163$; TM119(73%), TP44(27%). Meanage = $65.18 (\pm 13.48)$ years, - Male = 92(56.4%). Follow up–TM–84(35–267)days, TP–86(24.75–171.25) days;(p=0.26). Lost to follow-up–TM–8(6.7%), TP2(4.5%);(p=1.0). Technical success–TM–118(99.2%), TP–43(97.7%);(p=0.468). Clinical success–[TM–(101/119),85.6%, TP–(31/44),72.1%, p=0.049]. Stent related adverse events–(TP–17/44, 38.6%, TM–17/119, 14.3%, p<0.001). Stent occlusion rates–[TM–6/119,(5%), TP–16/44,(36.4%);p<0.001]. Stentmigration(TM7/119(5.9%), TP–1/44,(2.3%);p=0.684]. Median-stent-patency-TM=68.5days(32.75-238.5), TP=54days(18.5-134);(p=0.126). Re-intervention rates[TP–10/44,(22.7%);TM–6/119,(5.0%),p=0.002]. Mean survival TM–221.09days, TP132.42days,p=0.033).

Conclusions EUS-BD for MBO using either TM/TP approach, stent occlusion and reintervention rates were significantly low and survival was significantly higher for TM compared to TP group.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Park JK, Woo YS, Noh DH, Yang JI, Bae SY, Yun HS, Lee JK, Lee KT, Lee KH. Efficacy of EUS-guided and ERCP-guided biliary drainage for malignant biliary obstruction: prospective randomized controlled study. *Gastrointestinal Endoscopy* 2018; 88 (2): 277–82

Therapeutic EUS as a rescue in difficult cases

20/04/2023, 11:30 – 12:30

Ecocem

OP067V EUS-Directed trans-Gastric Endoscopic Retrograde Cholangiopancreatography (EDGE) in twice surgically-altered anatomy: Roux-en-Y Gastric Bypass after Sleeve Gastrectomy

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DOI 10.1055/s-0043-1765071

Abstract Text A 30-year-old female, with former Sleeve Gastrectomy converted to Roux-en-Y Gastric Bypass, was admitted for symptomatic choledocholithiasis, and candidate to EUS-directed Trans-Gastric ERCP. With this anatomy, the antrum remnant gets smaller and dislocated towards the liver. From deep post-anastomotic jejunum, the pancreatico-duodenal region was identified and followed backwards towards a small antrum remnant, which was distended by needle injection and connected through a 20mm LAMS. After 2 weeks, a through-the-LAMS ERCP was performed. After 2 months a through-the-LAMS diagnostic EUS confirmed stones clearance and the stent was removed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP068V EUS-guided hepaticogastrostomy (EUS-HGS) for transhepatic removal of hepatolithiasis in Caroli's disease (CD)

Authors A. Martinez-Ortega¹, R. Sánchez-Ocaña¹, I. Latras-Cortés², S. Fernandez Prada¹, L. Juan-Casamayor¹, C. De La Serna Higuera¹, M. Perez-Miranda¹

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DOI 10.1055/s-0043-1765072

Abstract Text Recurrent hepatolithiasis after Roux-en-Y hepaticojejunostomy (RYHJ) is often managed by PTBD. We report hepatolithiasis extraction through EUS-HGS, avoiding PTBD.

CD teenager with long-standing RYHJ. Recurrent cholangitis from hepaticojejunostomy stricture (HJS) and hepatolithiasis. EUS-HGS was performed with antimigration-fully-covered-biliary SEMS. At 6-weeks, cholangioscopy through the HGS fistula using a standard endoscope allowed basket and irrigation clearance of most hepatolithiasis. Patient is asymptomatic, awaiting revision for complete stone clearance & HJS stenting [1–3].

EUS-HGS allows retrograde hepatolithiasis clearance and antegrade HJS treatment

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Ogura T, Takenaka M, Shiomi H et al. Long-term outcomes of EUS-guided transluminal stent deployment for benign biliary disease: Multicenter clinical experience (with videos). *Endosc Ultrasound* 2019; 8: 398–403. doi:10.4103/eus.eus_45_19

[2] Pawa R, Jiang D, Gilliam J et al. EUS-guided hepaticogastrostomy for management of cholangitis, hepatolithiasis, and anastomotic stricture after Roux-en-Y hepaticojejunostomy. *VideoGIE* 2021; 6: 225–227. doi:10.1016/j.vgie.2021.01.013

[3] Parsa N, Runge T, Ichkhanian Y et al. EUS-guided hepaticogastrostomy to facilitate cholangioscopy and electrohydraulic lithotripsy of massive intra-ductal stones after Roux-en-Y hepaticojejunostomy. *VideoGIE* 2020; 5: 418–420. doi:10.1016/j.vgie.2020.05.038

OP069V Skills game: Removal of lumen apposing metal stent (LAMS) while maintaining plastic stent

Authors A. Martins Pinto da Costa¹, B. Agudo Castillo², E. Santos Pérez¹, C. Santos Cotes², M. González-Haba Ruiz²

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DOI 10.1055/s-0043-1765073

Abstract Text Some patients may benefit from long-term maintenance of transmural plastic stent after LAMS removal. We propose two endoscopic techniques for LAMS removal while maintaining double pigtail plastic stent (DPPS). Using therapeutic gastroscope LAMS is removed with foreign body forceps. On some occasions LAMS remains hanging from the straight portion of the DPPS. You can either pull on the proximal flange of LAMS and trace the path of the pigtail portion until it's released (follow the pigtail) or grab the end of the plastic stent and insert it through the LAMS (pigtail goes...inside the LAMS). LAMS removal using the described techniques can help saving time and maintain long-term drainage in selected patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP070V Refractory walled-off necrosis: drainage with luminal apposing metal stent and use of the new otsg-xcavator device

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DOI 10.1055/s-0043-1765074

Abstract Text Endoscopic drainage of pancreatic necrosis (WON) may require multiple revisions until resolution. Under endoscopic and fluoroscopic vision, a 16-mm lumen apposing metal stent (LAMS), BCF-Plumber, was placed to facilitate the drainage. After two necrosectomy sessions, abundant necrotic tissue remained and signs of infection persisted. We decided to use the OTSG-Xcavator device to complete WON cleaning. In our case, we advanced the device mounted on a conventional gastroscope to the gastric chamber without difficulty. We accessed the cavity through the LAMS. Given the extraordinary capacity of the distal forceps, we achieved complete WON cleaning in a single session.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP071V Endoscopic ultrasound guided transhepatic rendezvous and stent placement in benign biliary stricture in Billroth II anatomy and peridiverticular papilla

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DOI 10.1055/s-0043-1765075

Abstract Text 55-year-old male, carcinoma stomach with history of distal subtotal gastrectomy with Billroth II anatomy and intraoperative bile duct injury 2 months back, presented with recurrent biliary type abdominal pain, raised bilirubin and CT showing stricture in mid-distal CBD. An upper GI endoscope with distal attachment was used as duodenoscope could not be passed into afferent limb. Cannulation was unsuccessful as papilla was at the inner lower edge of a duodenal diverticulum. EUS rendezvous was done after puncturing the dilated intrahepatic radicle in segment II of liver. Cannulation was possible after eversion of the papilla due to rendezvous guide-wire and plastic stents could be placed in both right and left hepatic duct.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP072V EUS-guided pancreatic rendez-vous technique for difficult standard biliary cannulation in distal Malignant Biliary Obstruction

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DOI 10.1055/s-0043-1765076

Abstract Text A 78 year-old woman with pancreatic adenocarcinoma underwent ERCP after duodenal-SEMS placement. Attempts of biliary cannulation failed due to the papillary region now placed behind the meshes of the SEMS. EUS-guided biliary drainage was not possible. From the stomach a guidewire was passed through the PD stricture. Taking advantage of the guidewire passed through the papilla it was possible to locate the papillary region and detect the ostium. After second guidewire placement into the PD, CBD was cannulated. The EUS-guided antegrade placed guidewire was removed from the PD and a pancreatic plastic stent was placed. A fully-covered biliary-SEMS was placed for palliative biliary decompression.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Avoiding post colonoscopy cancer – are we getting any better?

20/04/2023, 14:00 – 15:00

Liffey Meeting Room 2

OP073 Root-cause analysis of 762 post-colonoscopy colorectal cancers diagnosed in the Central Denmark Region, 1995-2021

Authors F. S. Troelsen¹, H. T. Sørensen¹, L. Pedersen¹, L. D. Brix², L. B. Grode², E. Dekker³, R. Erichsen^{1, 4}

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DOI 10.1055/s-0043-1765077

Aims Occurrence of post-colonoscopy colorectal cancer (PCCRC) is an important benchmark of colonoscopy quality. We examined causes of PCCRCs using the root-cause analysis suggested by the World Endoscopy Organization (WEO) and investigated the potential impact of implementing FIT-based colorectal cancer screening on PCCRC causes.

Methods During 1995-2021 within the Central Denmark Region, we used health registries and electronic medical records to identify PCCRC cases, defined as a first-time colorectal cancer diagnosis recorded within 6-48 months after colonoscopy. We then applied the WEO algorithm to categorize causes of PCCRC as follows: A) possible missed lesion, prior examination adequate; B) possible missed lesion, prior examination inadequate; C) detected lesion, not resected; or D) likely incomplete resection of previously identified lesion.

Results We identified 762 PCCRC patients. In total, 53.5% were males and the majority were aged 70-79 years. Forty-five percent of PCCRCs were located in the proximal colon. Of all PCCRCs during the complete study period, 616 (80.8%) were categorized as A) possible missed lesion, prior examination adequate; 36 (4.7%) as B) possible missed lesion, prior examination inadequate; 26 (3.4%) as C) detected lesion, not resected; and 84 (11%) as D) likely incomplete resection of previously identified lesion. Similar patterns were observed before and after implementation of the screening program for colorectal cancer in 2014.

Conclusions Both before and after implementation of screening, PCCRCs originating from possible missed lesions were the most common. These findings indicate the importance of the quality of colonoscopy procedures.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP074 Post-colonoscopy colorectal cancers in a FIT-based CRC screening program

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DOI 10.1055/s-0043-1765078

Aims By characterizing PCCRCs as interval or non-interval and assessing the most probable etiology, insights can be provided which may contribute in PC-CRC prevention.

Methods PCCRCs diagnosed after screening colonoscopy, performed between 2014-2016 after positive fecal immunochemical test (FIT) for CRC screening, were included. PCCRCs were categorized, according to the World Endoscopy Organization consensus statement, in interval (CRC detected before the recommended surveillance) or non-interval type-A (CRC detected at the recommended surveillance colonoscopy), type-B (CRC diagnosed after the recommended surveillance interval) or type-C (CRC diagnosed in patients without surveillance). A root-cause analysis was performed for each PCCRC to determine the most probable etiology. Tumor stage distributions were compared between the categories.

Results In total, 432 PCCRCs were diagnosed in 116,362 participants undergoing colonoscopy after positive FIT. The 3-year PCCRC rate was 2.8%. PCCRCs were classified as interval (49.5%), non-interval type-A (19.0%), non-interval type-B (30.1%) and non-interval type-C (1.4%). Most PCCRCs had as most plausible etiology a missed lesion with an adequate prior examination (47.4%) or an incomplete resection of a previously identified polyp (25.1%). Interval PCCRCs were more often diagnosed at a late stage (stage III or IV) (54.2%), compared to non-interval type-A (22.0%) and type-B (40.8%).

Conclusions In a FIT-based CRC screening program 50% of the PCCRCs were classified as interval. These were more often diagnosed at an advanced stage compared to non-interval type-A and type-B. This emphasizes the importance of high-quality index colonoscopy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP075 Association Of Sessile Serrated Polyp Detection Rate And Adenoma Detection Rate With Post-Colonoscopy Colorectal Cancer

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DOI 10.1055/s-0043-1765079

Aims Adenoma Detection Rate (ADR) is an established colonoscopy quality parameter in Colorectal Cancer (CRC) screening programs based on Faecal Immunochemical Test (FIT). Other quality indicators such as Sessile Serrated Polyp Detection Rate (SSPDR) have been proposed. We aimed to assess the association between SSPDR and ADR with post-colonoscopy CRC (PCCRC) risk in a FIT-based screening program.

Methods All people undergoing post-FIT colonoscopies in the Veneto Region between 2012 and 2017 were included in the study and followed up to December 2021. Endoscopists were categorized as high or low detectors based on SSPDR and ADR median values. Data on PCCRC was retrieved. Adjusted Cox regression models were fitted to estimate hazard ratios (HR) and 95% CIs for the association of SSPDR and ADR with PCCRC incidence.

Results We observed 257 PCCRCs among 311,287 person-years of follow-up, [crude incidence rate: 82.6/100,000 person-years]. Median ADR was 48.0% (IQR 43.7-55.0%) and SSPDR was 1.62% (IQR 0.75-3.60%). Each 1% increase in SSP-

DR corresponded to 10% decrease in PCCRC risk (HR: 0.90; 95% CI 0.83-0.97). Compared to endoscopists with both high ADR and SSPDR, there was no significant risk difference among those with high ADR and low SSPDR, while low ADR was associated with a significant risk increase, both combined with a high SSPDR (HR: 1.41; 95% CI 1.04-1.91) and a low SSPDR (HR: 2.10; 95% CI 1.54-2.85) (► Table 1).

Variable	PCCRC	Person-years	Incidence rate per 100,000 person-years	Hazard Ratio	95% Confidence Interval
ADR continuous rate (1% increase)	257	311,287	82.56 (73.06 - 93.30)	0.96	0.94 - 0.97
SSPDR continuous rate (1% increase)	257	311,287	82.56 (73.06 - 93.30)	0.90	0.83 - 0.97
ADR and SSPDR combinations					
High ADR - High SSPDR	46	78,032	58.95 (44.16 - 78.70)	Ref.	-
High ADR - Low SSPDR	53	78,225	67.75 (51.76 - 88.69)	1.15	0.83 - 1.60
Low ADR - High SSPDR	57	69,941	81.50 (62.86 - 105.65)	1.41	1.04 - 1.91
Low ADR - Low SSPDR	101	85,089	118.70 (97.67 - 144.26)	2.10	1.54 - 2.85

Abbreviations: PCCRC: Post-colonoscopy colorectal cancer; ADR: Adenoma detection rate; SSPDR: Sessile serrated polyp detection rate.

► Table 1

Conclusions ADR and SSPDR were both inversely associated with PCCRC risk. Overall, ADR seems to be more strongly associated with PCCRC incidence and a more robust parameter to monitor endoscopist performance and colonoscopy quality in a FIT-based screening program.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP076 English National Root-Cause Analysis of Post-Colonoscopy Colorectal Cancers

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Institutes 1 The Mid-Yorkshire Hospitals NHS Trust, Wakefield, United Kingdom; 2 University Hospital of North Tees, Hardwick, United Kingdom; 3 Sandwell General Hospital, sandwell, United Kingdom; 4 University of Oxford, Oxford, United Kingdom; 5 Cheltenham General Hospital, Cheltenham, UK, United Kingdom; 6 NHS England, London, United Kingdom

DOI 10.1055/s-0043-1765080

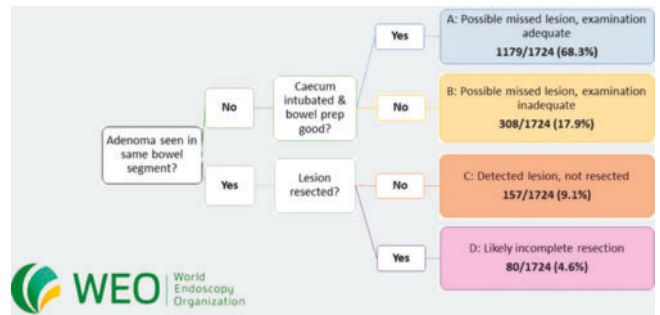
Aims To create a process for identifying post-colonoscopy colorectal cancers (PCCRCs), introduce a review template to identify the most plausible explanation for the PCCRC, and use the evidence captured to inform recommendations to reduce rates

Methods PCCRC-4yr (6-48 months after a colonoscopy) were identified by linking datasets (cancer registry and hospital episode statistics) and uploaded into a secure portal with an audit template based on World Endoscopy Organisation (WEO) recommendation and a previously published case review [1]. This method was tested in 10 pilot sites, refined and then rolled out nationally for 126 hospital sites in England.

Results 2,465 PCCRCs were uploaded and 122/126 sites participated. 459 cases were excluded. Complete data was available for 1724 of the 2006 remaining PCCRCs (86% compliance). In 294 of 1724 (17%) audited PCCRCs the CRC was diagnosed at a different organisation to the colonoscopy. Overall, 1190 (70%) were potentially avoidable and 16% led to major harm or premature death. Photographic evidence of completion and rectal retroflexion was absent or inadequate in >50% of cases where it was deemed important. Patient factors were involved in 10%, clinical in 10%, and administrative in 5% of cases (► Fig. 1).

Conclusions This initial analysis of 1724 PCCRC reviews provides the largest aggregated dataset on PCCRCs and the only one for an entire country. 17% were diagnosed at a different hospital, so the service may be unaware of the

case. PCCRCs are not just avoidable, but the delay can lead to harm and even premature death. The audit provides detailed information on the cause of PCCRC and highlights what needs to be done to reduce PCCRCs.



► Fig. 1 WEO categorisation for root-cause analysis.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Anderson R, Burr N, Valori R. Gastroenterology 2020; 158: 1287-1299

OP077 Variability in Adenoma Detection Rate in Control Groups of Randomized Colonoscopy Trials

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DOI 10.1055/s-0043-1765081

Aims Adenoma Detection Rate (ADR) is still the main surrogate outcome parameter of screening colonoscopy, but most of the studies included mixed indications and basic ADR is quite variable. We looked at the control groups in randomized ADR trials using advanced imaging or mechanical methods to find out whether indications or other factors influence ADR levels

Methods Patients in the control groups of randomized controlled trials (RCTs) on ADR increase using various methods were collected based on a systematic review; this control group had to use high-definition (HD) white-light endoscopy performed between 2008 and 2021. Random-effects meta-analysis was used to pool ADR in control groups and its 95% confidence interval (CI) according to the following parameters: clinical, study setting, and technical.

Results 25,304 patients from 80 studies were included. ADR in control arms varied between 8.2% and 68.1%. There was no difference in ADR levels between primary colonoscopy screening, and mixed indications. However, FIT as an indication for colonoscopy was an independent predictor of ADR. Other well-known parameters were confirmed by our analysis such as age and sex as well withdrawal time. The type of intervention had no influence, but methodological factors did: more recent year of publication and smaller sample size were associated with higher ADR.

Conclusions A high level of variability was found in the level of ADR in the controls of RCTs. Only FIT-based colonoscopy studies influenced basic ADR, primary colonoscopy screening appeared to be similar to other indications. Standardization for variables is required to achieve generalizability and reproducibility.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP078 Risk of cancer following colectomy with ileorectal/ileosigmoidal anastomosis and proctocolectomy with ileal pouch-anal anastomosis in familial adenomatous polyposis

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DOI 10.1055/s-0043-1765082

Aims The aim of this study was to compare the long-term risk of cancer following colectomy with ileorectal/ileosigmoidal anastomosis (IRA/ISA) and proctocolectomy with ileal pouch-anal anastomosis (IPAA) in patients with familial adenomatous polyposis (FAP).

Methods We performed an international multicenter retrospective cohort study of FAP patients undergoing colectomy with IRA/ISA or proctocolectomy with IPAA between 1990 till 2022. The proportion of patients developing cancer following surgery was estimated using the Kaplan Meier method.

Results In total, (procto)colectomy was performed in 588 patients (53.9% female); 309 (52.6%) had IRA/ISA and 279 (47.4%) IPAA. Median age at IRA/ISA and IPAA was 21 and 27 years, and median follow-up 12 and 15 years, respectively. The incidence of cancer following IRA/ISA was 1.9% and 1.1% following IPAA. The cumulative 10- and 20-year cancer free survival rates (IRA/ISA vs IPAA) were 99.0% vs 99.6% and 97.9% vs 99.0%, respectively (log-rank $p = 0.32$). All patients who developed cancer survived. Endoscopic follow-up data was available in 514 patients (87.4%). The median number of surveillance endoscopies was 11 versus 8 in the IRA/ISA and IPAA group, respectively ($p < 0.001$). In the IRA/ISA group, the median number of polypectomies was 32 and in the IPAA group 2 ($p < 0.001$).

Conclusions During the last three decades, the risk of distal cancer after (procto)colectomy in FAP was low. This seems to be the result of appropriate selection of the type and timing of colectomy and frequent endoscopic surveillance including polypectomy.

Conflicts of interest • Evelien Dekker: endoscopic equipment on loan of Fujifilm and Olympus, research grant from Fujifilm, consultancy for Fujifilm, Olympus, Tillots, GI Supply, CPP-FAP, PAION and Ambu, and speakers' fee from Olympus, Roche, GI Supply, Norgine, IPSEN, PAION and Fujifilm. • Luigi Ricciardiello: consultancy and unrestricted research grant from SLA Pharma AG. • John G. Karstensen: Honorarium from SNIPR BIOME and AMBU and speakers fee from Norgine. • Michal Kaminski: speaker's fee from Olympus, Fujifilm, Boston Scientific, Medtronic, AlfaSigma, IPSEN, consultancy fee from Olympus, ERBE, AlfaSigma • Francesc Balaguer: Received an honorarium for consultancy from Sysmex and CPP Pharmaceuticals, speaker's fees from Norgine, and editorial fee from Elsevier • Rodrigo Jover: consultancy for CPP Pharmaceuticals • Barbara A.J. Bastiaansen: speakers' fee from Olympus, Tillots Pharma AG and Ovesco Endoscopy AG • Maria Pellise: endoscopic equipment on loan of Fujifilm, research grant from Fujifilm, ZiuZ and Casen Recordati, consultancy for Fujifilm, Olympus and speakers' fee from Olympus, Medtronic and Fujifilm

Gastric ESD: techniques, technologies and follow-up

20/04/2023, 14:00 – 15:00

Liffey Meeting Room 3

OP079 Conventional endoscopic submucosal dissection (ESD) versus hybrid ESD in patients with early gastric neoplasms: A Systematic Review and Meta-Analysis

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DOI 10.1055/s-0043-1765083

Aims Performing conventional endoscopic submucosal dissection (C-ESD) is still challenging for gastric neoplasm. A novel technique known as hybrid endoscopic submucosal dissection (H-ESD) has proven to be both reliable and effective. This study aimed to compare H-ESD and C-ESD in a systematic review and meta-analysis.

Methods We performed a systemic literature search of all related studies comparing the H-ESD and C-ESD in patients with early gastric cancer. Random-effects models were used to pool the data. En bloc resection rate, procedure time, complete resection rate, and adverse effects from the procedure were used to measure the success of the treatment.

Results One randomized clinical trial and three observational studies involving 445 patients were enrolled in this meta-analysis. The en bloc rate for H-ESD and C-ESD groups was 99.2% and 100%, respectively (odds ratio (OR), 0.68; 95%CI: 0.03 to 17.92; $p = 0.82$). The procedure time was shorter in H-ESD than in the C-ESD group (mean differences, -18.48 min; 95% CI, -31.46 to -5.5 min; $p = 0.005$; $I^2 = 99\%$). The pooled OR of complete resection was 0.96 (95% CI: 0.23 to 4.09; $p = 0.96$; $I^2 = 0\%$). There was no significant difference in perforation rate (OR, 1.11; 95%CI: 0.13 to 9.53; $p = 0.92$; $I^2 = 0\%$) and delayed bleeding rate (OR, 0.30; 95%CI: 0.04 to 2.45; $p = 0.26$; $I^2 = 0\%$).

Conclusions Overall, H-ESD was superior to C-EMR for the procedure time with similar rates of en bloc, complete resection, or procedure-related complications.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP080 Comparison of a new hemostatic device for gastric endoscopic submucosal dissection: Prospective, Randomized trial for Coajet vs.Hemograsper

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DOI 10.1055/s-0043-1765084

Aims Gastric endoscopic submucosal dissection (ESD) is often accompanied by bleeding. Coajet is a new useful device for hemostasis through monopolar contact and has an injection needle inside. Therefore, this study was conducted to evaluate the effectiveness and safety of a new hemostatic device comparing to hemostatic forceps.

Methods This prospective, randomized, single center study has enrolled consecutive patients who were candidates for gastric ESD from Feb. 2022. The Hemograsper group (HG) had underwent hemostasis by conventional method and the Coajet (CG) was used for a marking of lesion and submucosal injection in initial stage of ESD and then for hemostasis.

Results A total 39 patients were enrolled (HG, $n = 20$, CG, $n = 19$). Baseline characteristics between the two groups showed no significant difference in terms of age, sex, diagnosis, locations, endoscopic sizes, and morphology. There were no difference in total operation time (minutes, HG 14.86 ± 6.51 vs.

CG 12.11 ± 7.82, $p = 0.24$) and hemostatic time (seconds, HG 168.3 ± 70.58 vs. CG 130.4 ± 94.22, $p = 0.16$). The procedure related other variables such as complete en bloc resection rate, admission days, grade of immediate bleeding, and delayed bleeding within 30days (HG $n = 1$ vs. CG $n = 2$) showed no difference.

Conclusions A new hemostatic device Coajet showed comparable efficacy to conventional hemostatic forceps for bleeding control and prevention of delayed bleeding in gastric ESD.

Conflicts of interest Shareholder of a new device company

OP081 Robots Assisted Gastric ESD Significantly Improves Dissection Speed in Difficult ESD Locations

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DOI 10.1055/s-0043-1765085

Aims Since its introduction, endoscopic submucosal dissection (ESD) has become a standard treatment for early malignant lesions of stomach. However, ESD is technically demanding and it bears a high risk of complication for beginners. The difficulty of the ESD technique tends to depend on the location of the lesion. We compared and analyzed the efficacy of the ESD assistive robot that we developed in the location where stomach ESD is considered difficult.

Methods We have developed an automated simulator that can implement ESD locations. An EndoGel (Sunarrow, Tokyo, Japan) was attached to the simulator to implement a virtual gastric location where ESD is difficult. "Difficult ESD locations" were selected in consideration of the location where a lot of muscle damage and many blind dissections occurred when conventional ESD was performed. An experienced endoscopist performed ten robot-assisted ESDs or conventional ESDs in 3 difficult and 3 easy positions, respectively.

Results While there was no significant difference in dissection speed of robot ESD and conventional ESD in easy positions, the submucosal dissection speed was remarkably faster in robotic ESD than in conventional ESD in difficult positions ($P < 0.05$). Also, there was significantly more muscle damage in conventional ESD in difficult positions ($P < 0.05$).

Conclusions Dissection speed was greatly improved when assistive robots aided gastric ESD procedures in difficult locations. Our robotic device can thus provide simple, effective, and safe multidirectional traction during gastric ESD in difficult location

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP082 Endoscopic submucosal dissection for gastric lesions in Germany – proportion of early gastric cancer is case load dependant

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DOI 10.1055/s-0043-1765086

Aims Endoscopic submucosal dissection (ESD) is the standard treatment for early gastric cancer. It has already been shown that the rate of R0 resections, en-bloc resections and curative resections is significantly higher in high-volume centers than in low-volume centers. We investigated whether a more precise

selection in terms of a higher rate of resected early gastric carcinomas can also be observed in high-volume centers

Methods This multi-center study includes patients who underwent gastric ESD from January 2017 to December 2020. Patients from 21 centers in Germany were included. Patient and lesion characteristics were registered. The centers were divided into high-volume centers (≥ 30 gastric ESD, $n = 4$) and low-volume centers (< 30 gastric ESD, $n = 17$).

Results We included 472 patients who underwent gastric ESD. In the histological processing of the resected lesions, a total of 303 early gastric carcinomas were diagnosed (64.2 %). The proportion of early gastric carcinomas in the resected lesions was 74.3 % in high-volume centers (191 of 257). The proportion of early gastric carcinomas in the resected lesions in low-volume centers was 52.1 % (112 of 215). A comparison of high-volume centers with low-volume centers showed a significantly higher proportion of resected early gastric carcinomas ($p < 0.05$).

Conclusions The evaluation shows that the proportion of resected early gastric carcinomas is significantly higher in high-volume centers than in low-volume centers. It can therefore be assumed that a higher number of cases also leads to a more precise selection.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP083 Metachronous cancer after endoscopic resection for early gastric cancer with undifferentiated histology

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DOI 10.1055/s-0043-1765087

Aims This study evaluates the incidence of metachronous cancer (MC) after complete endoscopic submucosal dissection (ESD) for early gastric cancer (EGC) with undifferentiated histology since the cumulative incidence of metachronous cancer (MC) after ESD is not negligible.

Methods We retrospectively analyzed a prospectively collected registry (KHU-ESD registry) of clinical, endoscopic, and pathologic results of patients who underwent ESD for EGC. The study included 573 consecutive patients (465 differentiated and 108 undifferentiated carcinomas) who underwent complete endoscopic resection and followed more than 1 year. The incidence of MC in EGCs with undifferentiated histology (UDC group) was investigated, compared with differentiated carcinoma (DC group). The risk factors for MC were assessed as well.

Results The median follow-up duration was 4.2 (2.1-7.0) years in DC group and 4.8 (2.5-6.0) years in UDC group ($P = 0.683$). Younger and female patients were more common in the UDC group (all $P < 0.001$). Whereas patients with both atrophy and intestinal metaplasia (IM) were more common in the DC group. Cumulative incidence of MC was significantly higher in the DC group than in the UDC group (2.5 % vs. 0.7 % per person-year, $P = 0.011$). In logistic regression analysis, undifferentiated histology was not associated with the development of MC (OR 0.428, 95 % CI 0.149-1.229, $P = 0.115$) and the presence of synchronous cancer was a significant risk factor (OR 2.335, 95 % CI 1.345-4.052, $P = 0.003$).

Conclusions In analysis, the incidence of MC after complete ESD was lower in EGCs with undifferentiated histology than those with differentiated. Therefore, if curative resection is expected, ESD can be considered as the initial therapeutic modality for undifferentiated type EGC.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Sedation and beyond

20/04/2023, 14:00 – 15:00

Liffey Meeting Room 1

OP084 The Gastropack System as an effective alternative to the demand and supply model in healthcare

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DOI 10.1055/s-0043-1765088

Aims National healthcare system is under pressure from the increased demand for specialist services. Requests are managed on a simple "supply and demand" mechanism, opening up possible risk of inappropriateness and case mismanagement. In Bologna, we have applied the Gastropack system (GS), a shared access system between GPs and gastroenterologists. Aim of this analysis is to evaluate if GS reduces mismanagement and demand for services.

Methods In GS, patient's diagnostic work-up is scheduled on the basis of a multidisciplinary agreement between GP and gastroenterologists during a preliminary contact sharing clinical informations. The GS has been implemented in a mountain area of Bologna AUSL, Alto Reno, where GP could freely join the project or send patients to pre-existing Open Access System (OAS). Prospective data of patients accessing the GS and the OAS were analysed (► **Table 1**).

	GS, days	OAS, days	GS, %	OAS, %	P
COLONOSCOPY	60	380	4%	12%	<.05
EGDS	77	456	4%	9%	<.05
Abdominal US	122	401	2%	22%	<.05
Bowel US	68	281	1%	13%	<.05
First Consultation	68	249	3%	30%	<.05
Follow-up consultation	50	230	23%	37%	<.05

► **Table 1** Average time between repetition of same service per patient and GNA A EST repetition rate per patient

	BOLO GNA (OAS)	PIANUR A EST (OAS)	PIANURA OVEST (OAS)	CASALEC CHIO (OAS)	SAN LAZZARO (OAS)	ALTO RENO (GS)
Patients	378 662	143967	75282	104159	67857	48918
Referral OAS (n)	169 02	6397	3134	4728	2447	787
Referral GS (n)	-	-	-	-	-	1048
Total	169 02	6397	3134	4728	3031	1835
% Referral/patient	4.46 %	4.44%	4.16%	4.54%	4.46%	3.66%

► **Table 2** Referral rate

Results Between 2016 and 2020, 6318 patients were managed by GS and 8150 by OAS. 12203 exams were performed through OAS and 17493 through GS; instrumental exams were significantly higher in OAS (66% vs 43%, $p < .05$). A significantly higher repeated exam/rate on the same patient was observed in the OAS than in the GS (► **Table 1**). Repeated exams are 20% in OAS vs 8% in GS ($p < .05$) and 46% of total repeated exams are instrumental in OAS vs 18% in GS ($p < .05$). In the last year in the GS area we observed a reduction in referral/patients rate compared to the other Bologna areas (► **Table 2**).

Conclusions GS is an efficient system in reducing unwarranted repetition of gastroenterological instrumental services. GS has also been shown to be a virtuous system in that it reduces the demand for services, likely reducing inappropriate demand.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP085 Propofol-based sedation managed by gastroenterologist versus deep sedation during endoscopic procedures in low anesthesiological risk patients (ASA I-II): a propensity score-matched comparison in a single tertiary center

Authors F. V. Mandarino¹, P. Biamonte¹, N. Salmeri¹, A. Barchi¹, L.

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DOI 10.1055/s-0043-1765089

Aims Our aim was to analyze safety outcomes between non-anesthesiologist-administered-propofol (NAAPS) sedation and anesthesiologist-assisted deep sedation (DS) during endoscopic procedures for low-risk patients

Methods We retrospectively retrieved data from low anesthesiologist-risk patients (American Society of Anesthesiologists I-II), undergone esophagogastroduodenoscopies (EGDs) and colonoscopies under NAAPS sedation and assisted anesthesiologist-DS, between May 2019 and October 2021, in a tertiary center. Primary outcome were sedation related-adverse events (AEs) rates between NAAPS and DS. Propensity score matching analysis was performed matching sex, age, Body Mass Index (BMI), smoking, comorbidities and time of examination.

Results In colonoscopies subset, 2491 patients underwent NAAPS and 257 patients DS, whereas in EGDs subset, 2439 patients underwent NAAPS and 282 patients DS. In unmatched analysis, no difference was shown in terms of AEs rates between NAAPS and DS, both in EGDs and colonoscopies subsets (1.8% vs 3.5%; $p = 0.202$ and 1% vs 0.4%, $p = 0.815$, respectively). After matching, EGDs subset comprised 282 procedures in NAAPS group versus 188 in DS group, whereas colonoscopies subset included 256 patients in NAAPS group and 174 in DS group. Matched analysis revealed non-different AEs rate between moderate and DS groups (colonoscopies 3.5% vs 0.6%, $p = 0.249$ and EGD 0.4% vs 1%, $p = 0.452$, respectively)

Conclusions NAAPS during endoscopy represents a safe sedation modality, comparable with safety outcomes of anesthesiologist-assisted DS. Further cost-efficacy analyses are needed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP086 Risk of pulmonary aspiration and associated mortality in urgent upper endoscopy with or without sedation. Retrospective analysis with propensity score matching

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DOI 10.1055/s-0043-1765090

Aims Sedation in upper gastrointestinal endoscopy (UGE) improves tolerance and quality of the procedure, although there is a risk of pulmonary aspiration (PA). The aim was to compare the rate of PA and mortality in urgent UGE with or without sedation

Methods Retrospective analysis of all consecutive adult patients undergoing urgent UGE with or without sedation between August/2021-July/2022. We registered comorbidities, indication, pre-endoscopy management, sedation, PA and associated mortality. Patients previously intubated for any reason were excluded. We performed a propensity score matching (PSM) adjusted by

age-adjusted Charlson comorbidity Index (ACCI), fasting, and UGE indication to achieve equality between groups. Parameters expressed in median and interquartile range.

Results We included 303 UGE, with a median age of 69 (57-79), ACCI 5 (3-7) and ASA 3 (2-4). 78% (236) were performed due to hemorrhage and 80% (242) were performed under sedation. We recorded 6 (1.98%) PA (2.48% in sedated patients and 0% in non-sedated patients; $p=0.604$) with an associated mortality rate of 50% (3). In the total cohort, 29 (9.57%) patients died (27 sedated and 2 non-sedated patients; $p=0.062$). In the univariate analysis, only ACCI > 6 and a full stomach at endoscopy were associated with PA. In the multivariate regression analysis, only full stomach was associated (OR 11.2; $p=0.028$). The PSM cohort included 44 couples, with no differences in the rate of PA or mortality ($p=1.00$).

Conclusions In our cohort, sedation in urgent UGE presents lower PA rate than classically described, with high mortality rate but without statistically significant differences in relation to non-sedated patients. Only full stomach at endoscopy was independently associated with PA.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP087 Digital Sedation does not affect caecal intubation rate during colonoscopy and can reduce dose of propofol required for intravenous sedation: Results of a monocentric randomized controlled trial

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DOI 10.1055/s-0043-1765091

Aims Colonoscopy is associated with discomfort requiring intravenous sedation (IVS). Digital sedation (DS) consists in using a three-dimensional, immersive virtual reality (VR) technology to guide the patient through similar steps as clinical hypnosis. The primary outcome of this non inferiority trial was to demonstrate adequate caecal intubation (CI) rate in the experimental arm (DS). Secondary outcomes included rate of rescue IVS, pain and anxiety evaluation, preferred type of sedation for the patient and additional performance measures related to colonoscopy.

Methods Patients scheduled for elective colonoscopy with IVS were proposed for inclusion and were randomized with a ratio of 2:1 in favor of DS using the Aqua© module of the Oncomfort device, with rescue IVS by propofol if needed.

Results 90 patients were included. There was no difference regarding the primary outcome of CI rate (92.8% in DS vs 100% in IVS, $p=0.3$). The rescue IVS rate in the DS group was 63.6%. Nevertheless, there was a significant decrease in total dose of propofol per patient (1,15 mg/kg in DS group and 4,41 mg/kg in IVS group, $p<0,00001$) and even in the subgroup of DS patients requiring IVS rescue (3,17 mg/kg in the DS group and 4,41 mg/kg in IVS group, $p=0,003$). In the DS group, 80% of patients would recommend DS to others. There was no difference regarding adenoma detection rate.

Conclusions This randomized controlled trial showed that patients could successfully undergo colonoscopy with the help of DS with similar outcomes compared to IVS.

Conflicts of interest Caroline Quoilin is an employee of Oncomfort SA

OP088 Impact of sedation on tolerance, technical and clinical success in urgent upper gastrointestinal endoscopy

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DOI 10.1055/s-0043-1765092

Aims To evaluate the impact of sedation on tolerance, technical and clinical success in urgent upper gastrointestinal endoscopy (UGE).

Methods Retrospective analysis of patients included consecutively who underwent an urgent UGE with or without sedation between August-2021 and July-2022. Demographics, comorbidities, indication, tolerance (incapacity to fulfill examination), technical success (incomplete examination/treatment) and clinical success (effectiveness with no second examination needed) were registered. We performed a propensity score matching (PSM) adjusted by age-adjusted Charlson comorbidity Index (ACCI), fasting, and UGE indication to achieve equality between groups. Values expressed in median and interquartile range.

Results 303 UGE were performed in 259 patients, age 69 (57-79), ACCI 5 (3-7) and ASA 3 (2-4). 80% (242) were carried out under sedation and hemorrhage was the main indication (78%). 20 UGE (6.6%) were suspended due to intolerance (1.7% sedated and 26.2% non-sedated; $p<0.001$). Technical success was achieved in 292 (96.3%) UGE (97.5% sedated vs. 92.0% non-sedated; $p<0.05$). Clinical success was achieved in 256 UGE (84.5%) (79.7% sedated and 85.2% non-sedated; $p=0.855$). In the multivariate regression analysis, sedation was independently associated with tolerance (OR 19.9 [CI 5.9-67.2]; $p<0.05$) and technical success (OR 3.9 [CI 1.1-14.8], $p<0.05$). The PSM cohort included 44 couples, with differences only on intolerance (0% vs 22.7%; $p<0.001$).

Conclusions In our cohort, more than a quarter of non-sedated UGE are suspended due to intolerance. Sedation was independently associated with both tolerance and technical success.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP089 Residual malignant cells are present on endoscopic instruments and/or working channel in almost half of the cases after endoscopic biopsies for cancer or ESD

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DOI 10.1055/s-0043-1765093

Aims ESGE suggests obtaining possible non-neoplastic biopsies before suspected malignant lesions to prevent the intraluminal spread of malignant disease. We looked for residual malignant cells in the endoscope working channel (EWC), and on the biopsy forceps or knife, after biopsies (Bx) of colorectal cancer (CRC) or endoscopic submucosal dissection (ESD) for early neoplasia.

Methods At the end of 13 ESDs and 26 diagnostic colonoscopies with Bx from a CRC, we shook the empty biopsy forceps or ESD knife in a Cytolyt vial ("instrument sample") as soon as the endoscope was removed. Then we flushed the EWC with 20 mL saline ("flush sample"). Lastly, we brushed the EWC with a one-use cleaning brush and shook it in a Cytolyt vial ("brush sample"). In a "proof-of-concept" phase (Group A), the three samples of each case (from 13 ESD + 10 CRC Bx cases) were pooled and analyzed together. Thereafter, we screened 16 cases with CRC Bx (Group B), in which the samples were analyzed separately to identify where malignant cells were specifically found. Cytological analysis were performed by 2 pathologists [1-3].

Results Group A analysis showed malignant cells in the pooled sample in 70% (7/10) of the CRC Bx group, and 31% (4/13) of the ESD group. Group B analysis showed malignant cells in the "instrument sample" in 44% (7/16), in the "flush sample" in 38% (6/16), and in the "brush sample" in 19% (3/16). At least one sample was positive for malignant cells in 56% (9/16). Malignant cells were present in at least one sample in 62% overall biopsies group (A Bx + B) and 44% for at least one working channel sample ("flush" or "brush") in group B (► Fig. 1).

Procedure type	Lesion location	Lesion histology	Sample 1: instruments	Sample 2: Channel flush	Sample 3: Channel brush	Posited (1+2+3)	At least one sample positive (ESD/ES)	At least one sample positive (ESD/ES)
Group A								
1	ESD	CR	ADC			+	+	+
2	ESD	CR	HGD			+	+	+
3	ESD	CR	HGD			+	+	+
4	ESD	ESD	ADC			+	+	+
5	ESD	CR	HGD			+	+	+
6	ESD	CR	ADC			+	+	+
7	ESD	ESD	ADC			+	+	+
8	ESD	CARD	ADC			+	+	+
9	ESD	CR	ADC			+	+	+
10	ESD	CARD	ADC			+	+	+
11	ESD	CR	HGD			+	+	+
12	ESD	CARD	ADC			+	+	+
13	ESD	ESD	HGD			+	+	+
14	ES	CR	ADC			+	+	+
15	ES	CR	ADC			+	+	+
16	ES	CR	ADC			+	+	+
17	ES	CR	ADC			+	+	+
18	ES	CR	ADC			+	+	+
19	ES	CR	ADC			+	+	+
20	ES	CR	ADC			+	+	+
21	ES	CR	ADC			+	+	+
22	ES	CR	ADC			+	+	+
23	ES	CR	ADC			+	+	+
Group B								
24	ES	CR	ADC	+	+	+	+	+
25	ES	CR	ADC	+	+	+	+	+
26	ES	CR	ADC	+	+	+	+	+
27	ES	CR	ADC	+	+	+	+	+
28	ES	CR	ADC	+	+	+	+	+
29	ES	CR	ADC	+	+	+	+	+
30	ES	CR	ADC	+	+	+	+	+
31	ES	CR	ADC	+	+	+	+	+
32	ES	CR	ADC	+	+	+	+	+
33	ES	CR	ADC	+	+	+	+	+
34	ES	CR	ADC	+	+	+	+	+
35	ES	CR	ADC	+	+	+	+	+
36	ES	CR	ADC	+	+	+	+	+
37	ES	CR	ADC	+	+	+	+	+
38	ES	CR	ADC	+	+	+	+	+
39	ES	CR	ADC	+	+	+	+	+
40	ES	CR	ADC	+	+	+	+	+

► Fig. 1 procedure, histology, cytology data and results.

Conclusions This study confirms the presence of residual malignant cells in the endoscope working channel and/or on through-the-scope instruments after biopsies of colorectal cancer or after ESD.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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[2] Ehlken H, Schmitz R, Riethdorf S et al. Possible tumour cell reimplantation during curative endoscopic therapy of superficial Barrett's carcinoma. *Gut* 2022; 71 (2): 277–286

[3] Backes Y, Seerden TCJ, van Gestel RSFE et al. Tumor Seeding During Colonoscopy as a Possible Cause for Metachronous Colorectal Cancer. *Gastroenterology* 2019; 157 (5): 1222–1232

EUS anastomoses and LAMS – whats new?

20/04/2023, 14:00 – 15:00

Ecocem

OP090V EUS-Directed trans-Enteric Endoscopic Retrograde Cholangiopancreatography with giant intrahepatic stone lithotripsy after a LAMS-in-LAMS rescue of a misdeployment

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DOI 10.1055/s-0043-1765094

Abstract Text A 80-year-old women, with previous Roux-en-Y Hepatico-Jejunostomy was admitted for cholangitis due to a giant 4cm intrahepatic stone above the anastomosis; she was candidate to EUS-Directed Trans-Enteric ERCP. After "biliary" loop EUS-guided identification, puncture and distension, an over-the-wire 15mm LAMS was released and dilated. The LAMS' distal flange was misdeployed in the peritoneum, but the jejunal loop with a large enterotomy was visible through the LAMS. The enterotomy was intubated with a gastro-scope and a 20mm LAMS-in-LAMS was placed uneventfully. 48 hours later, the giant stone was completely cleared by electrohydraulic lithotripsy using a gastro-scope.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP091 Hepaticojejunostomy by EUS : bi-centric retrospective French series

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DOI 10.1055/s-0043-1765095

Aims EUS biliary drainage called hepaticojejunostomy (EUS-HJ) has not been the subject of even retrospective series. We wanted to report the French experience EUS-HJ by requesting the GRAPHE (group of French digestive endoscopists) for a retrospective multicenter study. The main objective was the technical feasibility of the technique. Main secondary objectives concerned the clinical efficacy, the rate of complications and median survival.

Methods We retrospectively included patients who underwent EUS-HJ in two centers that responded to our request between May 2011 and November 2022. Technical success was defined by insertion of a biliary stent without immediate choleperitoneum and emergency surgery. The complete technical success by a disappearance of the jaundice, partial success by an improvement of the bilirubin (> 30%) without normalization of the biology and a clinical failure by the persistence of jaundice.

Results We included 16 patients with an average age of 62. All patients had gastrectomy. The indication for EUS-HJ was malignant in 13/16 cases (81%). Median follow-up was 6 months and median patient survival was 5 months. The procedure was technically successful in 100% of cases and clinically successful in 14/15 (93%) of cases (one lost to follow-up). 5/16 patients (31%) had a complication \geq IIIA of the AGREE classification all managed without surgery. The mortality rate was 6% (1/16).

Conclusions The EUS-HJ is a rare procedure similar to an hepaticogastrostomy but feasible and safe in a trained team. It is mainly destined at end-stage disease patients but also possible for benign stricture.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP092 Patient profile, procedure technique and clinical outcomes of transjejunal ERCP (TJ-ERC) via EUS-guided entero-anastomosis (EUS-EA) using lumen-apposing metal stents (LAMS) in Roux-en-Y Hepaticojejunostomy (RYHJ)

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DOI 10.1055/s-0043-1765096

Aims Biliary obstruction(BO) in RYHJ is currently managed percutaneously, particularly when strictures or hepatolithiasis dictate iterative revisions, or adhesions preclude enteroscopy-ERCP. EUS-EA with LAMS could facilitate ERCP in RYHJ. Aim: To assess feasibility, safety and efficacy of EUS-EA-assisted TJ-ERCP in RYHJ patients.

Methods Consecutive patients from 2 centers with BO and RYHJ who underwent TJ-ERCP between 2014-2022 were reviewed. Technical success: TJ-ERCP completion. Short-term clinical success: BO resolution without relapses <30 days. Long-term clinical success: removal of percutaneous biliary drains with no relapses/unplanned reinterventions <365 days \pm stricture resolution/stone clearance [1–4].

Results 73 patients [48(65,75%) male;64(11.71)years]underwent attempted TJ-ERCP. BO was benign in 64(88%). Median time(IQR) between index RYHJ and EUS-EA:7.4(12.03)years. EUS-EA was successful in 69/73 (94.5%). Type of EUS-EA: 39.7% gastro-jejunosotomy; 41,1% duodeno-jejunosotomy (10, bulb; 20, 2nd duodenum); 19.2% jejuno-jejunosotomy. Same-session ERCP in 28/43 (40.6%).

AEs: 6/73 (8.5%). 7 LAMS dislodgements (all managed endoscopically). Long-term clinical success: 59/73 (80.8%) (► **Table 1**).

	n=73
History of HBP surgeries after index HJYR, n (%)	18(24.7%)
Previous biliary drainage attempts, n (%)	54(74%)
Indwelling external biliary drain, n (%)	28(38.9%)
Hepatoslithiasis, n (%)	35(49.3%)
LAMS type, n (%)	
Hot	68 (95.8%)
Cold	3 (4.2%)
Diameter, n (%)	
15-10mm	59 (83.1%)
20-10mm	12 (16.9%)
Technique, n (%)	
over-guide	16 (22.5%)
free hand	55 (77.5%)
TransLAMS ERCP index, n (%)	
Single-session	28 (40.6%)
Deferred, n (%), median (IQR)	41 (59.4%), 2(0-7) days
Number of ERCP, n (%)	
1	45 (66.2%)
2-5	23 (33.8%)
Adverse events, n (%)	6 (8.5%)
Perforation	1
Bleeding	3
Infection	1
Other	1
Immediate clinical success, n (%)	60/73(82.2%)
Long-term clinical success, n (%)	59/73(80.8%)

► **Table 1** Results.

Conclusions EUS-EA assisted TJ-ERCP appears safe and effective. Technical success/patient tolerance appear better than in enteroscopy-ERCP/PTBD, respectively. Underlying disease is more challenging than in EDG. Definitive resolution is achieved in 80.8%. TJ-ERCP might be the primary approach to BO in RYHJ.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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[2] Perez-Miranda M, Sanchez-Ocaña R, De La Serna Higuera C, Diez-Redondo P, Nuñez H, Vallecillo MA. Transenteric anastomosis with lumen-apposing metal stent as a conduit for iterative endotherapy of malignant biliary obstruction in altered anatomy. *Gastrointest Endosc [Internet]* 2014; 80 (2): 339. Available from: <https://pubmed.ncbi.nlm.nih.gov/24890419/>

[3] Kedia P, Tarnasky PR, Nieto J, Steele SL, Siddiqui A, Xu MM et al. EUS-directed Transgastric ERCP (EDGE) Versus Laparoscopy-assisted ERCP (LA-ERCP) for Roux-en-Y Gastric Bypass (RYGB) Anatomy. *J Clin Gastroenterol [Internet]* 2019; 53 (4): 304–8. Available from: <https://pubmed.ncbi.nlm.nih.gov/29668560/>

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OP093V Combination of ERCP and EUS-guided intrahepatic biliary drainage with gallbladder (modified-CERES) in malignant hilar obstruction

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DOI 10.1055/s-0043-1765097

Abstract Text Introduction: A 85-year-old male with jaundice and cholangitis due to unresectable hilar cholangiocarcinoma (Klatskin,IV). A CERES with retrograde biliary drainage (ERCP) combined with a transmural endosonography (EUS) intrahepatic and gallbladder drainage is proposed [1].

Technique: I.ERCP: Cannulation with pre-cut. Cholangioram with hilar stenosis up to cystic. Stenosis dilatation. Placement of an 80x8mm uncovered self-expandable metal stent (SEMS). II.EUS-guided transmural hepatico-duodenostomy (19G needle, 6-Fr cystotome) and placement of a partially covered SEMS (80x8mm) with coaxial pigtail. III.EUS-guided transduodenal gallbladder drainage with release of an 8x8mm lumen apposing metal stent.

Conflicts of interest • M. Puigcerver-Mas, A. Garcia-Sumalla, D. Luna-Rodriguez, S. Maisterra, C. F. Consiglieri, S. Quintana-Carbó: Declare that have no conflict of interest. • J.B. Gornals: Consultant of Boston Sc; Grant Research, Fujifilm

[1] Kongkam P, Tasneem AA, Rerknimitr R. Combination of endoscopic retrograde cholangiopancreatography and endoscopic ultrasonography-guided biliary drainage in malignant hilar biliary obstruction. *Dig Endosc* 2019; 31: (Suppl 1): 50–54

OP094 EUS-guided choledochoduodenostomy using single step lumen-apposing metal stents for primary drainage of malignant distal biliary obstruction (SCORPION-p): a prospective pilot study

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DOI 10.1055/s-0043-1765098

Aims To assess the effectiveness and safety of EUS-guided choledochoduodenostomie (EUS-CDS) using lumen-apposing metal stents (LAMS) as primary drainage strategy in patients with distal malignant biliary obstruction (MBO).

Methods Prospective pilot study in patients with a proven MBO and bile duct diameter of at least 12mm, requiring biliary drainage, excluding patients with gastric outlet obstruction. Patients underwent EUS-CDS using a 6x8mm LAMS. Primary outcome was technical success confirmed by a cholangiogram. Secondary outcomes were clinical success, defined as spontaneous 50% decrease of bilirubin or relieve of symptoms after technical success, adverse events (AEs) and re-interventions.

Results Technical success was achieved in 20/22 patients (91%). Minor periprocedural AEs occurred in 3 patients (14%); limited bile leakage (n = 2) and a self-limiting bleeding that led to blood clots obstructing the stent for which a double pigtail stent (DPS) was placed (n = 1). Clinical success was achieved in 18/20 patients (90%). Adequate biliary drainage was achieved in the 2 remaining patients after additional DPS placement through the LAMS. Ten patients (50%) experienced cholangitis after a median of 9 days (IQR 4.5-89.75). In 2 patients antibiotics sufficed, in 8 patients re-intervention(s)

were performed. One patient deceased < 30 days due to fulminant disease progression (► Table 1).

Characteristics	Total (n=22)
Male, n (%)	7 (31.8)
Median age, y (IQR)	69.5 (64-75.25)
Type of tumor, n (%)	
• Pancreatic ductal adenocarcinoma	20 (90.9)
• Duodenal carcinoma	1 (4.5)
• Distal cholangiocarcinoma	1 (4.5)
Tumor stage, n (%)	
• Resectable	10 (45.5)
• Locally advanced	6 (27.3)
• Metastatic	6 (27.3)
Median serum total bilirubin, $\mu\text{mol/L}$ (IQR)	225 (130.75-335.25)
Median diameter common bile duct, mm (IQR)	16 (13-20)

► Table 1

Conclusions This study found a 91 % technical success of EUS-CDS using LAMS as the primary drainage strategy and a low rate of procedure-related AEs. However, the substantial rate of stent dysfunction currently precludes EUS-CDS using LAMS solely as a valid alternative for ERCP.

Table. Baseline characteristics in 22 patients undergoing EUS-CDS

Conflicts of interest Jeska A. Fritzsche, Marc G. Besselink, Olivier R.C. Busch and Freek Daams have no conflicts of interest or financial ties to disclose. Paul Fockens performed as a consultant for Olympus and Cook Endoscopy. Johanna W. Wilmink reports research grants from Servier, Celgene, Halozyme, Merck, Roche, Pfizer, Amgen and Novartis, and nonfinancial support from MSD and AstraZeneca. Rogier P. Voermans reports research grants from Boston Scientific and Prion Medical, performed as a consultant for Boston Scientific, and received speaker's fee from Mylan and Zambon. Roy L.J. van Wanrooij performed as a consultant for Boston Scientific. All outside the submitted work.

OP095 HOSPA study: multi-center prospective evaluation of the new Hot-Spaxus lumen apposing metal stent (LAMS)

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DOI 10.1055/s-0043-1765099

Aims LAMS have revolutionized therapeutic EUS. The gold-standard LAMS (Hot-Axios [BostonScientific]) has been challenged by newer models offering cost advantages (Hot-Spaxus [TaewoongMedical]). Prospective evaluation of newer LAMS would help clarify its role. Aim: to evaluate technical success, short-term clinical success, and adverse events (AEs) of Hot-Spaxus in pancreatic fluid collection (PFC) or gallbladder (GB) drainage. 2ary aim: operators' subjective Hot-Spaxus assessment [1–3].

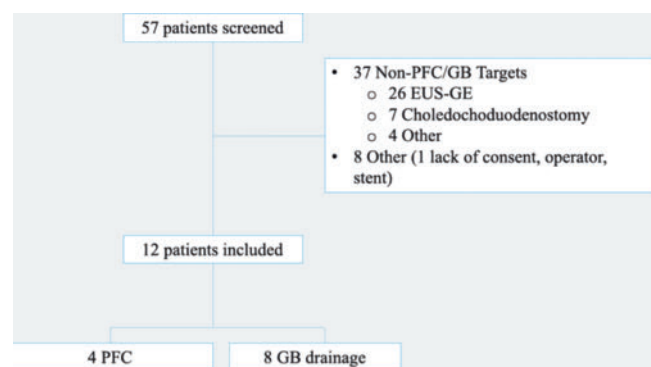
Methods 57 consecutive patients from five tertiary centers with indications for EUS-LAMS were screened between July-Sept 2022 (► Fig. 1). Only expert endoscopists (> 50 LAMS) were involved. Objective procedure metrics and a standardized 9-item subjective evaluation were prospectively collected and analyzed.

Results 12 patients met inclusion criteria [8(66, %) female; 78(14.26) years]. (Table 1) Cholecystitis was the dominant indication (58,3%). LAMS diameter was 16-20mm in 75%. Technical success: 11/12 (91,7%), 1 LAMS dislodgement. Medium (SD) target size: 52.75 (49.5) mm; distance to target: 7.3 (3.7) mm. Median (SD) LAMS deployment time: 209,4 (127,96) seconds. AEs: 1/12 (8,3%), moderate bleeding. Short-term clinical success: 10/11 (90.9%). Subjective evaluation data is shown in ► Fig. 2

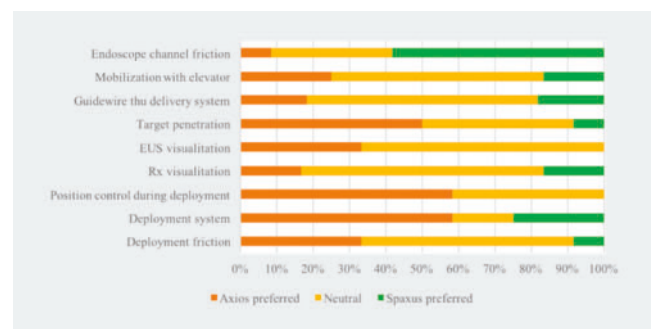
Conclusions Hot-Spaxus technical success, short-term clinical success and AEs in PFC/ GB drainage appear similar to Hot-Axios. Subjective operator assessment however favors Hot-Axios for ease of penetration, position control and LAMS deployment system use (► Fig. 3).

Table 1. Results

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Krishnamoorthi R, Dasari CS, Thoguluva Chandrasekar V et al. Effectiveness and safety of EUS-guided choledochoduodenostomy using lumen-apposing metal stents (LAMS): a systematic review and meta-analysis. *Surg Endosc* 2020; 34: 2866–2877. doi:10.1007/s00464-020-07484-w [2] Luk SW-Y, Irani S, Krishnamoorthi R et al. Endoscopic ultrasound-guided gallbladder drainage versus percutaneous cholecystostomy for high risk surgical patients with acute cholecystitis: a systematic review and meta-analysis. *Endoscopy* 2019; 51: 722–732. doi:10.1055/a-0929-6603 [3] Mangiavillano B, Moon JH, Crinò SF et al. Safety and efficacy of a novel electrocautery-enhanced lumen-apposing metal stent in interventional EUS procedures (with video). *Gastrointest Endosc* 2022; 95: 115–122. doi:10.1016/j.gie.2021.07.021



► Fig. 1 Patients flow-chart



► Fig. 2 Subjective evaluation

	n=12
Indication, n (%)	
pseudocyst	2 (16.8%)
WON	2(16.8%)
acute cholecystitis	7(58.3%)
gallbladder other*	1(8.3%)
Associated procedures, n (%)	
EUS-FNA	1(8.3%)
none	9(75%)
other	2(16.7%)
Interventions associated with LAMS placement	
coaxial stent placement	3(25%)
dilatation	1(8.33%)
dilatation + coaxial stent	1(8.33%)
none	6(50%)
other	1(8.33%)
Short-term clinical success, n (%)	
Yes	10(83.3%)
No	1(8.33%)
Not evaluable	1(8.33%)

► Table 3

Small-Bowel Endoscopy: Updates 2023

20/04/2023, 15:30 – 16:30

Liffey Meeting Room 2

OP096 Artificial intelligence-assisted small bowel capsule endoscopy reading in patients with suspected small bowel bleeding

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DOI 10.1055/s-0043-1765100

Aims Capsule endoscopy (CE) reading is time consuming, and readers are required to maintain attention to not miss significant findings. Deep neural networks (DNNs) can recognize relevant findings, possibly exceeding human performances, reducing the reading time of CE. Primary aim of this study was to assess the non-inferiority of Artificial intelligence (AI)-assisted vs standard

reading for the detection of potentially bleeding lesions at per-patient analysis. Secondary aim was to compare the mean reading time in the two modalities.

Methods From February 2021 to January 2022, 137 patients were prospectively enrolled from 14 European centers to perform small bowel (SB) CE with the Navicam SB system (Ankon, China), provided with a DNN-based system (ProScan) for automatic detection of lesions. Initial reading was performed in standard mode. Second blinded reading was performed AI-assisted (AI operated a first-automated reading, and only AI-selected images were assessed by human readers). Finally, a board of experts review all videos and served as gold std) [1].

Results 133 patients were included in the final analysis (73 females, mean age 66.5 years \pm 14.4 SD; completion rate 84.2%). At per-patient analysis, the diagnostic yield of P1 + P2 lesions in AI-assisted reading (73.7%, n = 98/133) was non-inferior (p = 0.015) and superior (p = 0.035) to standard reading (62.4%, n = 83/133). Negative predictive values of standard and AI-assisted reading were 56% and 80%, respectively (p = 0.039). Mean SB reading time was 33.7 \pm 22.9 minutes in standard mode and 3.8 \pm 3.3 minutes when AI-assisted (p < 0.001) (► Fig. 1).

Conclusions The AI-assisted reading achieved a statistically significant increase in the detection of clinically relevant findings and the reading time was 8.8 times faster. (NCT 04821349)

Conflicts of interest Study support from AnXrobotics

[1] Ding Z, Shi H, Zhang H, Meng L, Fan M, Han C, Zhang K, Ming F, Xie X, Liu H, Liu J, Lin R, Hou X. Gastroenterologist-Level Identification of Small-Bowel Diseases and Normal Variants by Capsule Endoscopy Using a Deep-Learning Model. *Gastroenterology* 2019; 157 (4): 1044–1054.e5. doi:10.1053/j.gastro.2019.06.025. Epub 2019 Jun 25 PMID: 31251929

Accuracy measures (%)	P1+P2 lesions			P2 lesions		
	Standard reading	AI assisted reading	p value	Standard reading	AI assisted reading	p value
Sensitivity	79.0	93.3	0.005	84.6	89.2	0.603
Specificity	100.0	100.0	1	100.0	100.0	1
PPV	100.0	100.0	1	100.0	100.0	1
NPV	56.0	80.0	0.039	87.2	90.7	0.668
Diagnostic accuracy	83.5	94.7	0.006	92.5	94.7	0.616

► Fig. 1

OP097 Comparison Of An Artificial Intelligence Capsule Endoscopy System (Navicam) with the conventional Capsule Endoscopy (Pillcam Sb3) In The Study Of Small Bowel Pathology: Navipill Pilot Study

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DOI 10.1055/s-0043-1765101

Aims Artificial intelligence can improve reading times and lesion detection rates in Small Bowel Capsule Endoscopy (SBCE). Compare the reading with artificial intelligence (AIR) of the Navicam Capsule with the conventional reading (CR) of Pillcam SB3 (gold standard).

Methods Prospective clinical trial comparing AIR and CR (non-inferiority study). The 2 SBCE were administered to the same patient in randomized order with 60-minute intervals. AIR and CR were performed by two independent expert investigators. Diagnostic performance (percentage of lesions compatible with the indication for the test), diagnostic accuracy and reading times of the AIR compared to CR were evaluated.

Results Twenty patients (median age 60 \pm 10 years) were included. SBCE studies were complete with Navicam and Pillcam in 100% and 95% (p = 1). The diagnostic yield by AIR and CR was 80% and 90% (p = 0.5). The two readings agreed in 90% of the cases (Cohen's k 0.62). In the analysis per patient, the AIR

presented sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and diagnostic accuracy of 88 %, 100 %, 100 %, 60 %, and 90 %, respectively. In the analysis per lesion, the AIR showed sensitivity, specificity, PPV, NPV, and diagnostic accuracy of 97 %, 50 %, 95 %, 60 %, and 93 %, respectively. Mean reading time was 3.2 ± 3.9 minutes with AIR and 27.5 ± 9.4 minutes with CR (p < 0.001).

Conclusions AIR with Navicam shows high agreement with CR with Pillcam. AI demonstrates high diagnostic yield and accuracy, with a significant reduction of reading times.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP098 Deep learning multi-domain model provides accurate detection and grading of mucosal ulcers in different capsule endoscopy types

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DOI 10.1055/s-0043-1765102

Aims The aim of our study was to create an accurate patient-level combined algorithm for identification of ulcers on CE images from two different capsules.

Methods We retrospectively collected CE images of PillCam-SB3's capsule and PillCam-Crohn's capsule. ML algorithms were trained to classify small bowel CE images into either normal or ulcerated mucosa: a separate model for each capsule type, a cross-domain model (training the model on one capsule type and testing on the other) and a combined model.

Results The dataset included 33,100 CE images: 20,621 PillCam-SB3 images and 12,479 PillCam-Crohn's images, of which 3,582 were colonic images. There were 15,684 normal mucosa images and 17,416 ulcerated mucosa images. While the separate model for each capsule type achieved an excellent accuracy (average AUC 0.95 and 0.98, respectively), the cross-domain model achieved a wide range of accuracies (0.569-0.88) with AUC of 0.93. The combined model achieved the best results with an average AUC of 0.99 and average mean patient accuracy of 0.974.

Conclusions A combined model for two different capsules provided high and consistent diagnostic accuracy. Creating a holistic AI model for automated capsule reading is essential part of the refinement required in ML models on the way to adapting them to clinical practice.

Conflicts of interest S.B.H. has received consulting and advisory board fees and/or research support from AbbVie, MSD, Janssen, Takeda, and CellTrion. U.K. has received speaker fees from Abbvie, Janssen, and Takeda; research support from Takeda and Janssen; and consulting fees from Takeda and CTS. R.E. has received advisory and/or research support from Abbvie, Janssen, Takeda and Medtronic. R.M.Y. has received consulting fees from Medtronic. None of the other authors have any conflicts to declare.

OP099 Motorized Spiral Enteroscopy: preliminary results of a multicenter prospective experience in real life clinical setting

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DOI 10.1055/s-0043-1765103

Aims The motorized spiral enteroscopy (MSE) is the latest advancement in enteroscopy; however, real-life data on efficacy and safety are scarce.

Methods We conducted an Italian multicenter prospective observational study in patients with suspected small bowel diseases in order to evaluate the performance and safety of MSE.

Results This is an interim analysis of an ongoing study. 44 procedures (32 as oral route and 12 as anal route) were performed in 38 patients (median age 69 years, 34,2% had a history of a major abdominal surgery). The overall technical success was 88,6% per procedure while the overall diagnostic yield (DY) was 76,3% per patient. Endotherapy was performed in 34,2% patients. Median total procedure time for antegrade and retrograde approaches was 70 and 60 minutes, respectively. The median distance of maximum insertion for the antegrade and retrograde approaches were 350 and 90 cm, respectively. In the population with a history of a major abdominal surgery we did not record a significant reduction in technical success (86.6% vs 89.6%), while a statistically insignificant reduction in DY was recorded (61.5% vs 84% p = 0.226). Procedure-related adverse events were observed in 12 patients (31%), not increased in patients with abdominal surgery; all of them were mild and not involving an endoscopic procedure interruption.

Conclusions Our data confirm, in a real-life setting, the good performance and the safety of the MSE in suspected small bowel diseases. In patients with previous abdominal surgery, we did not record the drawback of reduced technical success or an increase in adverse events.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP100V Spiralling Small Bowel with Power Spiral Enteroscopy: Not Business as Usual

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DOI 10.1055/s-0043-1765104

Abstract Text In this video we have reported a malfunction of spiral overtube during motorized power spiral enteroscopy (PSE). A 75-year male presented with recurrent bleeding per rectum requiring multiple blood transfusions in past. He underwent antegrade PSE under general anaesthesia after negative gastroscopy, colonoscopy and CECT angiography. In distal ileum when enteroscope was not advancing further we have noticed that tip of spiral over-tube was broken and detached from overtube. Malfunctioning of overtube lead to abandonment of the antegrade procedure. Retrograde PSE was performed with new overtube and broken piece of overtube was located in terminal ileum and removed with rat tooth forcep.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP101V COVID-19 vaccination-related intestinal ischaemia

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DOI 10.1055/s-0043-1765105

Abstract Text Vasculitis has been reported as an odd autoimmune-related side effect of COVID-19 and its vaccination, associated to the virus' affinity for ACE2 receptor on enterocytes. It can lead to acute intestinal ischaemia. We report a case of a COVID-19 vaccine-related intestinal ischaemia patient who presented with abdominal pain and fever following vaccination and progressed with dynamic ileus and enterorrhagia. The diagnose was achieved with the aid of capsule endoscopy (showing submucosal hematomas, friability and mucosal denudation) and enteroscopy with biopsies (microvascular thrombosis and inflammation of the mesenteric vessels was revealed).

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP102 Left colonic localization, non-granular morphology, and pit pattern independently predict submucosal fibrosis of colorectal neoplasms before endoscopic submucosal dissection

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DOI 10.1055/s-0043-1765106

Aims Considering colorectal neoplasms, the presence and degree of submucosal fibrosis increases ESD duration and technical complexity reduces the rate of curative resection and reduces safety profile. The aim of the study was to identify pre-procedural predictive factors of submucosal fibrosis and to assess the impact of fibrosis on ESD outcomes ESD [1–2].

Methods All consecutive ESD performed between 2014–2021 were retrieved from a prospectively collected database. Pre-procedural, procedural, and post-procedural data were recorded. Logistic regression was used to identify predictive factors for submucosal fibrosis.

	Submucosal fibrosis			
	Univariate (OR [95% C.I.])	P	Multivariate (OR [95% C.I.])	P
Location				
Rectum	0.25 (0.13 – 0.49)	<0.001	ns	ns
Left colon	2.47 (1.05 – 5.79)	0.028	3.23 (1.12 – 9.31)	0.030
Right colon	2.60 (1.24 – 5.42)	0.008	ns	ns
Morphology				
Sessile (Paris 0-Is)	ns	ns	---	---
LST-G	0.12 (0.06 – 0.25)	<0.001	ns	ns
LST-NG	11.16 (4.45 – 28.02)	<0.001	5.84 (2.03 – 16.77)	0.001
Lesion size				
<40 mm	2.91 (1.53 – 5.54)	0.001	ns	ns
≥40 mm	0.34 (0.18 – 0.66)	0.001	---	---
Superficial pit pattern				
Invasive (Kudo Vi or Vn)	9.56 (4.53 – 20.19)	<0.001	7.11 (3.11 – 16.23)	<0.001
Previous endoscopic biopsy	ns	ns	---	---
Non-lifting sign	ns	ns	---	---

► Fig. 1

Results 174 neoplasms (46.6% rectum, 21.8% left colon, 31.6% right colon; size 34.9 ± 17.5mm) from 169 patients (55.0% male; 69.5 ± 10.4-year-old) were included. 106 (60.9%) neoplasms were LST-G, 42 (24.1%) LST-NG, and 26 (14.9%) sessile; invasive pit pattern was observed in 90 (51.7%) lesions. No fibrosis (F0) mild (F1) and severe (F2) were observed in 62 (35.6%), 92 (52.9%), and 20 (11.5%), respectively. Left colonic localization [OR 3.23 (1.12 – 9.31)], LST-NG morphology [OR 5.84 (2.03 – 16.77)] and invasive pit pattern [OR 7.11 (3.11 – 16.23)] were independently correlated to submucosal fibrosis. Lower curative resection rate (59.8% vs. 93.5%, P < 0.001) was observed in case of fibrosis; the incidence of adverse events was higher in case of severe fibrosis (35.5%) compared to no (3.2%) and mild fibrosis (3.3%; P < 0.001). Procedure time was significantly impacted by presence and degree of fibrosis (P < 0.001) (► Fig. 1).

Conclusions Left colonic localization, LST-NG morphology, and invasive pit pattern are independent predictors of fibrosis, affecting technical and clinical ESD outcomes.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Chiba H, Tachikawa J, Arimoto J et al. Predictive factors of mild and severe fibrosis in colorectal endoscopic submucosal dissection. *Dig Dis Sci*. 2020; 65: 232–42

[2] Matsumoto A, Tanaka S, Oba S et al. Outcome of endoscopic submucosal dissection for colorectal tumors accompanied by fibrosis. *Scand J Gastroenterol* 2010; 45: 1329–37

OP103 Novel Trans-anal Technique for Complex Left-sided Colorectal Lesions

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DOI 10.1055/s-0043-1765107

Aims To assess clinical outcomes and organ preservation of a novel trans-anal technique in the management of left colorectal lesions.

Methods Consecutive patients (January 2021/November 2022) were considered for either traditional surgical resection or Speedboat-assisted endoscopic Submucosal Dissection (SSD-Bibolar Cut and Microwave coagulation) using the innovative A-TASER (Aireseal- Trans-anal Speedboat Endoscopic Resection) platform. Aireseal (ConMed/USA) maintains a stable intraluminal pressure and a smoke free dissection filed by a constant carbon dioxide exchange.

Results 73 patients (Mean age 69 years/40males) with complex lesions in the left colorectum underwent SSD. Complete en-bloc resection was achieved in 93% (n = 68). Early cancer was found in 6 cases. The A-TASER platform was used in 36/73 (49.3%) patients. The endo-surgical group had significantly larger lesions (Mean length 6.9cm vs. 5.1cm p 0.009, Mean surface 39.8cm² vs. 19.7cm² p 0.003). Even though the A-TASER approach took significantly longer (144 minutes vs. 100 minutes p 0.03), there was no difference in the speed of the dissection (15.7cm²/h vs. 14cm²/h p 0.4). Microwave used to control bleeding in all cases. Delayed bleeding did not occur in any of the groups. No perforation occurred. Hospital stay was less than 24 hours in most patients (68/73 93%).

Conclusions A-TASER appears to be technically feasible, safe and effective endo-surgical technique that enhances radical removal of large and complex lesions in the left colorectum.

Conflicts of interest Dr Mohan Ramchandani has a consultant agreement with Creo Medical/Dr Zacharias Tsiomoulos has a consultant agreement with Creo Medical and ConMed

OP104 Delayed bleeding after ESD: Derivation and external validation of a new predictive European score

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Madrid, Spain; 11 Hospital Quirónsalud Málaga, Málaga, Spain; 12 Puerta de Hierro Majadahonda University Hospital, Majadahonda, Spain, Majadahonda, Spain; 13 Marqués de Valdecilla University Hospital, Santander, Spain; 14 Germans Trias i Pujol Hospital, Badalona, Spain; 15 Teknon Medical Center, Barcelona, Spain; 16 Hospital Universitario Poniente, El Ejido, Spain; 17 University Hospital October 12, Madrid, Spain; 18 Instituto de Investigación «i+12», Madrid, Spain; 19 CHU Dupuytren 1, Avenue Martin Luther King, Limoges, France
DOI 10.1055/s-0043-1765108

Aims To study the incidence and risk factors (RFs) of delayed bleeding (DB) after colorectal ESD in a European cohort, and to develop and validate a risk-scoring system for predicting DB.

Methods A prospective, multicenter study including 1 French and 20 Spanish hospitals (n = 2408) was carried out to evaluate the RFs involved in DB. A published Asian score was evaluated and a new score with the Spanish cohort (SC) (n = 1468) was developed and externally validated in the French cohort (FC) (n = 940) (► Fig. 1).

Results DB incidence was 5.99% in the SC (95% CI:4.86,7.36) and 7.98% in the FC (95% CI:6.36,9.95). Discrimination ability of the Asian DB score was suboptimal in both cohorts (AUC of 0.612 in SC and 0.565 in FC). The RFs included in the new European score were size >50mm (1 point), location (proximal: 2 points; rectum: 3 points), use of anticoagulation/antiaggregation (3 points) and failure to achieve ESD *en bloc* (2 points). This score allows classification of the patients into 3 risk groups (low, 3%; medium, 7.9%; high, 17.5%). The European score showed good discrimination (AUC of 0.725) and calibration (Hosmer-Lemeshow test p = 0.873) in the derivation cohort and an acceptable external validation in the French cohort (AUC of 0.692 and Hosmer-Lemeshow test p = 0.979 after intercept recalibration).

Conclusions The validation of the Asian model has a suboptimal discrimination ability in the European cohorts. A new European model with four meaningful variables showed good calibration and discrimination properties and an acceptable external validation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Score	DB probability	DB risk
0	1.6%	Low (3%)
1	2.6%	
2	4.1%	
3	6.7%	Medium (7.9%)
4	10.5%	
5	16.2%	High (17.5%)
6	24.2%	

► Fig. 1

OP105V En bloc resection of large colonic polyps with Bipolar snare; two video cases

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DOI 10.1055/s-0043-1765109

Abstract Text For treating large colonic polyps, endoscopic submucosal dissection (ESD) may be selected for securing en bloc resection. Bipolar snare is expected to be safer than monopolar one as the current passes only through the tissue between the two electrodes. We demonstrate EMR with bipolar snare (B-EMR) in two video cases in which en bloc resections were successfully and safely achieved in 10 minutes. For eligible large polyps, time-consuming

ESD can be substituted by the easier and safer B-EMR with securing en bloc resection [1].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Shinmura K, Ikematsu H, Kojima M et al. Safety of endoscopic procedures with monopolar versus bipolar instruments in an ex vivo porcine model. BMC Gastroenterol 2020; 20: 27

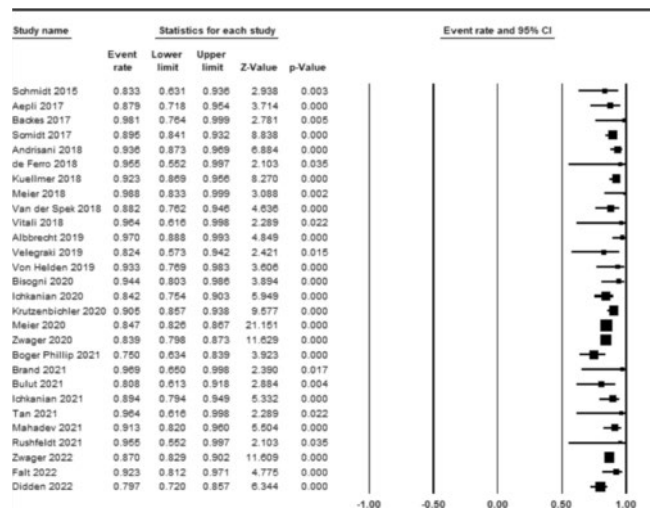
OP106 Device assisted endoscopic full thickness resection in colorectum: a systematic review and meta-analysis

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DOI 10.1055/s-0043-1765110

Aims Endoscopic full thickness resection (EFTR) is emerging as an effective modality for mucosal and submucosal lesions in colorectum. In this systematic review and meta-analysis, we aimed to analyze the success and safety of device-assisted EFTR in colorectum.

Methods Literature search was performed in Embase, PubMed, Medline databases between inception to October-2022. The primary outcome was clinical success (R0 resection) with EFTR. Secondary outcomes included technical success, en-bloc resection rates and adverse events.



► Table 1 Forrest plot of en-bloc resection rates of device assisted endoscopic full thickness resection (EFTR) of colorectal lesions.

Results A total of 30 studies with 3475 patients [2051(59.7%) males] with 3495 lesions were included in the analysis. The lesions were located in right colon in 1646 (47.1%), left colon in 991 (28.4%) and rectum 853 (24.4%). EFTR was performed for sub-epithelial lesions in 213 (6.1%) patients. Pooled mean size of the lesions was 16.9 mm (95% CI 15.2 – 18.6, I^2 98%). Technical success was achieved in 87.1% (95% CI 85.1%-88.9%, I^2 39%) procedures. The pooled rate of en-bloc resection was 87.9% (95% CI 85.1%-88.9%, I^2 50%) (► Table 1) and R0 resection was 81.6% (95% CI 78.8% to 84.2%, I^2 57%). In sub-epithelial lesions, pooled rate of R0 resection was 94.3% (95% CI 89.7% to 96.9%, I^2 0%). Pooled rate of adverse events was 12.1% (95% CI 10.3%-14.1%, I^2 44%) and major adverse events requiring surgery was 2.5% (95% CI 2.0%-3.1%, I^2 0%).

Conclusions Device assisted EFTR is a safe and effective treatment modality in cases with adenomatous and sub-epithelial colorectal lesions.

Forrest plot of en-bloc resection rates of device assisted endoscopic full thickness resection (EFTR) of colorectal lesions

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP107V The Apollo Overstich suturing system as a last chance for rectal bleeding after complicated Endoscopic Submucosal Dissection (ESD)

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DOI 10.1055/s-0043-1765111

Abstract Text A 54 year-old woman underwent endoscopic submucosal dissection (ESD) for a 3 cm Laterally Spreading Tumor (LTS) of the mid-proximal rectum. Due to atrial fibrillation and mechanical valve prosthesis, anticoagulant therapy has been resumed after the procedure. The ESD was complicated by several bleeding episodes. The patient underwent attempts at endoscopic hemostasis by electrical, mechanical, fibrin glue injection and hemostatic powder spray (Haemospray) without success. We proceeded to suture the eschar with the Apollo Overstich system achieving an immediate bleeding control. The Overstich has been shown to be effective in the treatment of ESD complications after other hemostasis methods failure

Conflicts of interest I. Boskoski is a consultant for Apollo Endosurgery, Nitinotes, Endo Tools and Cook Medical, and a research grant holder from Apollo Endosurgery.

Advancing EUS diagnosis in the pancreas and around

20/04/2023, 15:30 – 16:30

Ecocem

OP108 Sporadic non-functional neuroendocrine pancreatic incidentalomas (NF-NEI) \leq 2 cm: risk of progression over 3 years. Results of the prospective multicenter French national study IPANEMA

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DOI 10.1055/s-0043-1765112

Aims To assess the incidence of malignancy in NF-NEI \leq 2 cm and identify the 3 years progression rate of non-operated lesions.

Methods Multicenter prospective study, included between December 2016 and June 2019 all patients with NF-NEI \leq 2 cm and confirmed diagnosis by a positive EUS-guided FNA/FNB or SRI. Excluded grade G3 tumor and MEN 1 syndrome. Based on management, 2 groups of patients were defined: non-surgical and surgical. The diagnosis of malignancy was retained if: G3 tumor, presence of lymph node and/or distant metastases, doubling in size of the tumor during the 36 months of FU, performed by imaging and EUS.

Results 111 patients were included (► **Table 1**). 19 (17%) patients were operated within a median time of 2.76 months (IQR 1.6-4.6) after inclusion (14 G1(73.7%) pT1N0, 5 G2 pT1N0/N1(2)). 92 (83%) patients had active surveil-

lance. The median FU was respectively 38.4 (95% CI, 26, 3-43.6) and 37.8 (36.1-39.7) months in the surgery and surveillance groups. Due to the significant increase in size of the tumor, 4 patients in the surveillance group were operated in a median time of 17.1 months (IQR 11.7-20.8) after inclusion (3G1 pT1N0, 1G2 pT1N1). 4(3.6%) patients presented malignancy criteria: 3pN+ on the surgical specimen; 1 patient developed metastatic disease at M12. During FU, 2(2%) unrelated deaths occurred. The incidence of malignancy and 3 year rate of progression were 3.6% and 4.5% respectively.

Conclusions Our study shows a low rate of baseline malignancy among small (\leq 2cm) NF-NEI and in terms of progression over a 3-year timeframe and highlight the need for identification of more accurate predictors of disease progression to better determine the management.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Sex	111
F	68
M	43
Median age, (years)	63 IQR, 52-70
Median size of pancreatic lesion (mm) at EUS	13 IQR, 10-16
NET confirmed by EUS-FNB (n)	105 G1- 83 (79%) G2- 4 (4%) Grade non-evaluable -18 (17%)
Non-contributive EUS-FNB (n)	6
Performed SRI / Positive SRI (n)	42/ 26 (61.9%)

EUS FNA/FNB – Endoscopic ultrasound guided fine-needle aspiration or fine-needle biopsy; G- tumor grade (2017 WHO classification); SRI – somatostatin receptor imaging;

► **Table 1** Characteristics of patients at baseline in IPANEMA study.

OP109 Cystic fluid biomarkers for the differential diagnosis of inflammatory and non-inflammatory cystic pancreatic lesions (Neutrophil gelatinase-associated lipocalin (NGAL); Interleukin 1 Beta(IL 1 β); High-mobility group AT-hook 2(HmgA2))

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DOI 10.1055/s-0043-1765113

Aims To assess the significance of the Neutrophil gelatinase-associated lipocalin (NGAL), the high-mobility group AT-hook2 (HmgA2) and the Interleukin 1 beta concentration in the cystic fluid obtained by endoscopic ultrasound (EUS) with EUS-guided fine-needle aspiration (EUS-FNA) and serum level for discriminating between different pancreatic cysts.

Methods This prospective study included 63 patients with pancreatic cysts that underwent EUS-FNA for liquid analysis during the diagnostic workout or drainage of pseudocysts. The final diagnosis was based on surgery or EUS results

(morphology, cytology, glucose and CEA intracystic levels) or on imaging during follow-up [1–5].

Results The final diagnosis was pseudocyst in 33 patients, serous cystadenoma in 6, mucinous cystadenoma in 3, intraductal papillary mucinous neoplasms in 21 patients. The cystic fluid analysis of these patients showed that CEA and glucose had a diagnostic sensitivity for mucinous lesions of 75% and 87% respectively. The intracystic NGAL concentration was higher in inflammatory cysts than in neoplastic cysts ($>800\text{ng/dl}$ AUC = 0,88, sensitivity = 79.4%, specificity = 96,5 %, $p < 0,0001$). Regarding neoplastic cysts, intracystic NGAL was lower in serous cystadenoma than in mucinous cysts ($>500\text{ng/dl}$ AUC=0,84, sensitivity= 73%, specificity = 100%, $p < 0,009$). There was a very weak correlation between cyst fluid NGAL and serum concentration ($r = 0,25$ $p < 0,05$). Cystic fluid IL1beta and HmgA2 concentrations offered no significant diagnostic contribution.

Conclusions Cystic fluid NGAL concentration appears to be useful in discriminating mucinous cysts.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] van Huijgevoort NCM, Del Chiaro M, Wolfgang CL et al. Diagnosis and management of pancreatic cystic neoplasms: current evidence and guidelines. *Nature reviews Gastroenterology & hepatology* 2019; 16 (11): 676–89 [2] Oh CH, Lee JK, Song TJ et al. Clinical Practice Guidelines for the Endoscopic Management of Peripancreatic Fluid Collections. *Clin Endosc* 2021; 54 (4): 505–521 [3] Kaddah M, Okasha HH, Hasan EM et al. The Role of Interleukin 1 Beta in Differentiating Malignant from Benign Pancreatic Cysts. *J Interferon Cytokine Res*. 2022; 42 (3): 118–126 [4] Lipinski M, Degowska M, Ryzewska G. Cystic fluid neutrophil gelatinase-associated lipocalin (NGAL) concentration in differential diagnosis of pancreatic cystic lesions: a new factor enters the scene? *Prz Gastroenterol* 2018; 13 (2): 132–136 [5] Chiou SH, Dorsch M, Kusch E et al. Hmga2 is dispensable for pancreatic cancer development, metastasis, and therapy resistance. *Sci Rep* 2018; 8 (1): 14008

OP110 Assessment of independent predictors for high-grade dysplasia or adenocarcinoma and the long-term mortality in patients with mucinous pancreatic cystic lesions

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DOI 10.1055/s-0043-1765114

Aims The aims of this prospective study were to identify independent risk factors for the presence of high-grade dysplasia (HGD) or adenocarcinoma in mucinous pancreatic cystic lesions (PCLs) and to assess the mortality of this heterogenous group of patients.

Methods The results from endoscopic ultrasound with fine-needle aspiration (EUS-FNA) and health questionnaire were analyzed using the initial assessment of the PCLs and the information gathered on follow-up as outcome.

Results Of 334 patients undergoing evaluation for suspected PCL with EUS-FNA at Sahlgrenska University Hospital between February 2007 and February 2018, 171 patients had the final diagnosis of a mucinous PCL. Thirty-three of these patients were diagnosed with HGD or adenocarcinoma. Solid component in mucinous PCLs on EUS was independently associated with the presence of HGD or adenocarcinoma (OR 23.6, 95%CI 6.1–91.6, $p < .001$). Four of the 33 patients developed adenocarcinoma during the follow-up period which was till February 2021. Only two of these patients were in the surveillance programme at the time of diagnosis. The overall risk of mortality in patients that were under surveillance for mucinous PCLs was not greater compared to patients with mucinous PCLs that were not observed.

Conclusions The identification of a solid component in mucinous PCLs on EUS is a strong and independent predictor of HGD or adenocarcinoma. The low incidence of patients that developed HGD or adenocarcinoma on this long-term follow-up suggests that changes can be made in future surveillance guidelines for patients with mucinous PCLs.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP111 Endoscopic ultrasound fine-needle biopsy to assess DAXX/ATRX expression and alternative lengthening of telomeres status in non-functional pancreatic neuroendocrine tumors

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DOI 10.1055/s-0043-1765115

Aims Death domain-associated protein (DAXX) and/or α -thalassemia/mental retardation X-linked (ATRX) genes mutations and alternative lengthening of telomeres (ALT) activation are associated with more aggressive behavior of non-functional pancreatic neuroendocrine tumors (NF-pNETs)[1, 2]. We aimed to evaluate their reliability on EUS-FNB specimens.

Methods Patients who underwent EUS-FNB and subsequent surgical resection for PNETs between 2017 and 2019 were identified. Immunohistochemistry was performed to evaluate DAXX/ATRX expression and fluorescence in situ hybridization (FISH) for ALT status. The primary outcome was the concordance rate of markers expression between EUS-FNB and surgical specimens. Secondary aims were association between markers and aggressive lesions and their diagnostic performance in predicting aggressiveness.

Results 41 NF-pNETs (mean diameter $36.1 \pm 26.5\text{mm}$) were included. 24 showed features of lesion aggressiveness. Concordance of expressions of DAXX, ATRX, and ALT status between EUS-FNB and surgical specimens were 95.1% ($\kappa = 0.828$; $p < 0.001$), 92.7% ($\kappa = 0.626$; $p < 0.001$), and 100% ($\kappa = 1$; $p < 0.001$), respectively. DAXX/ATRX loss and ALT-positivity were significantly ($p < 0.05$) associated with metastatic lymphnodes and lymphovascular invasion. The combination of all tumor markers (DAXX/ATRX loss + ALT-positivity + grade 2) reached an accuracy of 73.2% (95%CI 57.1–85.8) in identifying aggressive lesions (Table). Pre- and post-operative ki-67-based grading was concordant in 80.5% of cases ($k = 0.573$; $p < 0.001$) (► Table 1).

	DAXX/ATRX loss	Positive ALT status	Ki67-based grading	DAXX/ATRX + ALT + Grade 2
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
Sensitivity	33.3 (15.6 – 55.3)	41.7 (22.1 – 63.4)	25.0 (9.8 – 46.7)	54.2 (32.8 – 74.5)
Specificity	100 (80.5 – 100)	100 (80.5 – 100)	100 (80.5 – 100)	100 (80.5 – 100)
NPV	51.5 (44.5 – 58.5)	54.8 (46.4 – 63)	48.6 (42.8 – 54.3)	60.7 (50.0 – 70.5)
PPV	100	100	100	100
Accuracy	61.0 (44.5 – 75.8)	65.9 (49.4 – 79.9)	56.1 (39.8 – 71.5)	73.2 (57.1 – 85.8)

NPV, negative predictive value; PPV, positive predictive value; NF-PanNETs, non-functional pancreatic neuroendocrine tumors; ATRX, α -thalassemia/mental retardation X-linked; DAXX, death domain-associated protein; ALT, alternative lengthening of telomeres

► **Table 1** Diagnostic performance in terms of sensitivity, specificity, negative predictive value (NPV), positive predictive value (PPV), and accuracy of DAXX/ATRX loss, positive ALT status, grade 2, and the combination of all tumor markers on EUS-FNB specimens for the prediction of features of aggressiveness in 41 NF-PanNETs.

Conclusions DAXX/ATRX expression and ALT status can be accurately evaluated on EUS-FNB samples, potentially improving the identification of patients with increased risk and poorer prognosis.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Hackeng WM, Brosens LAA, Kim JY et al. Non-functional pancreatic neuroendocrine tumours: ATRX/DAXX and alternative lengthening of telomeres (ALT) are prognostically independent from ARX/PDX1 expression and tumour size. *Gut* 2022; 71 (5): 961–973

[2] Heaphy CM, Singhi AD. The Diagnostic and Prognostic Utility of Incorporating DAXX, ATRX, and Alternative Lengthening of Telomeres (ALT) to the Evaluation of Pancreatic Neuroendocrine Tumors (PanNETs). *Hum Pathol* 2022; S0046–8177. (22)00189-7

OP112 Endoscopic Ultrasound Primary Pancreas Neuroendocrine Tumor Size and Proliferation Index are Clinically Helpful but are they Enough? A Single Center 20-year Experience

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DOI 10.1055/s-0043-1765116

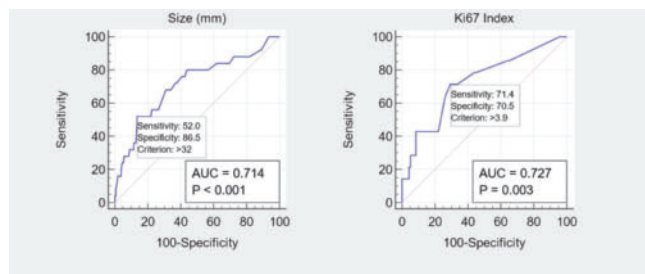
Aims Small nonfunctioning pancreas neuroendocrine tumors (pNETs) are thought to be biologically indolent. The 2020 North American Neuroendocrine Tumor Society consensus paper recommends that a decision to observe or resect an asymptomatic 11-19mm pNET may be individualized. Routine prognostic marker clinical testing with DAXX/ATRX and telomere-specific FISH are not routinely available. In the absence of such biomarkers, we sought to identify tumor size and Ki-67% thresholds associated with disease progression, and disease progression within the <10mm and 11-19mm pNET population.

Methods A single center 20-year retrospective review of 180 consecutive primary pancreas pNET endoscopic ultrasound fine needle aspiration or core biopsy [FNA:115 (63.9%)/FNB:65 (36%)] examinations (2001-2021) were identified and followed over 36.9 (12.2-73.1) months. Genetic pNET syndromes and non-primary NETs were excluded from evaluation.

Results Disease progression (25; 14%) was associated with pNET size [34mm (19-51.5) vs. 15mm (10-26); $p < 0.0001$] and predicted with 52% sensitivity and 86.5% specificity using a lesion size ≥ 32 mm. It was also predicted with 71.4% sensitivity and 70.5% specificity using a Ki-67% of ≥ 3.9 mm (► Fig. 1). Disease progression was evident in 3 (6.4%), 3 (5.8%) and 19 (23.5%) of ≤ 10 mm, 11-19mm, and ≥ 20 mm pNETs, respectively.

Conclusions In our 20-year experience with non-genetic pNET EUS FNA/FNB lesions, in the absence of DAXX/ATRX immunohistochemistry and telomere-specific FISH, disease progression was associated with lesion size ≥ 32 mm and Ki-67% ≥ 3.9 %. Importantly, almost 6% of <20mm pNETs had disease progression and would benefit from advanced prognostic markers.

Conflicts of interest Authors do not have any conflict of interest to disclose.



► Fig. 1 a. ROC Analysis of Pancreatic Neuroendocrine Tumor Size with Disease Progression; b. ROC Analysis of Ki-67 Index with Disease Progression.

OP113 Impact of slim linear echoendoscope (SLE) on the practice of EUS

Authors J. Y. Bang¹, U. Navaneethan¹, C. M. Wilcox¹, R. Hawes¹, S. Varadarajulu¹

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DOI 10.1055/s-0043-1765117

Aims There is limited data on the impact of slim linear echoendoscopes (SLE) on the practice of EUS.

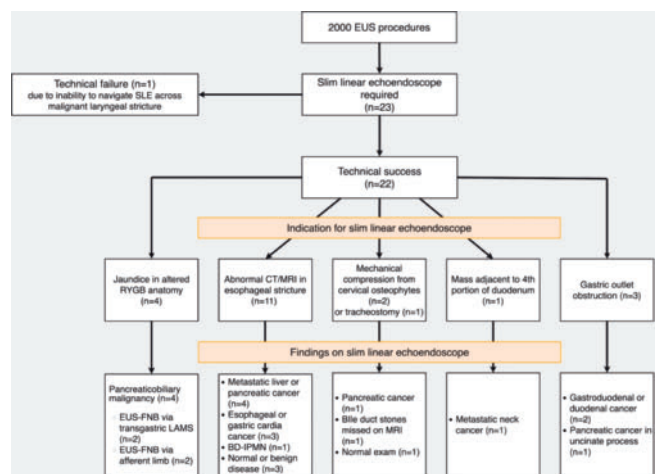
Methods As a part of quality-assessment and improvement process, data on the need for use of SLE (Pentax EG34-J10U; distal rigid tip 11.5mm, insertion tube 11.5mm, instrument channel 2.8mm) were documented prospectively

in 2,000 consecutive procedures over a 10-month period. When EUS examination using a standard size echoendoscope (Olympus, Pentax or Fujifilm) failed due to technical limitations, the procedure was reattempted in the same session using a SLE. Main outcome was to evaluate the impact of SLE, which was defined as the establishment of a new diagnosis or if the findings altered subsequent management.

Results Examination failed in 23 of 2,000 EUS procedures (1.15%, 95% CI, 0.7-1.7%) performed using a standard size echoendoscope (14 male, median age 73 [range 56-86]). Examination was technically successful when using SLE in 22 of 23 (95.7%) procedures with median procedure duration of 12 mins (range 5-40 mins) (► Fig. 1). Failure in 1 patient was due to inability to navigate SLE across malignant laryngeal stricture. SLE impacted clinical management in all 22 patients (100%) in whom the procedure was technically successful by establishing a tissue diagnosis in 19 (malignancy 16; benign 3) and altering the treatment plan in 3 (excluding malignancy in 2 and chronic pancreatitis in 1). There were no adverse events.

Conclusions Although only a select 1.15% of patients undergoing EUS merited examination using the slim linear echoendoscope, the procedure had a significant impact on the clinical management in more than 95% of this cohort. Our findings suggest that the slim linear echoendoscope would be a useful addition to the endoscopy armamentarium at large volume EUS referral centers.

Conflicts of interest Disclosures: Dr. Ji Young Bang is a Consultant for Boston Scientific Corporation and Olympus America Inc. Dr. Shyam Varadarajulu is a Consultant for Boston Scientific Corporation, Olympus America Inc. and Medtronic. Dr. Robert Hawes is a Consultant for Boston Scientific Corporation, Olympus America Inc., Medtronic and Cook Medical. Dr. Udayakumar Navaneethan is a Consultant for Janssen, Pfizer, Takeda, AbbVie, Bristol Myers Squibb and GIE Medical Inc.



► Fig. 1

What's hot in pancreatic and biliary radiofrequency ablation?

20/04/2023, 15:30 – 16:30

Liffey Meeting Room 1

OP114 EUS-guided radiofrequency ablation versus surgical resection for treatment of pancreatic insulinoma: a multicenter propensity score-matched study

Authors S. F. Crinò¹, B. Napoléon², S. Lakhtakia³, I. Borbath⁴, F. Caillol⁵, K.D. C. Pham⁶, G. Rizzatti⁷, E. Forti⁸, L. Palazzo⁹, A. Belle¹⁰, P. Vilmann¹¹, J. L. Van

Laethem¹², M. Mohamadnejad¹³, S. Godat¹⁴, P. Hindryckx¹⁵, A. Benson¹⁶, M. Tacelli¹⁷, G. De Nucci¹⁸, C. Binda¹⁹, S. Pereira²⁰, A. Przybylkowski²¹, J. B. Gornals²², S. Sundaram²³, S. Deguelle²⁴, R. M. Furnica²⁵, B. Kovacevic¹¹, J. Harold¹⁶, A. Facciorusso²⁶, S. Partelli¹⁷, M. Falconi¹⁷, R. Salvia¹, L. Landoni¹, A. Larghi⁷

Institutes 1 University of Verona, Verona, Italy; 2 Lyon, France; 3 Asian Institute of Gastroenterology, Hyderabad, India; 4 Cliniques universitaires Saint-Luc (UCLouvain), Bruxelles, Belgium; 5 Institute Paoli-Calmettes, Marseille, France; 6 Haukeland University Hospital / Health Bergen, Bergen, Norway; 7 Agostino Gemelli University Policlinic, Rome, Italy; 8 ASST Great Metropolitan Niguarda, Milano, Italy; 9 Clinique Trocadéro, Paris, France; 10 Cochin Hospital, Paris, France; 11 Gentofte Hospital, Hellerup, Denmark; 12 Hospital Erasme, Bruxelles, Belgium; 13 University of Tehran, Tehran, Iran, Islamic Republic of; 14 Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland; 15 Ghent University, Ghent, Belgium; 16 Hadassah Medical Center, Jerusalem, Israel; 17 San Raffaele Hospital, Milano, Italy; 18 Garbagnate Milanese Hospital, Milan, Italy; 19 Ospedale "Morgagni – Pierantoni" di Forlì, Forlì, Italy; 20 University College London Hospitals Nhs Foundation Trust, London, United Kingdom; 21 University of Warsaw, Warszawa, Poland; 22 Barcelona, Spain; 23 TATA MEMORIAL HOSPITAL, Mumbai, India; 24 Hospital Robert Debré Ap-Hp, Paris, France; 25 UCLouvain, Ottignies-Louvain-la-Neuve, Belgium; 26 University of Foggia – Medical Area Departments, Foggia, Italy
DOI 10.1055/s-0043-1765118

Aims We aimed to compare EUS-guided radiofrequency ablation (EUS-RFA) and surgical resection for the treatment of sporadic, non-metastatic pancreatic insulinoma (PI).

Methods Patients with PI who underwent EUS-RFA at 23 centers or surgical resection at eight high-volume pancreatic surgery institutions between 2014 and 2022 were identified and outcomes were compared using a propensity-matching analysis. The primary outcome was safety. Adverse events (AEs) were defined and graded according to international definitions. Secondary outcomes were efficacy, hospital stay, and recurrence rate with the need for additional treatment after EUS-RFA.

Variable	EUS-RFA (n=89)	Surgery (n=89)	P value
Male, N (%)	27 (30)	28 (31)	1
Age, Mean ± SD	55.1 ± 16.0	54.7 ± 14.6	0.853
ASA, N (%)			0.80
- 1	33 (37.1)	25 (28.1)	
- 2	39 (43.8)	44 (49.4)	
- 3	17 (19.1)	20 (22.5)	
- 4	0	0	
BMI, Mean ± SD	27.2 ± 4.7	27.2 ± 5.2	0.876
Lesion size, Mean ± SD	13.4 ± 3.9	13.7 ± 5.9	0.520
Lesion site, N (%)			0.08
- Head/uncinate	34 (38.2)	35 (39.4)	
- Body	39 (43.8)	27 (30.3)	
- Tail	16 (18.0)	27 (30.3)	
Lesion grade, N (%)			0.150
- G1	66 (74.2)	79 (88.8)	
- G2	3 (3.4)	10 (11.2)	
- G3	0 (0)	0 (0)	
- Unknown	20 (22.4)	0 (0)	
Distance lesion-MPD			0.850
- >2mm	53 (59.5)	47 (52.8)	
- <2mm	21 (23.6)	17 (19.1)	
- Unknown	15 (16.8)	25 (28.1)	

► **Table 1** Baseline features after propensity score matching.

Results Overall, 304 patients were included (111 EUS-RFA and 193 surgical resections). Using propensity score matching, 89 patients were allocated in each group (1:1) (Table). AEs rate was 18.0% and 61.8% after EUS-RFA and surgery, respectively ($p < 0.001$). No severe AEs were observed in the EUS-RFA group vs 7.8% after surgery ($p = 0.0002$). Clinical efficacy was 100% after sur-

gery and 95.5% after EUS-RFA ($p = 0.160$). However, the mean duration of follow-up time was shorter in the group of EUS-RFA (median 23 (IQR 14–31) vs 37 (IQR 17.5–67) months, $P < 0.0001$). Hospital stay was significantly longer in the surgical group (11.1 ± 9.7 vs 3 ± 2.5 days, $p < 0.0001$). 15 (16.9%) lesions recurred after EUS-RFA and underwent a second EUS-RFA or surgical resection. No metastases appeared during FU (► **Table 1**).

Conclusions EUS-RFA is safer than surgery and highly effective for the treatment of PI. 16.9% of lesions recur after EUS-RFA but can be safely managed with a second treatment. If confirmed in a randomized study, EUS-RFA could be suggested as first-line therapy for sporadic PI.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP115 Safety and efficacy of Endoscopic ultrasound-guided radiofrequency ablation for the treatment of functional and non functional pancreatic neuroendocrine neoplasms: preliminary results of a multicentre prospective study

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Institutes 1 Agostino Gemelli University Policlinic, Rome, Italy; 2 Garbagnate Milanese Hospital, Milan, Italy; 3 Institute Paoli-Calmettes, Marseille, France; 4 University of Verona, Via San Francesco, Verona, Italy; 5 Haukeland University Hospital / Health Bergen, Bergen, Norway; 6 Clinique Trocadéro, Paris, France; 7 Private Hospital Jean Mermoz – Ramsay Santé, Lyon, France
DOI 10.1055/s-0043-1765119

Aims Endoscopic ultrasound-guided radiofrequency ablation (EUS-RFA) has been proposed as a minimally invasive treatment alternatively to surgery for both functional (F-) and non-functional (NF-) pancreatic neuroendocrine neoplasms (PNENs). Evaluation of EUS-RFA performance in PNENs is limited to case reports and small case series, while data from prospective, multicentre studies are lacking [1–3]. We performed a prospective multicentre study to evaluate safety and effectiveness of EUS-RFA in patients with F- and NF-PNENs.

Methods Patients with F- and NF-PNENs were prospectively enrolled from October 2019 to March 2022. Safety was based on adverse events (AEs) occurrence and were graded according to the ASGE lexicon [4]. Effectiveness of treatment was defined as complete disappearance of symptoms related to the hormonal secretion syndrome for F-PNENs, while for NF-PNENs was based on the absence (complete), or persistence of enhancing tissue at imaging. Inclusion criteria were: F-PNENs single lesion ≤ 20 mm. NF-PNENs lesion > 15 and < 25 mm, $ki-67 \leq 5\%$, absence of distant metastases. The EUSRA system (Starmed, Taewoong, South Korea) was used for EUS-RFA in all patients. After the procedure, follow-up (FU) was performed for up to 1 year (► **Table 1**).

Results During the study period, a total of 56 patients (24 F-PNENs and 32 NF-PNENs) were enrolled in 7 tertiary referral centres. Overall, 78.6% of patients completed 6-month FU (F- 18/24, NF- 26/32) while 48.1% completed 1-year FU (F 9/24, NF 18/32). Table 1 reports the principal study outcomes.

Conclusions EUS-RFA is safe and highly effective for both F-PNENs and NF-PNENs.

F- functional; NF- nonfunctional; PNENs pancreatic neuroendocrine neoplasms

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Cotton PB, Eisen GM, Aabakken L et al. A lexicon for endoscopic adverse events: report of an ASGE workshop. *Gastrointest Endosc* 2010; 71 (3): 446–54

[2] Imperatore N, de Nucci G, Mandelli ED et al. Endoscopic ultrasound-guided radiofrequency ablation of pancreatic neuroendocrine tumors: a systematic review of the literature *Endosc Int Open* 2020; 8 (12): E1759–E1764

[3] Marx M, Troscic-Ivanisevic T, Caillol F et al. EUS-guided radiofrequency ablation for pancreatic insulinoma: experience in 2 tertiary centers *Gastrointest Endosc* 2021; S0016–5107(21): 01876–9

[4] Barthet M, Giovannini M, Gasmi M et al. Long-term outcome after EUS-guided radiofrequency ablation: Prospective results in pancreatic neuroendocrine tumors and pancreatic cystic neoplasms. *Endosc Int Open* 2021; 9 (8): E1178–E1185

	Total	F-PNENs	NF-PNENs
Effectiveness at 6 months (% , n)	97.7% (43/44)	100% (18/18)	96.1% (25/26)
Effectiveness at 12 months (% , n)	92.6% (25/27)	100% (9/9)	88.9% (16/18)
Adverse events rate (% , n)	12.9% (8/62)	10.0% (3/30)	18.7% (5/32)
Adverse events type and severity (ASGE lexicon)	2x Acute pancreatitis (grade Mild) 1x Pancreatic hematoma (grade Mild)	3x Acute pancreatitis (grade Mild) 1x Bleeding (grade Moderate) 1x Pancreatic duct injury (grade Moderate)	

► **Table 1** Outcomes of radiofrequency ablation in pancreatic neuroendocrine neoplasms.

OP116V EUS-directed transgastric EUS-guided radiofrequency ablation of a neuroendocrine tumor in the head of the pancreas in a patient with Roux-en-Y gastric bypass anatomy

Authors K.D. C. Pham¹, R. Havre¹

Institute 1 Haukeland University Hospital / Health Bergen, Bergen, Norway

DOI 10.1055/s-0043-1765120

Abstract Text A 70-old lady was operated on with Roux-en-Y gastric bypass for weight loss and developed gradually severe hypoglycemia. On the CT scan, a 14 mm lesion was found at the head of the pancreas, and the biochemical workup indicated an insulinoma. To reach the lesion, a temporary EUS-guided gastro-gastrostomy was created with a LAMS to connect the gastric remnant to the diverted stomach. EUS-FNB was performed, confirming a neuroendocrine tumor. Thereafter, we performed a EUS-guided RFA of the tumor. Immediately, the serum blood sugar increased. After two days of observation, the LAMS was removed. At three months, the blood sugar level was normal. The tumor has also shrunken.

Conflicts of interest Pham KDC is a consultant for Taewoong Medical, Ambu and Olympus

OP117 Endobiliary Radiofrequency Ablation and Biliary SEMS versus Biliary SEMS alone for unresectable malignant hilar biliary stricture – A comparative study

Authors N. Jagtap¹, S. Lakhtakia¹, C. Saikumar¹, S. Asif¹, M. Ramchandani¹, R. Kalapala¹, J. Basha¹, M. Tandan¹, Z. Nabi¹, R. Gupta¹, G. V. Rao¹, D. N. Reddy¹

Institute 1 AIG Hospitals, Hyderabad, India

DOI 10.1055/s-0043-1765121

Aims For palliative biliary drainage in patients with malignant biliary stricture Endobiliary RFA with stents is being studied for better stent patency and overall survival. This study is aimed to analyze the efficacy and safety of RFA with SEMS compared with SEMS alone.

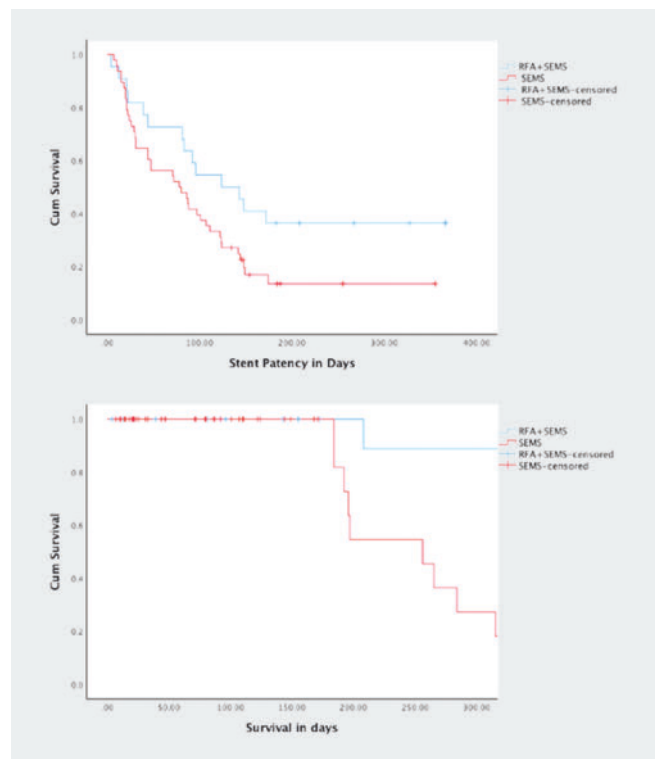
Methods In this single center prospective comparative study conducted between June 2021 and Nov 2022; 22 patients underwent Endobiliary RFA plus SEMS and 48 patients underwent biliary SEMS alone. Overall survival, stent

patency and post procedural adverse events, need for reintervention were noted (NCT05320328) (► **Fig. 1**).

Results The baseline characteristics between two groups which included age, sex, type of malignancy (carcinoma gallbladder and cholangiocarcinoma), type of hilar stricture and additional chemotherapy were not statistically different ($p > 0.05$). Compared to SEMS alone, RFA plus SEMS showed significantly better overall survival (109.83 ± 96.33 versus 188.27 ± 146.92 , $p 0.029$). RFA plus SEMS was associated higher 6 month stent patency (HR 1.86; 95%CI 1.004 – 3.441, $p 0.049$) and higher 6 month survival rate (HR 2.89; 95%CI 1.51-7.24, $p 0.024$). There was no significant difference in adverse events between two arm ($p 0.24$).

Conclusions RFA plus SEMS was associated with improved stent patency and survival for patients with unresectable malignant biliary stricture without increased adverse events as compared to SEMS alone.

Conflicts of interest Authors do not have any conflict of interest to disclose.



► **Fig. 1**

OP118 Efficacy of biliary radiofrequency ablation for the treatment of residual and recurrence neoplasia after endoscopic papillectomy

Authors Y. Dahel¹, F. Caillol¹, S. Hoibian¹, J. P. Ratone¹, M. Giovannini¹

Institute 1 Institute Paoli-Calmettes, Marseille, France

DOI 10.1055/s-0043-1765122

Aims Endoscopic papillectomy is the recommended treatment for superficial lesion of the papilla but positive margin resection and recurrence led to complementary surgery. Radiofrequency ablation (RFA) as complementary treatment seems to be efficient and feasible.

Methods This single-center retrospective study included all patients with a first biliary RFA following papillectomy indicated in case of positive pathological margins or relapse. Primary aim was the clinical success (no recurrence of papillectomy site at 12 months). Second aims were number of sessions needed and complications. Eradication failure was defined when more than 2 RFA sessions was needed.

Results We included 25 patients with a median follow-up of 36 months, RFA were performed in cases of positive resection margin $n = 20$ (Low-grade dys-

plasia (LGD) n = 10, high-grade dysplasia n = 5, in situ carcinoma n = 3, adenocarcinoma pT1aR1 refusing surgery n = 1, neuroendocrine tumor grade 2 n = 1) or relapse n = 5 (LGD n = 5).

Clinical success was 88% (22/25) with median number of RFA session needed of 1.1 (1-2). Two patients had eradication failure whom one had a Whipple surgery. One patient died from a severe acute pancreatitis. We reported 3 early complications (two pancreatitis whom one mild and one fatal and one bleeding) (12%) and twelve late complications (48%) of a stenosis type, successfully managed endoscopically [1-3].

Conclusions Our study is one of the largest series reporting biliary RFA following endoscopic papillectomy. RFA is an effective treatment to eradicate residual ampullary or recurrent lesions with 88% of clinical success, it seems to be a safe alternative to surgery.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Tringali A et al. Radiofrequency ablation for intraductal extension of ampullary adenomatous lesions: proposal for a standardized protocol. *Endosc Int Open* 2021; 09: E749-E755

[2] Camus M et al. Efficacy and safety of endobiliary radiofrequency ablation for the eradication of residual neoplasia after endoscopic papillectomy: a multicenter prospective study. *Gastrointest Endosc* 2018; 88: 511-518

[3] Rustagi T et al. Radiofrequency ablation for intraductal extension of ampullary neoplasms. *Gastrointest Endosc* 2017; 86: 170-6

OP119 Comparison between endoscopic ultrasound-guided radiofrequency ablation and surgical resection for pancreatic insulinoma: a single-center, retrospective analysis

Authors F. Borrelli de Andreis¹, D. De Sio², G. Quero², P. Mascagni², I. Boskoski¹, S. Alfieri², C. Spada¹, F. Attili¹

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DOI 10.1055/s-0043-1765123

Aims Surgery is the current gold-standard treatment for pancreatic insulinomas, although endoscopic ultrasound-guided radiofrequency ablation (EUS-RFA) has been described as a promising therapeutic option for these tumors. We therefore aimed to compare outcomes of surgical resection versus EUS-RFA for pancreatic insulinomas [1-2].

Methods Medical records of patients treated for insulinoma from April 2012 to July 2022 in our Institution were reviewed retrospectively. Indications for EUS-RFA were unfit for surgery or surgery refusal. Patients' baseline characteristics, location and size of insulinomas, and intra- and postoperative outcomes were thereafter compared.

Results A total of 21 patients were included. Demographic and clinical data are summarized in Table 1. The median tumor size was 15mm (8-30) for the surgical group and 11mm (8-19) for the EUS-RFA group (p = 0.17). Most insulinomas were located in the pancreatic body (28.6%) and tail (28.6%), with equal distribution in both groups (p = 0.16). Operative time was significantly longer in the surgical population (280min, 120-372) as compared to the endoscopic one (28min, 18-40, p < 0.001). Normalization of glucose blood levels was reached in all cases. Procedure-related complications occurred more frequently in the surgical group compared to the endoscopic group (63.6% vs 10%, p = 0.01), including 7 pancreatic fistulae in the surgical cohort, and 1 episode of self-limiting bleeding during EUS-RFA. One patient of the surgical cohort underwent reoperation for an infected abdominal fluid collection (► Table 1).

Conclusions As compared to surgical resection, EUS-RFA for pancreatic insulinomas is a safe and efficient therapeutic option with a shorter operative time and a lower rate of related complications.

Table 1. Demographic and clinical data of patients with pancreatic insulinoma. CCI: Charlson Comorbidity Index; EUS-RFA: endoscopic ultrasound-guided radiofrequency ablation; MEN-1: multiple endocrine neoplasia type 1.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Fahmawi Y, Mehta A, Abdalhadi H et al. Efficacy and safety of endoscopic ultrasound-guided radiofrequency ablation for management of pancreatic lesions: a systematic review and meta-analysis. *Transl Gastroenterol Hepatol* 2022; 7: 30

[2] Zhao YP, Zhan HX, Zhang TP et al. Surgical management of patients with insulinomas: Result of 292 cases in a single institution. *J Surg Oncol* 2011; 103 (2): 169-74

Variable	EUS-RFA n = 10	Surgical resection n = 11	p value
Female, n (%)	7 (70.0)	8 (72.7)	0.890
Median age, years (range)	65.5 (51-84)	37.0 (28-72)	<0.001*
Median age-adjusted CCI, points (range)	4.5 (2-6)	2.0 (2-5)	0.002*
MEN-1, n (%)	2 (20.0)	0 (0.0)	0.119
Positive fasting test, n (%)	9 (90.0)	10 (90.9)	0.943

► Table 1

Endoscopic myotomy – still hot or old fashioned?

21/04/2023, 10:00 – 11:00

Liffey Meeting Room 2

OP120 Peroral endoscopic peroral myotomy (FP-POEM) to effectively treat persistent post-reflux fundoplication dysphagia: the new gold standard?

Authors J. M. Gonzalez¹, M. Barthelet², V. Vitton²

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DOI 10.1055/s-0043-1765124

Aims Laparoscopic fundoplication (LF) induces dysphagia in 10% of cases due to cardiac hyperpressure induced and/or esophageal hypomotility. The management is complex. We propose a minimally invasive approach including esophageal myotomy with valve section. The objectives were to evaluate effectiveness of FP-POEM, technical results and tolerance.

Methods Retrospective study of consecutive patients managed by FP-POEM for severe persistent dysphagia. Patients were contraindicated, refused or failed to revisional surgery. All had high-resolution esophageal manometry (HREM) to assess severe esophageal motor disorder.

The procedures were performed by 2 experts in POEM (> 100 cases) on intubated patients, with TT knife. The esophageal myotomy was coupled with section of the anti-reflux valve.

Results 23 patients were included, 57% male, mean age 55 ± 15.4 years. 8 patients had prior endoscopic dilation. At HRM, 13 patients had aperistalsis, 14 had lower esophagus hypertonicity, 4 had both, and 1 had a jackhammer. The mean Eckardt and dysphagia scores were 8.3/12 ± 1.5 and 2.9/3 ± 1, respectively. The median follow-up was 15 months [6-55].

Technical success was 96% and clinical success 87% of patients (3 failures), with a mean postoperative Eckardt score of 2.1 ± 3.

The myotomy length was 8.2 ± 2.4 cm, mainly posterior. Technical difficulties occurred in 14 patients (fibrosis n = 11; sigmoid n = 3; hemorrhage n = 4). There were 3 non-serious adverse events (2 capnoperitoneum and 1 mucosal tear).

Conclusions FP-POM including esophageal myotomy and anti-reflux valve tunneling is a safe and very effective technique to treat post fundoplication dysphagia.

Conflicts of interest Consultant AmbuConsultant Boston scientific

OP121V Per-oral esophageal Myotomy and Endoscopic Fundoplication (POEM + F) using Bipolar Radiofrequency and Microwave energy platform

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Institute 1 Deenanath Mangeshkar Hospital and Research Center, Pune, India

DOI 10.1055/s-0043-1765125

Aim POEM + F using Bipolar Radiofrequency and High frequency microwave coagulation energy platform and highlights its advantage for peritoneal dissection.

Methods Combined bipolar and microwave energy device–Speedboat–has ability to dissect, coagulate and inject in a single device and is proposed for POEM. 47-yr, female was diagnosed with achalasia cardia typell.

Results At 4weeks follow-up, patient was asymptomatic, EGD-healthy incision site, tight wrap. 24-hrs pHmetry-Demeester score-9.

Conclusions Peritoneal dissection and entry during POEM + F is especially facilitated using this device.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP122 Long-term composite Gastroesophageal reflux related clinical outcomes of Per oral endoscopic myotomy with or without concomitant endoscopic Fundoplication (poem versus poem + f) in a matched cohort of Achalasia patients followed-up for 3 years

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DOI 10.1055/s-0043-1765126

Aims To access if POEM + F has additional benefit preventing GER versus POEM on long term f/u

Methods Single center-Matched cohort.Primary cohort-POEM + F.Comparator-Isolated POEM.Matched for age,sex,BMI,achalasia type & ASA category. Baseline characteristics,pre/post procedure Eckardt score,technical aspects & AE recorded.Followed-up annually for 3y.Subjective/objective GER outcomes accessed-validated symptom scores(GERD-Q, RSI, GERD-HQRL),EGD(erosive esophagitis,wrap integrity in POEM + F) & pH studies (esophageal acid exposure time [EAET], DeMeester score). GERD definition–Lyon consensus.

Results 41 patients-POEM + F (Mar19-Oct21). 7 excluded(2-technical failure, 5-lack of match).34 patients each.No significant difference in baseline characteristics & technical aspects except longer procedure time in POEM + F(44.5 ± 6.6vs 103.2 ± 13.7, p < 0.001).Minor AE(mucosal injury)-11.8%(POEM) vs 8.8%(POEM + F) p = 0.69.One POEM + F patient-recurrent achalasia at 9 months-excluded from further analyses. No statistically significant difference in symptom scores between two groups at 1, 2 & 3y F/U.No severe GER in either group. Fundoplication wrap remained adequate at 3y in 13/16(87.9%)POEM + F patients.pH study–EAET > 6 % significantly higher for POEM vs POEM + F at 2(p = 0.048) & 3y(p < 0.001)higher DeMeester scores at 1y for POEM(p = 0.044). Composite GER outcomes– significant reduction in incidence of objective GER in POEM + F (6.67 % vs 54.54%, OR 0.06, RR 0.12[0.028-0.517], p < 0.05) (► **Table 1**).

Conclusions Although POEM & POEM + F were comparable in terms of subjective GER,POEM + F resulted in durable & significant attenuation in incidence of objective GER during long-term F/U. Randomized controlled trials with more sample size may provide further validation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Clinical outcomes	Type of procedure		Risk Ratio	Odds Ratio	P-value
	POEM	POEM+F			
Follow-up duration in months (Median, IQR)	32 (18.5-37)	32.5 (19.75-37)	-	-	NS
Subjective success (n,%)	Yes	26 (76.5)	30 (90)	0.39	0.33
	No	8 (23.5)	3 (10)	(0.11-1.33)	
Objective success (n,%)	Yes	5 (45.45)	28 (93.3)	0.12	<0.001
	No	6 (54.54)	2 (6.67)	(0.028-0.517)	

► **Table 1** Comparison of long-term composite GER related clinical outcomes between POEM+F and POEM patients. Subjective success: One or more positive symptom score. Objective success: Lyon consensus.

OP123 Risk factors for submucosal fibrosis during per-oral endoscopic myotomy: a prospective study

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DOI 10.1055/s-0043-1765127

Aims Submucosal fibrosis (SMF) is the most important reason for technical failure during POEM. Prediction of SMF may be crucial to improve technical outcomes with POEM. In this study we aim to evaluate the predictors for SMF in cases with achalasia cardia.

Methods Consecutive patients with achalasia cardia who underwent POEM (Aug 2021 to October 2022) were included in the study, prospectively. Various factors were analysed for prediction of SMF. Esophageal mucosa and SMF were graded for the severity of stasis esophagitis (grade I to grade III) and fibrosis (grade I -III).

Results 240 patients (males 139, 44.4 ± 14.7 years) underwent POEM during study period. Subtypes of achalasia were type I in 29, type II in 201, type III in 10. Median symptom duration was 24(1-240) months. Majority (93.3%) of patients were treatment naïve and underwent POEM via posterior route. Stasis esophagitis was evident in 122 (50.8%) patients including grade I in 99(41.3%), grade II in 16(6.7%) and grade III in 7(2.9%) patients. SMF was detected in 87 (36.3%) patients including grade I in 52 (21.7%), grade II in 30 (12.5%) and grade III in 5 (2.1%) patients. Mean age, duration of symptoms, width of esophagus and procedure duration were significantly higher in cases with submucosal fibrosis. Significantly higher proportion of patients with type I achalasia (62.1%) had SMF as compared to type II (33.8%) and type III achalasia (10%) [p = 0.013]. On multivariate analysis, stasis esophagitis and width of esophagus were predictors of significant (≥ grade II) SMF.

Conclusions Severe SMF (grade III) is uncommon in cases with achalasia cardia. The presence of stasis esophagitis and width of esophagus are predictors of SMF during POEM.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP124 Real-time detection and delineation of tissue during third-space endoscopy using artificial intelligence (AI)

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DOI 10.1055/s-0043-1765128

Aims AI has proven great potential in assisting endoscopists in diagnostics, however its role in therapeutic endoscopy remains unclear. Endoscopic submucosal dissection (ESD) is a technically demanding intervention with a slow learning curve and relevant risks like bleeding and perforation. Therefore, we aimed to develop an algorithm for the real-time detection and delineation of relevant structures during third-space endoscopy.

Methods 5470 still images from 59 full length videos (47 ESD, 12 POEM) were annotated. 179681 additional unlabeled images were added to the training dataset. Consequently, a DeepLabv3+ neural network architecture was trained with the ECMT semi-supervised algorithm (under review elsewhere). Evaluation of vessel detection was performed on a dataset of 101 standardized video clips from 15 separate third-space endoscopy videos with 200 predefined blood vessels.

Results Internal validation yielded an overall mean Dice score of 85% (68% for blood vessels, 86% for submucosal layer, 88% for muscle layer). On the video test data, the overall vessel detection rate (VDR) was 94% (96% for ESD, 74% for POEM). The median overall vessel detection time (VDT) was 0.32 sec (0.3 sec for ESD, 0.62 sec for POEM).

Conclusions Evaluation of the developed algorithm on a video test dataset showed high VDR and quick VDT, especially for ESD. Further research will focus on a possible clinical benefit of the AI application for VDR and VDT during third-space endoscopy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP125 Analysis of Zenker's Diverticulum recurrence after the first year of treatment: LigaSure vs SB-Knife: multicenter randomized trial

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DOI 10.1055/s-0043-1765129

Aims The aim of our study is to evaluate recurrence with two of the devices used in the treatment of Zenker's Diverticulum DZ (LigaSure (LS) and SB-knife (SB)). *NCT 04660214*

Methods 33 patients have been included prospectively from 4 third-level hospitals in Spain, randomized to LS vs SB (15 /18) from 28th June 2021 to 3rd November 2022. In all cases a soft diverticuloscope was used to isolate the septum. Dakkak and Bennet (D&B) and EAT-10 questionnaires were used to assess baseline symptoms. MDADI questionnaire to assess quality of life. They were also used in the telephone follow-up at 1, 3, 6 and 12 months [1–4]

Results 72.7% are male, 60% ASA II, and mean age 75 years (SD 11.2), with a mean duration of symptoms of 45 ± 62 months. The DZ was between 2–4 cm in size in 70% of patients. Baseline mean scores are: D&B: 42.4% solid dysphagia, liquids dysphagia 24.2%, aphagia 21.2% and 12, 1% semisolids dysphagia; EAT-10: 18 ± 9.5; MDADI: 68 ± 19. The technical success obtained is 100% in both groups. At month, 1 patient has not presented clinical success in LS arm ($p = ns$). 6 recurrences (18%) have been detected at telephone follow-up after initial clinic success (through telephone interviews and symptomatic questionnaires D&B, EAT 10 and MDADI ($p = ns$)) (see table) (► Fig. 1).

Conclusions 1): Both SB and LS achieve 100% technical success. 2): Through the SB technique we found more recurrences than in the treatment with LS. 4): The EAT-10 and D&B questionnaires are useful for the detection of recurrences. 5) DZ treatment improves quality of life.

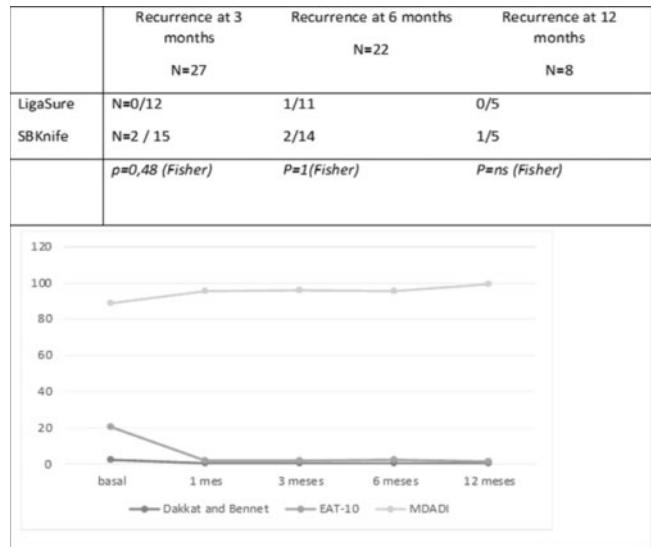
Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Moreira da Silva BA, Germade A, Perez Citores L et al. Endoscopic diverticulotomy using Ligasure. *Gastroenterol Hepatol* 2017; 40: 80–84

[2] Gomez Outomuro A, Gonzalez-Bernardo O, Perez Martinez I et al. Efficacy and safety of the SB Knife Jr. for the treatment of Zenker's diverticulum: a case series. *Rev Esp Enferm Dig* 2020; 112:2

[3] Diez Redondo P, Nunez Rodriguez H, de Benito Sanz M et al. Endoscopic treatment of Zenker's diverticulum with Ligasure: simple, safe and effective. *Endosc Int Open* 2019; 7: E203–E208

[4] Battaglia G, Antonello A, Realdon S et al. Flexible endoscopic treatment for Zenker's diverticulum with the SB Knife. Preliminary results from a single-center experience. *Dig Endosc* 2015; 27: 728–733



► Fig. 1

Non-variceal upper GI bleeding: risks and remedies

21/04/2023, 10:00 – 11:00

Liffey Meeting Room 3

OP126 Risk factors for re-bleeding in patients with non-variceal Acute Upper Gastro Intestinal Bleeding: not only stigmata matter, a prospective cohort study

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DOI 10.1055/s-0043-1765130

Aims The study aimed at developing re-bleeding risk score and comparing it with Forrest and Acute Upper Gastro Intestinal Bleeding's existing scores.

Methods Prospective multicenter cohort study including consecutive upper bleeding patients admitted to 50 Italian hospitals. Persistent/recurrent bleeding was defined according to international guidelines on definitions of recurrent bleeding [1]. High risk stigmata (HRS) were defined as an adherent clot (after vigorous irrigation) or a bleeding (oozing or spurting) or non-bleeding visible vessel.

Results 2764 patients with non-variceal bleeding were enrolled. The mean age of the patients was 69.1 (+ 16.1) years. In hospital bleeding occurred in 507 (18.3%). Median time to endoscopy was 5.0 hours IQR (2.0 to 12). Patients were ASA I in 831 (30.1%), II 834 (30.2%), III 946 (34.2%) and IV in 153 (5.5%). Peptic ulcer was the source of bleeding in 1456 (52.7%) and non-ulcer in 1308 (47.3%). HRS was present in 705 (48.2%) of the ulcer source, and 238 (18.2%) of the non-ulcer source $p < 0.000$. Re-bleeding occurred in 156 (5.6%). Factors risk for re-bleeding were summarized in table. The Prognostic value of the re-bleeding score was significantly higher than the Forrest classification, AIMS65, ABC, Rockall, and GB scores ($p < 0.000$) (► Fig. 1).

Conclusions HRS are present in both ulcer and non-ulcer stigmata; re-bleeding occurs both in ulcer and non-ulcer sources of bleeding. Endoscopic stigmata and treatment are risk factors for re-bleeding together with the clinical presentation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Laine L, Spiegel B, Rostom A et al. Methodology for randomized trials of patients with nonvariceal upper gastrointestinal bleeding: recommendations

from an international consensus conference. *Am J Gastroenterol* 2010; 105: 540–50

Independent risk factor for re-bleeding			
	Odds Ratio	p	[95% C.I.]
In hospital bleeding	1.97	0.001	1.34-2.89
Hematemesis at admission	1.65	0.006	1.15-2.37
Hemoglobin values	1.46	0.065	0.98-2.18
Altered mental status	1.88	0.002	1.26-2.79
Neoplasia (yes)	1.56	0.044	1.01-2.42
Respiratory failure	3.89	0.000	2.27-6.67
High Risk Stigmata			
Non ulcer	2.10	0.010	1.19-3.72
Ulcer	2.35	0.000	1.49-3.71
Endoscopic therapy			
Mechanical only	1.13	0.794	0.45-2.82
Thermal only	1.02	0.964	0.40-2.61
Injection only	2.67	0.000	1.56-4.56
Injection and mechanical	1.92	0.025	1.09-3.41
Injection and thermal	1.12	0.735	0.57-2.19

► Fig. 1

OP127 Effect of Helicobacter pylori treatment on recurrence of upper gastrointestinal bleeding in patients with atrial fibrillation on anti-thrombotic agents

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DOI 10.1055/s-0043-1765131

Aims The risk of recurrent gastrointestinal bleeding (GIB) in atrial fibrillation (AF) patients on anti-thrombotic after H. pylori (HP) eradication remains poorly defined. We characterized the incidences of hospitalizations for all recurrent GIB in anti-thrombotic users according to HP eradication therapy (► Table 1).

Methods Based on the nationwide claims and health database, we identified all AF patients newly diagnosed with upper GIB between 2010 and 2017. Patients were divided into three cohorts according to the anti-thrombotic use after AF diagnosis: warfarin, NOAC, and anti-platelets. The primary outcome was incident rebleeding after index GIB during follow-up (► Table 2).

Results Among a total of 24525 AF patients with newly diagnosed upper GIB, the warfarin group (161 pairs), NOAC group (244 pairs), and anti-platelet group (678 pairs) were compared for recurrence of GIB, respectively, after propensity matching for the treatment of HP. During 77721 person-years of follow-up, landmark analysis showed that there was no significant difference in the rate of recurrent GIB between the HP treatment group and non-treatment group in AF patients on anti-thrombotic (Warfarin (HR 0.77, 95% CI 0.51-1.18), NOAC (HR 1.02, 95% CI 0.70-1.50), anti-platelet (HR 0.89, 95% CI 0.72-1.09)). However, HP treatment was associated with a lower risk of all-cause mortality in the anti-platelet group (HR 0.79, 95% CI 0.67 to 0.93) [1].

Conclusions AF patients with GIB were not associated with a lower risk for recurrent GIB after HP treatment, irrespective of the kinds of anti-thrombotic taken. However, for AF patients on anti-platelet, HP treatment reduced the risk of all-cause mortality during 5-years follow-up.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Abrignani MG, Gatta L, Gabrielli D, Milazzo G, De Francesco V, De Luca L, Francese M, Imazio M, Riccio E, Rossini R, Scotto di Uccio F, Soncini M, Zullo A, Colivicchi F, Di Lenarda A, Gulizia MM, Monica F. Gastroprotection in patients on antiplatelet and/or anticoagulant therapy: a position paper of National Association of Hospital Cardiologists (ANMCO) and the Italian Association of Hospital Gastroenterologists and Endoscopists (AIGO). *Eur J Intern Med.* 2021; 85: 1–13. doi:10.1016/j.ejim.2020.11.014. Epub 2020 Dec 2 PMID: 33279389

	Univariate Cox regression		Multivariable Cox regression		Propensity Score Matching	
	HR (95% CI)	p	HR (95% CI)	p	HR (95% CI)	p
Warfarin cohort						
Non-treatment	1.00 (ref)	–	1.00 (ref)	–	1.00 (ref)	–
HP treatment	0.83 (0.53-1.31)	0.42	0.80 (0.55-1.15)	0.22	0.77 (0.51-1.18)	0.24
NOAC cohort						
Non-treatment	1.00 (ref)	–	1.00 (ref)	–	1.00 (ref)	–
HP treatment	0.87 (0.43-1.75)	0.7	0.90 (0.65-1.25)	0.52	1.02 (0.70-1.50)	0.91
Anti-platelet cohort						
Non-treatment	1.00 (ref)	–	1.00 (ref)	–	1.00 (ref)	–
HP treatment	0.80 (0.68-0.95)	0.01	0.83 (0.69-1.01)	0.06	0.89 (0.72-1.09)	0.26

► Table 1 Association between HP treatment and risk of recurrent GIB according to the kinds of anti-thrombotic agent.

	Univariate Cox regression		Multivariable Cox regression		Propensity Score Matching	
	HR (95% CI)	p	HR (95% CI)	p	HR (95% CI)	p
Warfarin cohort						
Non-treatment	1.00 (ref)	–	1.00 (ref)	–	1.00 (ref)	–
HP treatment	0.66 (0.39-1.12)	0.12	0.65 (0.42-1.02)	0.06	0.68 (0.40-1.14)	0.14
NOAC cohort						
Non-treatment	1.00 (ref)	–	1.00 (ref)	–	1.00 (ref)	–
HP treatment	0.83 (0.43-1.61)	0.59	1.01 (0.75-1.62)	0.63	1.22 (0.78-1.92)	0.39
Anti-platelet cohort						
Non-treatment	1.00 (ref)	–	1.00 (ref)	–	1.00 (ref)	–
HP treatment	0.68 (0.58-0.79)	<0.001	0.80 (0.68-0.95)	0.009	0.79 (0.67-0.93)	0.004

► Table 2 Association between HP treatment and All-Cause Mortality according to the kinds of anti-thrombotic agent.

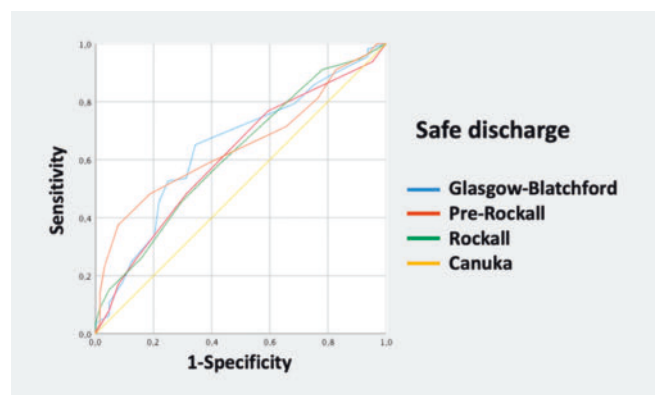
OP128 Performance of prognostic risk scores in urgent upper gastrointestinal hemorrhage

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DOI 10.1055/s-0043-1765132

Aims To evaluate the performance of Glasgow-Blatchford score (GBS), pre-endoscopic (pRS) and complete Rockall score (RS) and Canuka score (CS) to predict readmission, mortality and safe discharge (SD).



► Fig. 1

Methods We included all visits to the emergency room due to upper gastrointestinal hemorrhage that required urgent endoscopy during 1 year. We recorded demographic data, comorbidities, presentation, transfusion requirement, second examination (endoscopic/radiological/surgical), readmission, and mortality for each episode. SD was considered as the absence of transfusion requirement after endoscopy, second exam, readmission and death. We calculated GBS, pRS, RS, and CS for each episode.

Results 176 patients were identified, 55 (31.3%) met SD criteria, 114 (64.8%) required transfusion, 27 (15.3%) second examination, 9 (5.1%) were readmitted and 11 (6.3%) died. In our cohort, all the calculated scores significantly identified SD, with CS being the most accurate (AUROC 0.648; p<0.01) (Fig. 1). None signif-

icantly identified mortality or readmission ($p > 0.05$). In our cohort, no patient met the low risk criteria ($CS \leq 1$). The best cut-off value to identify SD was $CS \leq 5$, with a sensitivity of 14.3% and a specificity of 98.4%. Adjusting to this criteria, in our cohort 16 patients would have been safely discharged, and only one would not have met the criteria, as he required a transfusion after endoscopy (► Fig. 1).

Conclusions In our cohort, the Canuka Score is the most accurate for determining safe discharge, with a cut-off point of 5 being the most specific. In our study sample, none of the indices properly identified the risk of mortality or readmission.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP129 The same factors impact differently on time to death in patients with acute non variceal upper gastrointestinal bleeding: a prospective cohort study

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DOI 10.1055/s-0043-1765133

Aims 30-day mortality is the accepted definition to relate the death risk to the bleeding event in cirrhotic patients[CB1]. Still, death can be due to bleeding or non-bleed-related factors, such as worsening comorbidities. Identifying such factors is helpful for the patient's management. We aimed to verify if the elements involved in the death risk were the same from admission to 30 days.

Methods We performed a prospective multicenter cohort study including consecutive upper bleeding patients admitted to 50 Italian hospitals. We collected information on ASA and Child scores, bleeding severity, and endoscopy data. Time-to-death was categorized as tertile (► Fig. 1).

Death risks factors	Coefficient	p	[95% CI]
0 to 4 days			
ASA score			
II	1.03	0.131	-0.31-2.36
III	1.57	0.016	0.29-2.85
IV	3.32	0.000	1.99-4.66
Child score			
A	-13.49	0.987	-1599.3-1572.3
B	0.61	0.448	-0.97-2.2
C	1.43	0.071	-0.12-2.99
Bleeding severity			
	1.47	0.047	0.02-2.92
Time to endoscopy			
0/5h	0.82	0.192	-0.41-2.05
6/12h	0.19	0.807	-1.3-1.67
>24h	0.56	0.514	-1.13-2.23
Rebleeding			
	2.49	0.000	1.71-3.28
Surgery/interventional radiology			
	0.38	0.54	-0.84-1.61
5 to 13 days			
ASA score			
II	1.56	0.046	0.03-3.09
III	1.91	0.013	0.4-3.43
IV	4.12	0.000	2.58-5.65
Child score			
A	0.64	0.404	-0.86-2.15
B	-13.85	0.987	-1665.3-1637.6
C	2.44	0.000	1.3-3.58
Bleeding severity			
	0.16	0.72	-0.71-1.03
Time to endoscopy			
0/5h	0.07	0.874	-0.82-0.97
6/12h	-0.44	0.461	-1.61-0.73
>24h	-1.43	0.198	-3.61-0.75
Rebleeding			
	2.88	0.000	2.14-3.63
Surgery/interventional radiology			
	0.08	0.902	-1.17-1.32
>=14 days			
ASA score			
II	2.24	0.036	0.14-4.33
III	2.88	0.006	0.83-4.93
IV	3.65	0.001	1.47-5.83
Child score			
A	0.78	0.264	-0.99-2.15
B	0.45	0.61	-1.28-2.18
C	2.62	0.000	1.47-3.77
Bleeding severity			
	1.03	0.101	-0.2-2.26
Time to endoscopy			
0/5h	-0.91	0.043	-1.78-0.03
6/12h	-0.53	0.331	-1.6-0.54
>24h	-0.22	0.738	-1.47-1.03
Rebleeding			
	2.78	0.000	2.01-3.56
Surgery/interventional radiology			
	1.25	0.017	0.23-2.28

► Fig. 1

Results 3324 patients were enrolled. The Source of bleeding was non-variceal in 83.1% of patients; Overall, 5.6% died. Comorbidities were present in 79.7%. Patients with ASA II score were 34.2%, ASA score III 30.1%, and ASA IV 5.54%. Bleeding was severe in 75.7%. In the first tertile (0 to 4 days), the main risk factors for death were ASA IV, bleeding severity, persistent bleeding, or rebleeding. In the last tertile (> 14 days), the main risk factors were ASA IV, Child C score, rebleeding, and surgery/interventional radiology treatments (Table).

Conclusions The same factors impact differently on time to death. In the first four days, ASA scores 4; the main ones are bleeding severity and persistent bleeding/rebleeding. Over 14 days, ASA IV score and Child C class rebleeding and surgery/interventional radiology needs are the main ones [1].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Cheng D.W., Lu Y.W. et al. A modified Glasgow Blatchford Score improves risk stratification in upper gastrointestinal bleed: a prospective comparison of scoring systems *Aliment Pharmacol Ther* 2012; 36: 782–789

OP130 Role of a novel peptide-based haemostatic agent in early gastrointestinal bleeding management: why not expand the current toolbox?

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DOI 10.1055/s-0043-1765134

Aims To assess the efficacy, feasibility and safety of a novel peptide-based hemostatic agent (PBHA), in a selected cohort with gastrointestinal bleeding [1–7].

Methods Retrospective analysis of all cases where PBHA was applied, from June 2020 to October 2022 in a single hospital. Demographics, endoscopic, hemostasis rates, endoscopist assessment and outcome data were collected. Statistical analysis was performed with a SPSS platform.

Results 45 cases were recruited. 17 (37.8%) females, mean age 65.8 years. Charlson score higher than 3 in 27 (60%) and 26 (57.8%) required transfusion. In 13 cases (28.9%) it was an episode of re-bleeding. The most common procedure was Gastroscopy (77.8%), followed by Colonoscopy (15.5%), ERCP (4.4%) and Enteroscopy (2.2%). The most common source of bleeding was peptic ulcer (33.3%), post-polypectomy bleeding in 17.7% and neoplasia in 13.3%. PBHA was used either alone (36%) or in combination (64%). Initial hemostasis was achieved in all cases and no intra-procedural complications were documented. 5 patients re-bleed (11.1%), 8 patients died (17.8%) and Charlson score was significantly higher in this subgroup ($p = 0.037$). In the majority, 22/45 (48.9%), the reason for applying the agent was as addition to standard of care (SOC), in 14 (22.1%) as an alternative because SOC was not possible and in 8 cases (17.8%) as a rescue therapy because hemostasis was not achieved with SOC. Its use was reported to be "Very Easy" or "Easy" in 40 cases, and increased from only 1 case in 2020, to 14 cases in 2021 and to 30 cases in 2022.

Conclusions The PBHA was safe and effective for a variety of bleeding aetiologies, and considered very easy to use in the majority. Its role as a front line agent should be considered in the future (► Fig. 1).

Use of AntiPLT [n(%)]	7 (15.6)	BPInitial	113±24.4
		BPLower24h	107±23.1
Use of Anticoagulant [n(%)]	12 (26.7)	HRInitial	91.7 ±21.7
		HRHigher24h	95.9±21.3
Charlson Index [n(%)]		HbInitial (Mean ±SD)	9.2±2.6
Score 0; Score 1-2; Score 3-4; Score ≥ 5	7 (15.6); 11 (24.4); 18 (40); 9 (20)	HbLower24h (Mean ±SD)	8.3±2.6

► Fig. 1

Demographics and Biological data

Conflicts of interest Authors do not have any conflict of interest to disclose.

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OP131 EUS-guided vascular treatment: a safe, effective and under-applied approach for managing spontaneous non-variceal or per-endoscopic refractory GI bleeding

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DOI 10.1055/s-0043-1765135

Aims EUS has been described as a treatment for GI bleeding, but few studies were published. We present a series of patients treated by EUS-guided vascular approach for digestive bleeding, mostly of non-variceal origin. The aims were to evaluate effectiveness, adverse events, early recurrence rates, and management.

Methods Single-center retrospective observational study. All patients whom underwent EUS-guided hemostasis of GI active bleeding were included. Responsible vessel was localized using color Doppler, then punctured with a 19G needle, and injected with cyanoacrylate coupled with lipiodol. A Doppler control was systematically performed at the end to confirm efficacy.

Results 34 patients were included from 2004 to 2021 with a mean age of 63 years. The bleedings were per-endoscopic (n = 14, mainly therapeutic EUS procedures), or spontaneous (n = 20) including mainly arterial malformations, tumors or Dieulafoy ulcers, all with failed prior first line endoscopic treatment. 4 patients were in shock on admission. Procedures were performed with linear EUS-scope. The dose of cyanoacrylate injected was between 1 to 3cc. The efficacy rate was 100% confirmed by a disappearance of the Doppler signal. Four patients (12%) experienced recurrence of bleeding within 30 days. Three were treated by another EUS embolization with efficacy, and 1 by long-term tranexamic acid. At 30 days, 2 patients died from a cause other than digestive bleeding.

Conclusions This study is the world's largest describing the result of EUS-vascular access for managing non variceal refractory GI bleeding, confirming its efficacy and safety, and underlying its potential application in intra-operative bleeding.

Conflicts of interest Consultant for Boston Scientific

Colonoscopy in Inflammatory bowel disease

21/04/2023, 10:00 – 11:00

Liffey Meeting Room 1

OP132 Endoscopic Submucosal Dissection in Inflammatory Bowel Disease Patients for Visible Dysplasia: a French Retrospective Multicentric Study

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DOI 10.1055/s-0043-1765136

Aims Dysplasia is frequent in Inflammatory Bowel Disease (IBD) patients and can be managed endoscopically providing organ sparing. Endoscopic submucosal dissection (ESD) allows en-bloc resection and very low recurrence rates. We aimed to assess the efficacy of ESD in IBD patients for visible dysplasia.

Methods We conducted a retrospective multicentric study including all consecutive ESD in IBD patients with visible dysplasia in 20 French centers.

Results 89 lesions in 83 patients including 20 Crohn's disease (CD) were resected. Mean follow-up was 26 months (+/- 25 SD). En-bloc, R0 and curative resections were achieved in 80 (91%), 71 (80%) and 69 (77.5%) lesions, respectively. 1 (1.2%) patient required surgery for complication, 3 (3.6%) for ESD failure and 6 (7.2%) for histological features. Traction strategy was used in 53 cases (59.55%) providing higher en-bloc resection rates (p=0.040) of larger (p=0.001) and more severe fibrotic (p=0.023) lesions than without traction. High-volume centers performed larger (p=0,001) and faster (p<0.0001) resections with less recurrences (p=0.006) than low-volume centers. Recurrence was found to be more frequent in CD patients than in UC patients (p=0.004).

Conclusions This study is the world's largest reported so far concerning ESD for visible dysplasia in IBD patients. ESD is a safe and effective strategy for visible dysplasia in IBD, even in CD population with greater outcomes when performed in high-volume centers with traction strategy. However, a prospective study is needed to assess ESD's position contribution to limit long-term surgery resort.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP133V Endoscopic submucosal dissection (ESD) in ulcerative colitis (UC) – a pocketful of challenges!

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DOI 10.1055/s-0043-1765137

Abstract Text A 74 year-old woman with ulcerative colitis (UC) and history of caecal adenocarcinoma was referred for endoscopic resection of a 45mm lateral-spreading tumor (LST) (Paris 0-IIa-IIc, JNET 2A) at the splenic flexure, previously tattooed. ESD (endoscopic submucosal dissection) was performed by saline-immersion therapeutic endoscopy (SITE)-facilitated pocket-creation method (PCM). En bloc (histologically R0) resection of the lesion was confirmed. This case highlights the effectiveness of SITE-PCM-ESD in the context of challenging location, submucosal fat deposition and severe submucosal fibrosis.

Conflicts of interest Dr Despott and Dr Murino have received unrestricted educational grants from Olympus Medical, Fujifilm, Pentax and Medtronic. Dr Despott has received speaker honoraria from Olympus medical, Fujifilm and Norgine, and consultant honoraria from Boston Scientific, Fujifilm and Ambu. Dr Murino has received speaker honoraria from GI supply and consultant honoraria from Boston Scientific and Pentax.

OP134 Validation of a Novel CAde Algorithm for Detection of Neoplasia in IBD: Data from Image Based and Real-time Studies

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DOI 10.1055/s-0043-1765138

Aims Patients with inflammatory bowel disease (IBD) have a higher risk of colorectal cancer. However, neoplasia in IBD is subtle and difficult to detect. Computer Aided Detection (CAde) is becoming increasingly used for polyp detection in standard colonoscopy, but its use has so far been restricted to non-colitic bowel. Here we describe a novel IBD CAde algorithm.

Methods A dedicated IBD CAde system was developed. This study was conducted in two phases. In phase 1 the system was tested on still images obtained from IBD colons. In phase 2, the CAde system was used in real-time in 30 IBD patients undergoing colonoscopy. Ground truth was established in both phases by a combination of expert assessment and histology.

Results Phase 1 consisted of 1078 images (39 neoplastic, 40 non-neoplastic and, 999 colitic bowel without lesions). The IBD CAde engine demonstrated a sensitivity of 91.1% and specificity of 94.4% for lesion detection. AUC was 0.967.

Phase 2 assessed real-time performance in 30 consecutive patients. 80% (n = 24) had Ulcerative Colitis, 20% (n = 6) patients had Crohn's colitis. 136 lesions were identified on ground truth. 18.4% (n = 25) were neoplastic. The overall sensitivity for lesion detection was 90.4%, no neoplastic lesions were missed. A summary of results are show in Table 1.

Conclusions This is the first real-time use of a dedicated CAde system for lesion detection in IBD. This data looks promising with a high sensitivity for neoplasia detection. CAde has the potential to replace chromoendoscopy if proven in a large multi-centre study but the high frequency of non-neoplastic lesions poses a unique challenge and future research should take account of this (► Fig. 1).

Real-time lesion characteristics and performance of CAde

Conflicts of interest Professor Bhandari has received research grants or is the advisory board for Fujifilm, Boston, Olympus, Pentax, 3-D matrix, NEC (Japan), Medtronic.

		Sensitivity
Ground Truth		
Neoplastic	19.8% (n=25)	
Non-neoplastic	88.1% (n=111)	
Neoplastic lesion morphology		
Polypoid	32% (n=8)	
Non-polypoid	68% (n=17)	
CAde for all lesion detection	123/136	90.4%
CAde for neoplasia	25/25	100%

► Fig. 1

OP135 Fluorescently labelled vedolizumab identified macroscopic and microscopic mucosal drug distribution and target cells in patients with inflammatory bowel disease

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DOI 10.1055/s-0043-1765139

Aims To enhance personalized medicine and predict response to biological therapeutics in inflammatory bowel diseases (IBD) such as vedolizumab, the working mechanism should be elucidated. We aimed to visualize macroscopic and microscopic vedolizumab distribution and detect drug target cells during quantified fluorescence molecular endoscopy (QFME).

Methods Vedolizumab-800CW was developed in-house and GMP produced. Forty-three QFME procedures were performed in thirty-seven IBD patients. Dose escalation was performed using 0.0mg, 4.5mg and 15mg. Subsequently, two patient cohorts were added that received 75mg or 300mg unlabelled vedolizumab prior to vedolizumab-800CW to assess target saturation.

Results Macroscopically and microscopically a significant difference between inflamed and non-inflamed tissue was visualized and quantified (0.0227 and 0.0470 Q * μ fa,x [mm⁻¹], p<0.0001) for the 15 mg cohort. In addition, ex vivo analysis showed a clear dose-dependent increase (p<0.0001) of the fluorescent drug signal, whereas a decrease could be established after adding an unlabelled dose (p<0.0001). Fluorescence microscopy revealed clear membrane binding of vedolizumab-800CW to inflammatory cells and migration into the inflamed mucosa. Additional analyses to identify specific target cells in regions with high and low vedolizumab-800CW signal are ongoing.

Conclusions QFME using vedolizumab-800CW elucidated novel detailed macroscopic and microscopic vedolizumab distribution in the inflamed target organ. In addition, it showed the potential of QFME to better understand local drug distribution, target cell identification and target engagement, which could improve understanding of targeted drugs over standard pharmacokinetic and pharmacodynamic analysis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP136 Endoscopic stricturotomy – A novel therapeutic modality for IBD-related strictures: First European experience

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DOI 10.1055/s-0043-1765140

Aims Endoscopic stricturotomy (Est) represents a promising novel approach to treat bowel strictures in patients with inflammatory bowel diseases (IBD).

Methods Data on demographics, disease characteristics, procedure details and outcomes were analyzed. Technical success was defined as an ability to pass the scope through the stricture following the procedure. Complications included perforation and immediate or delayed bleeding with the need of intervention or hospitalization.

Results In total, 92 procedures were performed in 67 IBD patients. Single ESt was done in 73.1% (49) of patients, while 26.9% (18) required multiple procedures. Most common location of stricture was surgical anastomosis site (82, 89.1%), while remaining 10 were located at anal canal (*de novo* stricture). Anastomotic strictures included ileo-colonic (64.1%), colo-colonic (9.8%), ileo-rectal (3.3%), and ileal pouch-anal (12.0%) anastomoses. Previous endoscopic balloon dilation (EBD) was attempted in 53.3% of the procedures, 27.2% of the analyzed procedures were preceded by earlier ESt. Technical success was achieved in 83 ESts (90.2%), complications occurred in four cases. Cumulative probability of reintervention at 6 months was 30.2% (95% CI 15.6-46.2%), 40.3% (95% CI 25.5-54.6%) at 12 months and 48.8% (95% CI 34.0-62.1%) at 18 months. Time to reintervention was not significantly affected by previous intervention, age of the anastomosis, sex or age of the patients, concurrent therapy and specific ESt technique employed.

Conclusions ESt is a novel endoscopic technique, which is both efficacious and safe to be performed in patients with IBD-related strictures.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP137V Endoscopic submucosal resection with adaptative traction device: a new strategy to facilitate resection in inflammatory bowel disease's patient

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DOI 10.1055/s-0043-1765141

Abstract Text Endoscopic submucosal dissection (ESD) is well described in non-IBD (inflammatory bowel disease) patient to remove non-invasive neoplastic lesion in the colon. Data are still limited in IBD patients. One of the limited factors for the resection by ESD of dysplasia in IBD is the fibrosis which lead to an increased risk of complication such as perforation. ESD is feasible in IBD patients even in a fibrotic area, but conventional strategies are often defeated. Traction strategies can help for this kind of resection. This new handmade device (A-TRACT) has the advantage of being adaptative during the procedure to maintain the best exposition of the submucosa and minimize the risk of complication.

Conflicts of interest All authors except Mr Ponchon are co-founders of the company A-TRACT device & co

Esophageal ESD: critical view on indications and stricture management

21/04/2023, 11:30 – 12:30

Liffey Meeting Room 2

OP138 Comparison of ESD and EMR in early Barrett's neoplasia

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DOI 10.1055/s-0043-1765142

Aims Current guidelines support endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD) as first-line treatment in superficial Barrett's neoplasia. We compared lesion characteristics, adverse events, clinical outcomes and recurrence between both techniques.

Methods Retrospective analysis of patients undergoing endoscopic resection (ER) of visible Barrett's lesions. Data were given for the histopathology, the en

bloc and R0 resection rate. Rates of perforation, GI bleeding, strictures, pre- and post-endoscopic diagnosis were evaluated.

Results 282 patients were included, 204 underwent EMR and 78 ESD. En bloc resection rates (73.0 vs 94.9%, $p < 0.001$) and R0 resection (70.1 vs 83.3%, $p < 0.001$) were lower for EMR compared to ESD. Complication rates were low, without a significant difference between EMR and ESD (postprocedural bleeding: 4/204 (2.0%) vs 1/78 (1.3%), strictures: 16/204 (7.8%) vs 7/78 (9.0%) respectively, no perforations). Procedural time was longer in ESD (median time 63.7 min vs 29.7 min in EMR, $p < 0.001$), but lesion size was significantly larger for ESD (median surface 8.48 cm² vs 2.36 cm² in EMR, $p < 0.001$). Adjusted for size, resection time per cm² of resected specimen was not significantly different between ESD and EMR. Indications for additional surgery were high risk of lymph node metastasis, R1 resection for EAC and recurrences not amenable for ER. Surgery was more often needed after ESD (16/78, 20.5%) than EMR (11/204, 5.4%), in 10/16 ESD cases because of high-risk T1b lesions. Median follow-up time was 39 months (IQR 25-59), without significant differences in recurrence rate for HGD or EAC between both techniques after 1, 3 and 5 years. [1-2]

Conclusions ESD is a safe strategy, leading to higher en bloc and R0 resection rates compared to EMR.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Weusten B, Bisschops R, Coron E et al. Endoscopic management of Barrett's esophagus: European Society of Gastrointestinal Endoscopy (ESGE) position statement. *Endoscopy* 2017; 49: 191-198

[2] Pimentel-Nunes P, Libânio D, Bastiaansen B et al. Endoscopic submucosal dissection for superficial gastrointestinal lesions: European Society of Gastrointestinal Endoscopy (ESGE) Guideline – Update 2022. *Endoscopy* 2022; 54: 591-622

OP139 Safety and efficacy of salvage endoscopic submucosal dissection for Barrett's neoplasia recurrence after radiofrequency ablation

Authors L. Mesureur¹, P. H. Deprez², R. Bisschops³, R. Pouw⁴, B. Weusten⁵, M. Barret⁶, P. Dewint⁷, D. J. Tate⁸, P. Leclercq⁹, S. Seewald¹⁰, F. Barbaro¹¹, F. Baldaque-Silva¹², M. Omae¹², M. Pioche¹³, M. J. Bourke¹⁴, R. Haidry¹⁵, A. Lemmers¹

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DOI 10.1055/s-0043-1765143

Aims We aimed to review the safety and efficacy of salvage ESD for Barrett's neoplasia recurrence after radiofrequency ablation (RFA).

Methods We conducted a multicentric retrospective study, collecting data from patients in six Belgian, eight European and one Australian centers. We included all patients who achieved at least one RFA treatment for BE and had further esophageal ESD for neoplasia recurrence.

Results From April 2014 until June 2022, data from 56 salvage ESD procedures were collected. Histological analysis showed 37 adenocarcinoma, 17 HGD and 2 LGD. En-bloc resection was achieved in 89% and R0 resection was obtained in 76% of ESD with HGD and in 49% of ESD with carcinoma. 39 patients (57%) had a curative resection, 29 (41%) were non-curative with 21% of local risk resection and 20% of high risk resection [1-8].

Immediate complications comprised 2 transmural perforations (4%) treated with stent or clip during the endoscopy. Seven patients (12%) had strictures,

treated by dilatation. At the end of follow-up after salvage ESD eventually associated to further endoscopic treatment, neoplasia remission was obtained in 82% of the patient (97% if salvage ESD specimen was curative, 75% if local risk and 55% if high risk). The median incidence of salvage ESD was 0.9 per 100 ESD for BE and 0.6 per 100 patients treated with RFA per center.

Conclusions This multicenter retrospective study confirms that ESD performed by expert endoscopists is an efficient and safe treatment for recurrence of neoplasia after RFA treatment for Barrett's esophagus and might therefore be proposed for selected cases after RFA in expert centers, with close endoscopic surveillance of the patients.

Follow-up after salvage ESD (► Fig. 1).

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] van Munster S, Nieuwenhuis E, Weusten BLAM, Alvarez Herrero L, Bogte A, Alkhalaf A et al. Long-term outcomes after endoscopic treatment for Barrett's neoplasia with radiofrequency ablation ± endoscopic resection: results from the national Dutch database in a 10-year period. *Gut*. 2022; 71: 265–76

[2] Weusten B, Bisschops R, Coron E, Dinis-Ribeiro M, Dumonceau JM, Esteban JM et al. Endoscopic management of Barrett's esophagus: European Society of Gastrointestinal Endoscopy (ESGE) Position Statement. *Endoscopy* 2017; 49: 191–8

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[8] Yang D, Coman RM, Kahaleh M, Waxman I, Wang AY, Sethi A et al. Endoscopic submucosal dissection for Barrett's early neoplasia: a multicenter study in the United States. *Gastrointest Endosc* 2017; 86: 600–7

	Endoscopic f-up without additional treatment	Additional RFA, APC or EMR treatment	Other additional treatment	Remission
Curative salvage ESD N = 32 (17 ADC, 15 HGD, 1 IGD)	N = 19	N = 10	ESD = 3 (1 recurrence)	97% (31/32)
Non-curative salvage ESD N = 23				
Local risk N = 12 (9 ADC, 4 HGD)	N = 6 (1 stop F-up)	N = 2	ESD = 4 (2 recurrences)	75% (9/12)
High risk N = 11 (11 ADC)	N = 5 (1 recurrence)	N = 1	ESD = 1 Esophagectomy or chemotherapy = 4	55% (6/11)
ESD not achieved N = 1				

► Fig. 1

OP140 WESTern outcomes of circumferential Endoscopic submucosal dissection for Oesophageal Squamous cell carcinoma – WESTEROS study

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DOI 10.1055/s-0043-1765144

Aims Circumferential endoscopic submucosal dissection (cESD) in the esophagus has been reported to be feasible in case reports and small eastern case series. We aimed to assess the effectiveness and safety of cESD for treating early esophageal squamous cell carcinoma (scc) in western settings.

Methods Multicentric study conducted at 19 referral centers from Europe, UK and Australia that record data in prospective databases. We included all patients with scc treated by cESD before November 2022. Primary outcome: curative resection according to ESGE guidelines 2022.

Results 114 cESD were performed on 110 patients. En-bloc and R0 resections rates were 99% (n = 113) and 74% (n = 84). A curative resection was achieved in 52% of the lesions (n = 59). Stenosis was noticeable in 82% (n = 93) of patients despite the use of prophylactic measures in 93% (n = 103). Most stenoses (n = 83, 74%) required >6 dilations or stent/incisional therapy. The 30-day risk of perforation, delayed bleeding, and thromboembolic events were 6%, 0% and 4%. Two patients died (1.8%) from an adverse event related to cESD. After a median follow-up of 15 months, 6 patients (6%) developed intraluminal recurrence and 6 metastatic disease. Overall and disease-free survival at 2 years was 90% and 84%.

Conclusions Circumferential ESD for scc is curative in approximately half of the patients in referral western centers. Moreover, it is associated with a very high risk of stenosis and non-negligible morbimortality. Our results suggest the need to improve diagnosis (of non-curative features) before attempting resection.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP141 Steroid lifting method for the prevention of strictures after esophageal endoscopic submucosal dissection

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DOI 10.1055/s-0043-1765145

Aims The risk of stricture after endoscopic submucosal dissection (ESD) with resection of more than 75% of luminal circumference could be as high as 40% to 95%, being almost 100% after circumferential ESD. We developed a new

steroid lifting method with diluted triamcinolone in the lifting solution for stricture prevention. We aim to identify its efficacy and the risk factors associated with stricture formation using this new method.

Methods Patients with Barrett's esophagus neoplasia (BEN) treated with ESD engaging > 75% of lumen circumference were included. The primary endpoint was the rate of stricture. Secondary endpoints were adverse events associated with steroid treatment and identification of risk factors associated with stricture formation.

Results Thirty-six lesions were included, corresponding 9 to circumferential ESDs. Considering the primary endpoint, the rate of stricture was 11/36 (31%). Regarding the secondary endpoints, comparing stricture (N = 11) and non stricture (N = 25) cohorts, there were no significant differences in patient's characteristics, lesions size, pathology and ESD results. Previous endoscopic treatment or radiotherapy were significantly associated with higher stricture rate (28% vs 16%, $p < 0.05$). Circumferential ESDs were associated with higher in stricture cohort (55% vs 14%, $p < 0.01$). There was a tendency for lower width of resected specimens in circumferential ESD in stricture cases (mean 26 vs 38 mm). There were no adverse events related to steroid therapy.

Conclusions This method is safe and is associated with significant decrease in stricture rate. Previous treatment and circumferential ESD are risk factors for stricture formation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP142V Endoscopic magnetic compression anastomosis to treat a complete iatrogenic stenosis of the hypopharynx

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DOI 10.1055/s-0043-1765146

Abstract Text A 72-years-old male presented with a complete hypopharyngeal stenosis following laryngeal cancer surgery and radiotherapy. Balloon dilatations and endoscopic ultrasound-guided recanalization failed, so a magnetic compression anastomosis was attempted. A magnetic ring was placed at the distal side of the stenosis through the gastrostomy site while another magnetic ring was inserted through the mouth. The procedure was successfully completed, the patient was discharged after 24 hours, magnets were expelled after 11 days, and, following regular balloon dilatations, was able to eat after 3 months. This is the first report of endoscopic magnetic compression anastomosis to treat a complete hypopharyngeal stenosis in adults.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP143V Self dilation prevents esophageal stenosis after extensive circumferential ESD

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DOI 10.1055/s-0043-1765147

Abstract Text Circumferential ESD in the esophagus has a very high rate of stenosis, especially with a significant longitudinal extent of the lesion. No effective preventive measures have so far been described. We demonstrate a case of a woman who learned to introduce a 14mm bougie prior to ESD for a 10cm long squamous cell cancer (T1m2). The ESD would have resulted in a stenosis requiring multiple endoscopic dilations, despite injection of steroids and oral

prednison. By starting self dilation 2 days after the ESD, she could tolerate a normal diet and did not need any endoscopic dilations. The first endoscopy was done after 8 weeks for follow-up. We hope to demonstrate the healed esophagus during ESGE days.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Gastric neoplasms: improving your detection

21/04/2023, 11:30 – 12:30

Liffey Meeting Room 3

OP144 Incidence and predictors of gastric neoplastic lesions in corpus atrophic gastritis

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DOI 10.1055/s-0043-1765148

Aims In Corpus atrophic gastritis (CAG) the occurrence of gastric-neoplastic-lesions (GNL), as type I neuroendocrine tumors (T1gNET), intraepithelial-neoplasia (IEN), and gastric-cancer (GC) is still debated. We aimed to assess occurrence and predictors of GNL at long-term follow-up (FU).

Methods A prospective-cohort of CAG-patients (diagnosed 2001-2021) adhering to endoscopic-histological-surveillance, according to MAPS-guidelines was considered. In case of new symptoms, onset of anemia, gastroscopy was anticipated.

Results A total of 275 CAG-patients [72.0% female, median-age 61 (23-84) years] were included, median FU 5 (1-17) years. Overall, 58 GNL were detected (Table 1). All GNL were OLGA-score-2, except 2 LG-IEN and 1 T1gNET with OLGA-1. CAG-patients with age > 60-years, IM without pseudopyloric-metaplasia (PPM), and pernicious-anemia (PA) were at 4.7 (95%CI 1.0-21.1), 4.3 (95%CI 1.4-12.9), and 4.3-fold (95%CI 1.3-13.8) higher-risk for development of GC/HG-IEN or LG-IEN. PA was independent-risk factor for development of T1gNET [HR 2.2 (95%CI 1.0-4.8)]. The presence of PA, IM without PPM, and age > 60-years were associated to a shorter mean-overall-survival-time free of GC/HG-IEN or LG-IEN ($p = 0.008$, $p = 0.04$, $p = 0.002$, respectively). A shorter mean-overall-time-free of T1gNET was observed in case of severe-corpus-atrophy and PA ($p = 0.04$, $p = 0.03$, respectively) (► Table 1).

Conclusions Our study confirms the higher risk of developing GNL in CAG-patients, despite the low-risk OLGA scores. Regular surveillance should be proposed in CAG-patients, in particular in patients with age > 60-years of age, IM without PPM, PA, or with severe-corpus-atrophy at diagnosis, possibly optimizing surveillance-strategies.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	n. of lesions	Crude incidence	Annual incidence rate person-year
GC/HG-IEN	7	2.5%	0.5%
LG-IEN	9	3.3%	0.6%
T1gNET	42 (recurrence in 14)	15.3%	2.8%

► **Table 1** Crude incidence and annual incidence rate person-year of the 58 gastric neoplastic lesions at long-term FU in 275 CAG patients.

OP145 Neoplasia detection by AI is more than finding lumps and bumps in the mucosa: Performance of a dedicated Barrett's CAde for detection of gastric neoplasia

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DOI 10.1055/s-0043-1765149

Aims Developing Computer-Aided Detection (CAde) system requires a large number of videos and it is more challenging in rare condition such as gastric neoplasia. However, all neoplasia, irrespective of location, has morphological similarities. Our hypothesis is that Barrett's CAde should also be able to detect gastric neoplasia due to shared morphological similarities.

Methods Three experts assessed prospectively collected videos to identify the best images demonstrating gastric neoplasia and similar gastric mucosa without neoplasia while using histology as a ground truth. We used a commercially available Barrett's CAde system(1) (WISE Vision, NEC, Japan) to analyse these frames for neoplasia detection [1].

Results Endoscopic videos were collected from 62 patients. Cases were divided into gastro-oesophageal (GOJ) and true gastric neoplasia. In GOJ group, there were 31 neoplastic (3 LGD, 2 HGD, 20 cancer) and 40 non-neoplastic while in gastric group, there were 20 neoplastic (2 LGD, 6 HGD, 12 cancer) and 19 non-neoplastic mucosae. Sensitivity and specificity for CAde for GOJ lesions were 83.87% and 82.50% while those for gastric neoplasia were 45.00% and 68.42% respectively. Further subgroup analysis was performed based on lesion morphology (polypoidal vs non-polypoidal). Table 1 showed that sensitivity of non-polypoidal GOJ lesion is 80% while that of non-polypoidal gastric lesions is 37.50%.

Conclusions Our data demonstrates that Barrett's CAde can detect majority of the GOJ neoplasia and with further refinement, its performance can potentially be enhanced. Barrett's CAde is not suitable for gastric neoplasia detection and as it seems to be analysing more features than just morphology, a dedicated CAde will need to be developed for true gastric neoplasia (► Table 1).

Table: Subanalysis for Barrett's CAde detection of GOJ and true gastric neoplasia based on lesion morphology

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Abdelrahim M, Saiko M, Maeda N, Hossain E, Alkandari A, Subramanian S, Parra-Blanco A, Sanchez-Yague A, Coron E, Repici A, Bhandari P. Development and Validation of Artificial Neural Networks Model for Detection of Barrett's Neoplasia, a Multicenter Pragmatic Non-Randomized Trial. *Gastrointest Endosc* 2022; S0016-5107(22): 02084-3. doi:10.1016/j.gie.2022.10.031 Epub ahead of print PMID: 36283443

	GOJ		Gastric	
	Polypoidal (n=16)	Non-polypoidal (n=15)	Polypoidal (n=4)	Polypoidal (n=16)
Sensitivity	87.50%	80%	75%	37.50%

► Table 1

OP146 Precancerous and cancerous conditions and H. pylori infection in patients undergoing gastroscopy for 1st degree relative for gastric cancer: a cross-sectional study

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DOI 10.1055/s-0043-1765150

Aims Gastric cancer (GC) is the fourth cause of death for neoplasia. To reduce GC mortality, a strategy is to diagnose preneoplastic conditions (PNC) in pa-

tients with risk factors. Since in first degree relatives (FDR) was found an up to 2.5 times increased risk for GC, recent guidelines suggest only an esophago-gastroduodenoscopy (EGDS) screening in patients who have a FDR for GC. If PNC are diagnosed, European guidelines MAPS II, suggest repeating EGDS shortening the interval. The aim is to determine the prevalence of PNC and GC in patients undergoing EGDS for FDR for GC.

Methods In this cross-sectional study, patients who underwent an EGDS with biopsies according to the updated Sydney system protocol, with the indication for FDR for GC from January 2008 to September 2022, were included. The PNC were staged with OLGA and OLGIM systems. Exclusion criteria were patients with previous gastric surgery and patients with an incomplete biopsy sampling

Results Overall, 310 patients were included [64%F; 56(20-87)years]. We identified 2 (0.6%) GC and 2 (0.6%) low-grade dysplasia (none of these patients had previous dysplasia). Regarding PNC, 11% were OLGA I-II, 0.3% OLGA III-IV whilst 10% were OLGIM I-II and 0.3% were OLGIM III-IV. Hp infection was found in 25.5% of patients. Furthermore, in 2.25% of cases, corpus-restricted atrophic gastritis was diagnosed.

Conclusions Our study support the role of the EGDS with biopsies in patients with FDR for GC as 2 GC and 2 low-grade dysplasia were found in patients with low-stages of OLGA/OLGIM, and 10% of patients would be required to follow-up according to European guidelines.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP147 Preceding endoscopic risk factors for the gastric neoplasm in the upper gastrointestinal endoscopy screening

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DOI 10.1055/s-0043-1765151

Aims There have been little data on the endoscopic characteristics before the diagnosis of gastric neoplasms in the biennial upper gastrointestinal endoscopy screening. We investigate the preceding endoscopic risk factors for the gastric neoplasm by analyzing the endoscopic and histologic findings prior to diagnosis of the gastric neoplasm in the serial endoscopy screening.

Factors	Univariable analysis		Multivariable analysis	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Age	0.971 (0.949-0.994)	0.013	0.972 (0.948-0.996)	0.021
Male sex	1.227 (0.691-2.176)	0.485		
Smoking	0.721 (0.423-1.228)	0.229		
Alcohol consumption	0.834 (0.494-1.407)	0.496		
Screening interval, 1 year	2.573 (1.252-5.289)	0.010	2.294 (1.095-4.805)	0.028
Screening interval, 2 year	1.399 (0.836-2.343)	0.201		
Endoscopic erosion	1.322 (0.669-2.613)	0.421		
Endoscopic atrophy	0.949 (0.545-1.652)	0.854		
Endoscopic intestinal metaplasia	0.578 (0.336-0.995)	0.048	0.550 (0.314-0.964)	0.037
Pathologic erosion	0.622 (0.123-3.145)	0.565		
Pathologic atrophy	0.627 (0.039-10.139)	0.742		
Pathologic intestinal metaplasia	1.839 (0.640-5.284)	0.258		

The values are described as mean ± standard deviation or number with percentage.

OR, odds ratio; CI, confidence interval; NA, not applicable.

► Table 1 Multivariable analysis for stomach cancer detection.

Methods We performed a multicenter retrospective study, from January 2010 to July 2022 at a secondary hospital and from October 2005 to July 2013 at a

tertiary hospital. We reviewed the upper gastrointestinal endoscopy in which gastric adenocarcinoma or adenoma were diagnosed, but gastric neoplasm had never been found in the previous endoscopy. We analyzed the preceding endoscopic findings, pathologic features and clinical characteristics.

Results A total of 246 lesions with a histologic diagnosis of gastric epithelial neoplasms (95 adenomas, 151 adenocarcinoma) were identified. The mean interval between the two endoscopies was 825 days in adenoma, 940 days in adenocarcinoma, respectively. The initial endoscopic lesion findings were 14 normal (5.69%), 10 gastritis (4.06%), 45 erosion (18.29%), 18 ulcer (7.31%), 76 atrophy (30.89%), 80 intestinal metaplasia (32.52%) and 3 polyp (1.21%). Intestinal metaplasia is the leading endoscopic lesion finding in adenoma (n = 38, 40.00%), but 2nd leading finding in adenocarcinoma (n = 42, 27.81%) (► **Table 1**).

Conclusions In conclusion, over-one-year interval and findings as intestinal metaplasia and atrophy during upper gastrointestinal endoscopy screening should trigger precautionous follow-up endoscopy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP148 Deep-learning-based clinical decision support system for gastric neoplasms in real-time endoscopy: Development and validation study

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DOI 10.1055/s-0043-1765152

Aims his study aimed to establish a deep-learning-based clinical decision support system (CDSS) for the automated detection and classification (diagnosis and invasion-depth prediction) of gastric neoplasms in real-time endoscopy.

Methods A prospective multicenter validation was conducted using 3,976 novel images from five institutions for the classification models. The primary outcomes were the detection rate for the lesion-detection model and accuracy for the lesion-classification model. Clinical benefit was evaluated with 1,210 real-time procedures in a randomized pilot study. Consecutive patients were allocated either to CDSS-assisted screening endoscopy or conventional screening endoscopy. All endoscopic examinations were performed by an expert endoscopist [1–3].

Results The lesion-detection rate was compared between the groups. The lesion-detection rate was 95.6%, and the mean average precision was 90.6% under the threshold of intersection over union 0.2 in the internal test. The established model reached 81.5% external-test accuracy in the four-class (advanced gastric cancer, early gastric cancer, dysplasias, and non-neoplasm) histopathology prediction. The binary prediction performance (mucosa-confined or submucosa-invaded) of the invasion depth of the detected lesions showed 86.4% external-test accuracy. In real-clinic applications, CDSS-assisted screening endoscopy showed higher lesion-detection rate, but not significant (2.0 vs. 1.5%, P-value = 0.52).

Conclusions We established and tested the deep-learning-based CDSS system for gastric lesions in endoscopic procedures.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Cho BJ, Bang CS, Park SW et al. Automated classification of gastric neoplasms in endoscopic images using a convolutional neural network. *Endoscopy* 2019; 51: 1121–1129

[2] Cho BJ, Bang CS. Artificial Intelligence for the Determination of a Management Strategy for Diminutive Colorectal Polyps: Hype, Hope, or Help. *Am J Gastroenterol* 2020; 115: 70–72

[3] Cho BJ, Bang CS, Lee JJ et al. Prediction of Submucosal Invasion for Gastric Neoplasms in Endoscopic Images Using Deep-Learning. *J Clin Med* 2020; 9:

OP149 Deep Learning and Minimally Invasive Endoscopy: Automatic Detection of Pleomorphic Gastric Lesions in Capsule Endoscopy

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DOI 10.1055/s-0043-1765153

Aims Capsule endoscopy (CE) is a minimally invasive exam for evaluating the gastrointestinal tract. However, its diagnostic yield for gastric lesions is suboptimal. Convolutional Neural Networks (CNN) excel in image analysis. Our aim was to develop the first deep-learning model for the detection of pleomorphic gastric lesions in wireless capsule endoscopy (WCE).

Methods Our group developed a CNN-based algorithm for the automatic detection of pleomorphic gastric lesions, including vascular lesions (angiectasia, varices, and red spots), protruding lesions, ulcers, and erosions. 12918 gastric images from three different CE devices (PillCam Crohn's; PillCam SB3; OMOM HD capsule endoscopy system) were used from the construction of the CNN: 1407 from protruding lesions; 994 from ulcers and erosions; 822 from vascular lesions and 2851 from hematic residues, the remaining images from normal mucosa. The images were divided into a training (split for 3-fold cross-validation) and testing dataset in a patient-split manner. The model's output was compared to a consensus classification by three experienced WCE gastroenterologists [1–3].

	Sn	Sp	VPP	VPN	Acc	AUPRC
Fold 1	81.8	97.8	97.2	85.3	90.1	0.93
n = 3754	(79.9-83.5)	(97.1-98.4)	(96.3-97.9)	(84.0-86.5)	(89.1-91.0)	
Fold 2	90.8	83.8	83.8	90.8	87.2	0.96
n=3755	(89.4-92.1)	(82.1-85.4)	(82.4-85.2)	(89.5-91.9)	(86.0-88.2)	
Fold 3	91.0	95.4	94.7	92.0	93.2	0.98
n=3780	(89.5-92.2)	(94.3-96.2)	(93.6-95.6)	(90.9-93.0)	(92.4-94.0)	
Training	87.8	92.3	91.4	89.2	90.2	
dataset	(86.9-88.7)	(91.6-93.0)	(90.6-92.0)	(88.5-89.9)	(89.6-90.7)	
mean						
n=11289						
Validation	97.4	95.9	95.0	97.8	96.6	1.00
dataset	(96.0-98.4)	(94.4-97.1)	(93.3-96.3)	(96.7-98.6)	(95.6-97.4)	
N= 1629						

Abbreviations: N – number of patients. Sn – sensitivity. Sp – specificity. PPV – positive predictive value. NPV – negative predictive value. Acc – accuracy. AUPRC – area under precision-recall curve. () – 95% confidence interval values

► **Table 1** Performance measures of the 3-fold cross validation of the training dataset and validation dataset for detection of pleomorphic gastric lesions.

Results The trained CNN had a 97.4% sensitivity, 95.9% specificity, PPV and NPV of 95.0% and 97.8% for gastric lesions, with 96.6% overall accuracy. The CNN had an image processing time of 115 images per second (► **Table 1**).

Conclusions Our group developed, for the first time, a CNN capable of automatically detecting pleomorphic gastric lesions in both small bowel and panendoscopic WCE devices.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Li J, Ren M, Yang J et al. Screening value for gastrointestinal lesions of magnetic-controlled capsule endoscopy in asymptomatic individuals. *J Gastroenterol Hepatol* 2021; 36: 1267–1275

[2] Soffer S, Klang E, Shimon O et al. Deep learning for wireless capsule endoscopy: a systematic review and meta-analysis. *Gastrointest Endosc* 2020; 92: 831–839 e8

[3] Kim JH, Nam SJ. Capsule Endoscopy for Gastric Evaluation. *Diagnostics (Basel)* 2021; 11:

Optimizing bowel cleansing in colonoscopy

21/04/2023, 11:30 – 12:30

Liffey Meeting Room 1

OP150 A controlled, randomized clinical trial on Mannitol versus PEG-ASC for bowel preparation. Efficacy and safety results from SATISFACTION study

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DOI 10.1055/s-0043-1765154

Aims Bowel preparation is recognized as the most burdensome aspect of the whole colonoscopy procedure and represents a major barrier to screening colonoscopy. Mannitol could significantly improve patient acceptability as it is rapid, requires a single dose, a low volume and has a pleasant taste. The SATISFACTION study compared oral mannitol 100g/750ml with standard split-dose 2L PEG-ASC (MoviPrep).

Methods The SATISFACTION Phase III study was an international, multicentre, randomized (1:1), parallel-group, endoscopist-blinded non inferiority trial. Primary endpoint was the proportion of patients with adequate bowel cleansing. Secondary endpoints concerned efficacy (adenoma detection rate, caecal intubation rate, time of evacuation), safety (intestinal gases concentration, haematobiological parameters, adverse events) and patient satisfaction. The study included 703 patients (352 mannitol; 351 PEG-ASC) undergoing elective colonoscopy.

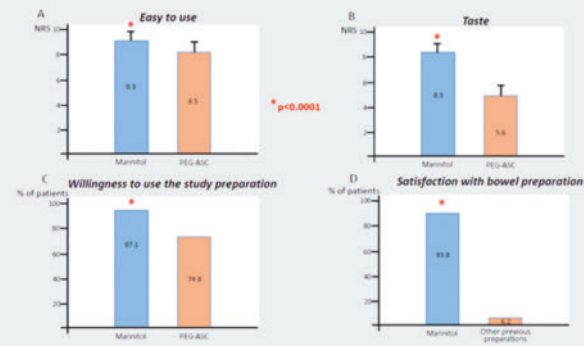
Results Mannitol was not inferior to PEG-ASC for proportion of patients with adequate cleansing (91.1% and 95.5% respectively; $p=0.0095$). There was no significant difference for secondary efficacy endpoints. The profile of acceptability was significantly better in mannitol group for easy to use, taste, willing-

ness to use ($p<0.0001$). The concentration of intestinal gases (H_2 , CH_4) was similar in the two groups and well below those potentially critical.

Conclusions the results of SATISFACTION study indicated that low-volume single-dose mannitol may satisfy a currently unmet clinical need since it was not inferior to the split-dose regimen with PEG-ASC in terms of bowel cleansing efficacy and also was well acceptable to the patient (► Fig. 1).

Acceptability endpoints; panel A: easy to use; panel B: taste; panel C: willingness to use the study preparation; panel D: satisfaction of bowel preparation

Conflicts of interest Authors do not have any conflict of interest to disclose.



► Fig. 1

OP151 Restrictive diets are not necessary with current bowel cleansing standards. Results of a non-inferiority clinical trial

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DOI 10.1055/s-0043-1765155

Aims To evaluate the impact of restrictive diet within modern standards of preparation for colonoscopy.

Methods We conducted a multicenter, randomized, parallel group, non-inferiority clinical trial. Population screening program FIT + subjects were included. All followed a split-dose preparation with PEG + Asc 1L for morning colonoscopy. Bisacodyl was added in case of risk of inadequate preparation. Individuals were randomized to follow a 1-day low-residue diet (LRD) or free diet without restrictions (FD). A 5% non-inferiority margin was established. Bowel cleansing was assessed according to the Boston scale. In addition, diet and evacuating solution tolerability, perceived quality of the instructions and efficiency variables of colonoscopy were assessed (► Fig. 1).

Results 278 individuals assigned to FD and 275 to LRD were analyzed. Both groups were homogeneous with no significant differences between them. Risk of poor preparation was similar (FD 13.6% and 14.7% LRD, $p=0.7$). Adherence to PEG + Asc 1L was similar. There were no differences in terms of tolerability (67.8% vs. 67.9%) or in the instructions (95.7% vs. 96.7%). FD was better tolerated (94.7% vs. 83.2% $p<0.001$). Adequate preparations rate were 96.4% vs. 97.8% ($\bar{\Delta}=1.4\%$, $p=0.3$). There were no differences in withdrawal times or in the adenoma detection rate. In the multivariate analysis, the diet had no influence on preparation quality.

Conclusions It is not necessary to restrict the diet following the current standards of preparation for colonoscopy [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Hassan C, East J, Radaelli F et al. Bowel preparation for colonoscopy: European Society of Gastrointestinal Endoscopy (ESGE) Guideline – Update 2019. *Endoscopy* 2019; 51 (8): 775–794

[2] Gimeno-García A, Barreda R, Reygosa C et al. Impact of a 1-day versus 3-day low-residue diet on bowel cleansing quality before colonoscopy: a randomized controlled trial. *Endoscopy* 2019; 51 (7): 628–636

[3] Machlab S, Martínez-Bauer E, López P et al. Comparable quality of bowel preparation with single-day versus three-day low-residue diet: Randomized controlled trial. *Dig Endosc* 2021; 33 (5): 797–806

Variable	Free diet	Low residue diet	p-value
Time from end of preparation to start of colonoscopy (mean/std, H:MM)	3:25	3:24	0,46 Mann-Whitney test
Aspirate volume (mean/std, ml)	412,4 / 222	400,7/222,7	0,41 Mann-Whitney test
Withdrawal time (median/IQR, minutes)	14 / 10	13 / 9	0,12 Mann-Whitney test
Adenoma detection rate (%)	61,5	55,3	0,13 Chi-Square test

► Fig. 1

OP152 Comparisons of efficacy and safety between 1L and 2L water intake during bowel preparation with 1L-PEG and ascorbate for colonoscopy

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DOI 10.1055/s-0043-1765156

Aims Although the newly developed 1L PEG solution has the advantage of reducing the dose, it may cause hypernatremia due to high doses of sodium ascorbate and sodium sulfate in the solution. The aim of this study is to compare the efficacy of bowel preparation and safety in the group taking 1L and 2L of water in patients using 1L PEG solution as a laxative for colonoscopy pretreatment.

Methods 134 adult patients were enrolled in this single-blind, multicenter, noninferiority study. Subjects were randomly assigned either 1L or 2L group. The patients in the 1L group took 1L of PEG solution and 1L of water, while the 2L group took 1L of PEG solution and 2L of water.

		1L (n=68)	2L (n=66)	P value
BBPS	Total	6.49 ± 1.39	6.68 ± 1.28	0.464
	Right colon	2.13 ± 0.42	2.15 ± 0.50	0.664
	Transverse colon	2.24 ± 0.46	2.30 ± 0.53	0.410
	Left colon	2.19 ± 0.47	2.27 ± 0.48	0.348
Difficulty	Easy	33 (54.1%)	19 (31.7%)	0.035
	Moderate	20 (32.8%)	32 (53.3%)	
	Hard	8 (13.1%)	9 (15.0%)	
Polyp	Total	1.51 ± 2.01	1.27 ± 2.50	0.546
	Right colon	0.45 ± 0.74	0.44 ± 0.83	0.942
Polyps ≥ 1cm	Total	0.22 ± 0.54	0.12 ± 0.42	0.181
	Right colon	0.01 ± 0.12	0.03 ± 0.17	0.535

► Table 1

Results 68 patients were enrolled to 1L group and 66 patients for 2L group. There was no difference in sex ($p = 0.304$) and age ($p = 0.784$) between the two groups. There was no difference in total bowel preparation and right colon bowel preparation. The difficulty of taking was easier in the 1L group than the 2L group. In polyp detection, there were no differences in the total number of polyps detected, the number of polyps on right side colon, total polyps larger than 1cm and polyps large than 1cm on right side colon (Table 1). In subgroup analysis, there is no significant change between BUN, creatinine, sodium, potassium and chloride. Although there was four severe side effect, all case were self-limited and recovered (► Fig. 1).

Conclusions There was no significant difference in bowel preparation, polyp detection and safety between 1L and 2L water intake using 1L PEG solution for colonoscopy pretreatment. The difficulty of taking was easier in 1L group. Because of the small sample size, further evaluation of efficacy and compliance of 1L and 2L water taking is needed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP153 Effectiveness of 1-L polyethylene glycol plus ascorbate versus 4-L polyethylene glycol for colonoscopy cleansing in split-dose: a multicentre, randomized, clinical trial (OVER2019)

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DOI 10.1055/s-0043-1765157

Aims Adequate bowel cleansing is essential for a HQ colonoscopy. A novel 1-L polyethylene glycol plus ascorbate (1L-PEG + ASC) solution has been recently introduced. Nevertheless, the effectiveness of 1L-PEG + ASC over high-volume bowel preparations in IPs and OPs is still unclear.

Methods In a single-blinded phase-IV study, patients undergoing colonoscopy were randomized 1:1 to receive split-dose 1L PEG + ASC or a split-dose 4-L PEG-based regimen in 10 Italian centers. Preparation was assessed with the BBPS by local blinded colonoscopists. The primary endpoint was noninferiority of 1L-PEG + ASC in CS. Secondary endpoints were EC, HQC-RC, PDR, ADR, patient compliance and safety (► Table 1).

Results 478 pts were randomized: 242 to 4L-PEG and 236 to 1L-PEG + ASC. The 1L-PEG + ASC showed higher cleansing success rate (98.4% vs 96.0%; [RR], 2.207; 95% [CI], 1.207-4.033; $p = .009$), excellent cleansing (39.1% vs 27.7%; RR, 1.675; 95% [CI], 1.118-2.510; $p = .012$) and HQC-RC (52.3% vs 38.5%; RR, 1.750; 95% [CI], 1.194-2.564; $p = .004$). No differences in PDR (34.1% vs 32.9%, $p = .787$), ADR (25.5% vs 23.5%, $p = .632$) were found; also in subgroup analysis (OPs vs IPs), the 1L-PEG + ASC showed higher BBPS (7.8 ± 1.4 vs 7.4 ± 1.7 ; $p = .035$), CS (96.3% vs 88.6%; $p = .018$) and HQC-RC (62.2% vs 46.3%; $p = .010$) in OPs. Compliance and safety were comparable between the two arms. No serious AEs or deaths occurred (► Table 2).

Conclusions The 1L-PEG + ASC showed higher effectiveness compared with 4L-PEG in achieving adequate CS, with similar compliance, tolerability and safety both in OPs and IPs.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	4L PEG (N=225)	1L PEG-ASC (N=221)	p
Sex male, n (%)	104 (47.1%)	117 (52.0%)	0.297
Age, years, mean (SD)	59.4 ± 15.6	59.3 ± 14.2	0.951
Race group, n (%)			
- White or Caucasian	236 (100.0%)	242 (100.0%)	-
Setting, n (%)			
- Outpatients	127 (57.5%)	138 (61.3%)	0.406
- Inpatients	94 (42.5%)	87 (38.7%)	
Indication for colonoscopy, n (%)			
- Screening (after positive FIT)	36 (16.3%)	45 (20.0%)	
- Surveillance	30 (13.6%)	43 (19.1%)	0.111
- Diagnostic	155 (70.1%)	137 (60.9%)	
Comorbidities, n (%)			
- Hypertension	72 (32.4%)	81 (36.0%)	0.447
- Diabetes	32 (14.5%)	27 (12.0%)	0.440
- COPD	8 (3.6%)	7 (3.1%)	0.766
- Cardiopathy	19 (8.6%)	8 (3.6%)	0.026
- Liver disease	7 (3.2%)	5 (2.2%)	0.537
- Chronic renal failure	3 (1.4%)	2 (0.9%)	0.638
- Inflammatory bowel disease	11 (5.0%)	14 (6.2%)	0.568

► **Table 1** Patient characteristics in the full analysis set (n = 446).

	4L PEG (N=213)	1L PEG-ASC (N=220)	p
BBPS total, mean (SD)	7.1 ± 1.7	7.6 ± 1.6	0.003
BBPS partial, mean (SD)			
- right colon	2.3 ± 0.6	2.5 ± 0.6	0.002
- transverse colon	2.5 ± 0.6	2.6 ± 0.5	0.048
- left colon	2.4 ± 0.6	2.5 ± 0.6	0.029
Cleansing success, n (%)	178 (83.6%)	202 (91.8%)	0.009
Excellent cleansing, n (%)	59 (27.7%)	86 (39.1%)	0.012
High-quality cleansing of the right colon, n (%)	82 (38.5%)	115 (52.3%)	0.004
Polyp detection rate, n (%)	70 (32.9%)	75 (34.1%)	0.787
Adenoma detection rate, n (%)	50 (23.5%)	56 (25.5%)	0.632
Advanced adenoma detection rate, n (%)	25 (11.7%)	17 (7.7%)	0.159
Adenoma per colonoscopy, mean (SD)	1.4 ± 0.7	1.5 ± 0.8	0.617

► **Table 2** Bowel cleansing outcomes

OP154 Screening colonoscopy in individuals under 50 years of age: a Greek population-based prospective study

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DOI 10.1055/s-0043-1765158

Aims The aim of this study is to assess the risk for colorectal neoplasia in Greek individuals under 50 years, which is the currently recommended age for colorectal cancer (CRC) screening colonoscopy onset in average risk populations [1].

Methods This is a prospective study of average CRC risk individuals (no family history or symptoms indicating CRC) aged 45-49 years old that underwent colonoscopy in the Gastroenterology Department of Army Share Fund Hospital during a 9-month period. Exclusion criteria comprised colorectal surgery, IBD and hereditary CRC syndromes. A population of 50-55 years old undergoing screening colonoscopy during the same period was used as our control group. All identified polyps were categorized according to size and histopathological results.

Results Out of 268 participants in our study, 63 persons 45-49 years old formed the study group and 205 persons 50-55 years old formed the control group. Polyp Detection Rate (PDR) and Adenoma Detection Rate (ADR) corresponded to 33,3% and 20,6% in the study group versus 40,1% and 20,9% in the control group, respectively. Moreover, CRC was detected with a rate of 3,2%

in the study group versus 1,5% in the control group. No statistically significant difference was noted between the 2 groups in terms of PDR, ADR and CRC rates as well as in terms of size.

Conclusions In the present study population, we detected similar risk for colorectal neoplasia and CRC in both age groups. This observation adds to recent findings of other studies concerning the commencement of CRC screening in individuals younger than 50 years of age.¹

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Patel SG, May FP, Anderson JC et al. Updates on Age to Start and Stop Colorectal Cancer Screening: Recommendations From the U.S. Multi-Society Task Force on Colorectal Cancer [published correction appears in Gastroenterology. 2022 Jul;163(1):339]. Gastroenterology 2022; 162 (1): 285-299

OP155 Adenoma detection rate with polyethylene glycol/ascorbate versus sodium picosulfate/magnesium citrate in colorectal cancer screening: a parallel randomised controlled trial (LOWOL STUDY)

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DOI 10.1055/s-0043-1765159

Aims The main aim were to compare the clinical efficacy of 2 very low volume cleansing products in terms of adenoma detection rate (ADR).

Methods Comparative, parallel, randomized, non-inferiority, non-blinded, low-intervention clinical trial with subjects aged 50-69 with a positive FIT scheduled for morning colonoscopy. Individuals were randomised 1:1 to receive split-dose of PEG/ascorbate (PEGA group) or sodium picosulfate/magnesium citrate (SPMC group). Cleansing quality was evaluated with Boston Scale and tolerability, adverse effects and satisfaction with a questionnaire filled out after the 1st and 2nd dose of the product.

Results A total of 1002 subjects were included (median age 60 [P25-75; 55-65], 46.7% female) and 20 were excluded because of external colonoscopy. Baseline patient characteristics were similar between groups. There was no significant difference in ADR between the 2 groups: 54% (95%CI [32.6-76.0]) with PEGA vs 58% (95%CI [35.0-81.7]) with SPMC (p 0.58). The rate of adequate bowel preparation was superior for PEGA (97.8%) vs SPMC (92.6%) (p<0.001) and by segments (p<0.05). Taste was evaluated as very bad or bad in 27.4% vs 0.2% (1st dose) and in 46.9% vs 0.6% (2nd dose) in PEGA and SPMC groups (p<0.001). Adverse effects are shown in Table 1. Differences were seen in the willingness to repeat the same product (80.7% vs 97.8% in PEGA and SPMC groups) (p<0.001) (► **Table 1**).

Conclusions Both very low volume bowel preparations were equally effective in terms of ADR. Despite bowel preparation quality was significantly better with PEGA, patients' tolerability and satisfaction were higher with SPMC

Conflicts of interest Maria Pellisé was consultant of Norgine Iberia, received speaker fee from Norgine and Casen Recordati and a research grant from Casen Recordati

MOST FREQUENT ADVERSE EFFECTS (2nd DOSE)	%PEGA	%SPMC	P-value
Nausea	45.1	12.5	<0.001
Vomiting	14.5	1.8	<0.001
Abdominal pain	27.4	15.4	<0.001
Bad mouth taste	41.0	13.2	<0.001

► **Table 1**

Metabolic endoscopy: "weighing" its success

21/04/2023, 14:00 – 15:00

Liffey Meeting Room 2

OP156 Anthropometric measurements, body composition and quality of life improvements after endoscopic gastroplasty: preliminary results from a single center, randomized trial

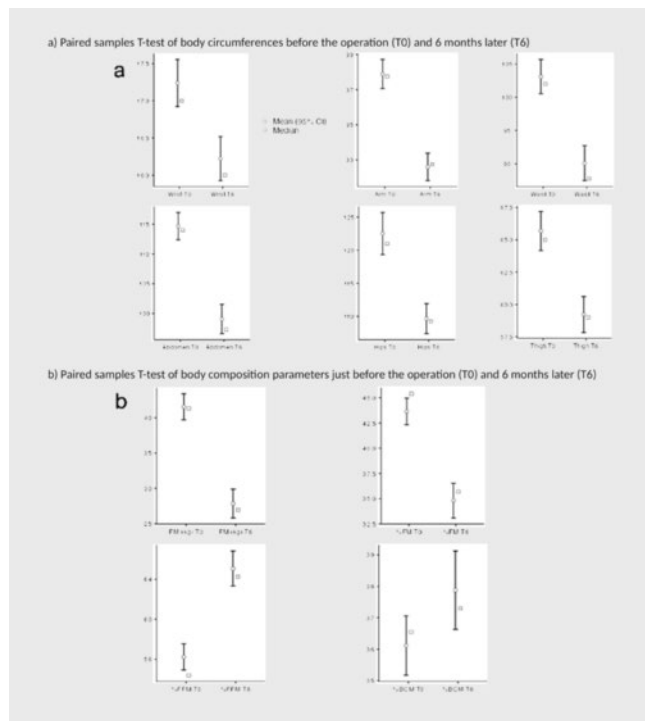
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DOI 10.1055/s-0043-1765160

Aims Three different Endoscopic Gastroplasty (EG) techniques are mainly reported in literature: endoscopic sleeve gastroplasty (ESG), endoluminal vertical gastroplasty (EVG), and distal primary obesity surgery endoluminal (POSE-2). Our study aimed to assess changes in anthropometric measurements, body composition and quality of life (QoL) of these three EG techniques at 6 months follow-up.

Methods This was a single center, randomized study (ClinicalTrials.gov NCT04854317) of obese patients who underwent 3 EG techniques. Outcomes included the efficacy of the 3 EG procedures at inducing weight loss, improving the body circumferences, the body composition (fat mass- FM, free fat mass- FFM, body cell mass- BCM), and the quality of life.



► Fig. 1

Results Between July 2020 and October 2021, 90 obese (mean BMI, 36.6 kg/m²) patients (mean age, 46 y; females 87.5%; mean obesity class II, 58.3%; main comorbidity hepatic steatosis, 70%) underwent EG through ESG or EVG or POSE-2. At 6 months, 70 patients attended their follow-up visit. They experienced 16% total body weight loss (TBWL) and 39.7% excess weight loss (EWL); 95.2% patients achieved at least 5% TBWL, and 85.7% achieved at least 25%

EWL. All the body circumferences homogeneously decreased ($p < 0.001$). Concerning the body composition, the FM and FM % significantly decreased ($p < 0.001$) (Fig. 1). The quality of life measured by the European Quality of Life Five Dimension (EQ-5D) test improved ($p < 0.01$) (► Fig. 1).

Conclusions All three EG seems to be effective for the treatment of obese patients inducing weight loss and improving the anthropometric measurements, the body composition and the QoL.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP157 Long term efficacy of the endoscopic transoral outlet reduction for dumping syndrome and weight regain after roux-en-y gastric bypass

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DOI 10.1055/s-0043-1765161

Aims To assess the safety and long-term efficacy of endoscopic transoral outlet reduction (TORe) as a treatment for DS and/or weight regain after Roux-n-Y gastric bypass (RYGB).

Methods Patients who had weight regain $\geq 50\%$ of the weight loss after RYGB and/or DS refractory to medical treatment and presence of an enlarged gastro-jejunal anastomosis, were selected to undergo TORe after the bariatric multidisciplinary evaluation. Sigstad's score (S'S) and early and late Arts Dumping Score (ADS) questionnaires were used to evaluate the presence and the severity of DS; a Sigstad's score ≥ 7 was considered indicative of DS. Percentage of total body weight loss (%TBWL) and percentage of excess weight loss (%EWL) were assessed for weight regain. Data were collected at baseline, 6, 12, and 24 months after TORe.

Results 87 patients (median age 46 years, median BMI 36.2, 79% female) underwent TORe. 58/87 patients had a S'S ≥ 7 . 87 patients (100%) completed the 6 months follow-up, 76 (87.4%) reached 12 months and 56 (64.4%) the 24 months. The resolution rate of DS (S'S < 7) was 68.9%, 66.7%, and 57.2% at 6, 12, and 24 months. The median S'S dropped from 15 to 3, 5, and 2 at 6, 12 and 24 months. Early ADS decreased from 8 to 2, 3 and 2. Late ADS decreased from 4 to 0, 1 and 0. %TBWL was 10.5, 9.9, and 8.1, and the %EWL was 30.2, 33.7, and 34.2. Dumpers patients with resolution of DS had better weight loss results compared with those with persistent DS. 1 adverse event was observed, a perigastric fluid collection, successfully managed conservatively. 3 patients required repetition of the procedure (re-TORe) during follow-up, 2 for weight regain, and 1 for new onset of DS.

Conclusions The TORe has evidence of long-term efficacy for DS and/or weight regain after RYGB

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP158 SNAP Procedure. Duodenal-Ileal Diversion with Self-Assembling Magnets in Patients with Inadequate Weight Loss or Weight Regain following Sleeve Gastrectomy: Feasibility and Six-Month Results

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DOI 10.1055/s-0043-1765162

Aims A study to determine the technical feasibility and safety of a minimally invasive, duodenal-ileal side-to-side anastomosis using a Sutureless Neodymium Anastomosis Procedure (SNAP) for patients with weight-regain or inadequate weight-loss following SG.

Methods Our study is a prospective, single-arm, open label pilot study that enrolled patients with obesity to assist in weight-reduction following a SG performed > 12 months prior. For SNAP, self-assembling magnets are deployed into the duodenum through per-oral endoscopy, and into the ileum through laparoscopy. Magnets were coupled together under laparoscopic and fluoroscopic guidance, creating a compression anastomosis. Primary endpoints: technical feasibility, effect on weight loss, and safety.

Results Successful duodenal-ileal diversions were created with SNAP in 27 subjects (mean age: 50.6 ± 9.1, mean BMI: 38.1 ± 4.6 kg/m²) with no device-related serious adverse events. All magnets were naturally expelled in patients' fecal stream. Upper endoscopy at 3M follow-up (FU) confirmed patent, healthy anastomosis in all patients. Patients with ≥ 6M FU experienced %TBWL of 12.4 ± 6.8% and 15.6 ± 11.6% at 3 and 6 months respectively compared to baseline.

Conclusions Successful duodenal-ileal diversion was created in all patients with the SNAP procedure, demonstrating feasibility and safety in these patients. Weight reduction is clinically meaningful at reported FU periods with patient reporting very high satisfaction. Early results are encouraging but further study is required.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP159 Impact of smoking habit on the outcomes of Endoscopic Sleeve Gastroplasty

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DOI 10.1055/s-0043-1765163

Aims Endoscopic sleeve gastroplasty (ESG) is a safe and effective procedure for class 1 and 2 obese subjects. The effects of smoking habits on weight are well known regarding bariatric surgery. Understanding the effects of tobacco use on post-operative weight loss in bariatric endoscopy is essential to guiding clinicians in counselling patients in this field.

Methods A prospective dataset collecting data on all ESG procedures performed in a tertiary referral centre was assessed retrospectively. Data on smoking habits (smoker, non-smoker, and previous smoker) were collected. ANOVA test was performed.

Results Between May 2017 and October 2021, 290 subjects underwent ESG. Out of the total, smoking habits were available for 275 subjects: 144 non-smokers (NS; 52,4%), 51 smokers (S; 18,5%) and previous smokers (EX-S). At baseline, the mean BMI was similar between the three groups ($p = 0.699$). Adherence to follow-up was 93,1%, 92,4% and 73,5% for non-smokers, 90,2%, 84,3% and 82,4% for smokers, 91,3%, 90,0% and 71,9% for EX-smokers, at 6, 12 and 24 months.

Average TBWL, EWL and WL were similar between the three groups at 6, 12 and 24 months (as shown in table 1).

In the non-smoker group, five subjects underwent revision procedures (4 Re-ESG, 1 Surgery) after 24 months, whereas one previous smoker underwent Re-ESG after six months. No revision was reported in the smoker group.

Conclusions Our analysis, with the strengths of a large cohort and a long-term follow-up, showed that smoking habits do not influence the efficacy of ESG for up to 24 months (► Table 1).

Weight loss trajectories of subjects who underwent Endoscopic Sleeve Gastroplasty, based on smoking habits. Data are reported as mean (Standard Deviations).

Conflicts of interest Dr Vincenzo Bove: Consultant for Apollo Endosurgery. Dr. Ivo Boskoski: Consultant for Apollo Endosurgery, Cook Medical, and Boston Scientific; board member for Endo Tools; research grant recipient from Apollo Endosurgery; food and beverage compensation from Apollo Endosurgery, Cook Medical, Boston Scientific, and Endo Tools. Prof Guido Costamagna: Consultant for food and beverage compensation from Cook Medical, Boston Scientific, and Olympus

Table 1. Weight loss trajectories of subjects who underwent Endoscopic Sleeve Gastroplasty, based on smoking habits. Data are reported as mean (Standard Deviations).

	6 MONTHS			
	WL	EWL	TBWL	BAROS
Smoker (N=46)	20,4 (7,2)	53,8 (20,4)	18,1 (5,6)	4,4 (1,8)
Non-Smoker (N=134)	17,9 (8,0)	53,3 (23,6)	16,9 (6,4)	4,0 (1,5)
Ex-Smoker (N=73)	19,7 (7,7)	54,7 (21,8)	18,1 (6,4)	3,9 (1,8)
<i>p</i>	0,094	0,916	0,306	0,365
	12 MONTHS			
	WL	EWL	TBWL	BAROS
Smoker (N=43)	19,0 (10,6)	51,0 (29,8)	17,0 (9,1)	4,0 (2,3)
Smoker (N=133)	15,5 (10,3)	49,4 (30,9)	15,7 (9,1)	3,6 (2,2)
Ex-Smoker (N=72)	17,3 (12,1)	48,3 (30,4)	16,0 (10,1)	3,6 (2,2)
<i>p</i>	0,44	0,902	0,724	0,561
	24 MONTHS			
	WL	EWL	TBWL	BAROS
Smoker (N=28)	14,4 (14,0)	32,5 (37,0)	12,2 (12,5)	3,1 (2,2)
Non-Smoker (N=75)	14,7 (11,9)	39,6 (29,8)	13,3 (10,0)	3,0 (2,4)
Ex-Smoker (N=41)	16,2 (10,6)	43,6 (24,4)	14,9 (8,7)	3,1 (2,2)
<i>p</i>	0,095	0,095	0,544	0,980

WL= Absolute Weight Loss; EWL=Excess Weight Loss; TBWL= Total Body Weight Loss; BAROS = Bariatric Analysis and Reporting Outcome System questionnaire.

► Table 1

OP160 The Phase Angle as predictor of weight loss in endoscopic gastroplasty: preliminary results from a single center, randomized study

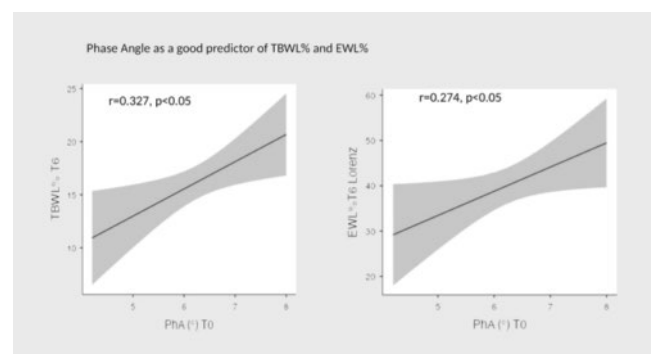
Authors M. Bulajic¹, S. Masia¹, V. Cosseddu¹, J. Formichetti¹, P. Bazzu¹, F. Di Maio¹, C. Rocchi¹, M. Massidda¹, G. Manzoni¹, I. Bassu¹, A. Zuddas¹, V. Milano¹, V. Sula¹, F. Addis¹, P. Giustacchini¹, S. F. Vadalà Di Prampero¹

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DOI 10.1055/s-0043-1765164

Aims Three different Endoscopic Gastroplasty (EG) techniques are mainly reported in literature: endoscopic sleeve gastroplasty (ESG), endoluminal vertical gastroplasty (EVG), and distal primary obesity surgery endoluminal (POSE-2). Our study aimed to assess biometrical parameters which could predict changes in weight loss at 6 months follow-up after EG.

Methods This was a single center, randomized study (ClinicalTrials.gov NCT04854317) of patients who underwent EG (through ESG or EVG or POSE-2) for the treatment of obesity. Outcomes included the efficacy of the three EG procedures at inducing weight loss, measured by the percentage of Total Body Weight Loss (%TBWL) and Excess Weight Loss (%EWL) (► Fig. 1).



► Fig. 1

Results Between July 2020 and October 2021, 90 obese (mean BMI 36.6 kg/m²) patients (mean age 46 y; females 87.5%; main obesity class: II in 58.3% cases; main comorbidity: hepatic steatosis in 70% cases) underwent EG through ESG or EVG or POSE-2. At 6 months, 70% patients attended their follow-up visit. They experienced 16% TBWL and 39.7% EWL, with no significant difference among the three techniques in both of parameters ($p > 0.62$ in TBWL and $p > 0.94$ in EWL ANOVA tests); 95.2% patients achieved at least 5% TBWL, and 85.7% achieved at least 25% EWL. All the body circumferences homogeneously decreased ($p < 0.001$). By a linear regression analysis, a significant correlation between the Phase Angle and the %TBWL ($p < 0.05$) and %EWL ($p < 0.05$) was detected (Fig. 1).

Conclusions Our study confirms that ESG, EVG and POSE-2 are valuable EG procedures to reduce weight in obese patients. The Phase Angle could be considered a useful predictor of weight loss after the EG, at least in the short-term.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP161 Endoloop-Assisted Transoral Outlet Reduction: A Pilot Case-control Study of a New Therapeutic Intervention for Weight Regain After Roux-en-Y Gastric Bypass

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DOI 10.1055/s-0043-1765165

Aims For patients with weight regain after Roux-en-Y gastric bypass (RYGB), transoral outlet reduction (TORe) is conventionally done using full thickness suturing to reduce gastrojejunal anastomosis (GJA) size. However, affordability and availability remain the key limitations. We invented endoloop-assisted transoral outlet reduction (e-TORe) which used non-technically demanding and economical accessories to increase accessibility of bariatric endoscopy.

Methods This is a retrospective analysis of RYGB patients with weight regain who underwent e-TORe. A gender, age, and obesity class matched-cohort in 1:2 ratio who got only physician-directed lifestyle modification (P-LSM) was included as a control. The primary outcome was %total weight loss (TWL), %excess weight loss (EWL), and excess BMI (EBMIL) loss at 3 months.

Results 18 patients who experienced weight regain post RYGB were included. 6 patients (5 Males, median age 40, mean BMI 40.1 ± 7.7 kg/m²) underwent e-TORe. Compared to the matched-control group of 12 patients who received only P-LSM, e-TORe has shown significantly higher %TWL (6.69 ± 4.98 vs -1.00 ± 3.99%; $p = 0.021$), %EWL (25.60 ± 23.36 vs -3.38 ± 12.95%; $p = 0.047$), %EBMIL (25.79 ± 23.33 vs -3.39 ± 12.81%; $p = 0.046$) at 3-month. After e-TORe mean GJA size (SD) was reduced from 1.87 ± 0.75 cm to 6 mm. One patient who got unintended GJA reduction to 4 mm had marked vomiting which improved by prokinetic.

Conclusions For RYGB patients with weight regain, e-TORe is a safe and effective endoscopic procedure with less cost and complexity compared to conventional TORe. Still, long-term weight reduction efficacy remains to be determined.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Training in mucosal resection of large non pedunculated polyps

21/04/2023, 14:00 – 15:00

Liffey Meeting Room 3

OP162 Linked-color imaging versus high-definition white light endoscopy for evaluation of post-polypectomy scars of non-pedunculated lesions. LCI-Scar study

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DOI 10.1055/s-0043-1765166

Aims To compare sensitivity and negative predictive value between LCI and white-light endoscopy (WLE) performances for detection of recurrence on post-polypectomy scars of large polyps.

Methods Single center randomized cross-over study. Adult patients undergoing surveillance colonoscopy after resection of lesions ≥ 15mm were included. Each scar had two explorations the first one with the active arm (LCI) and the other with the control arm (WLE) performed by two blinded endoscopists. The randomization was made to decide the order of lights. After inspection with either technique, a second exploration with Blue light Imaging (BLI) was made. In each scar, a diagnosis of recurrence (yes/no) with a level of confidence was obtained and gold standard was histopathology.

Results A total of 129 patients with 173 scars were included. Baseline patient, lesion and procedural characteristics were similar in both arms. Median size of scars was 12.58 mm (interquartile range 6 mm), 76.9% were located proximal. There were 56/173 histological recurrences (32.4%) adenoma in 27/56 (48.2%) and 29/56 (51.8%) serrated lesions. Accuracy of all light modalities was excellent (> 90%). However, LCI was showed to be superior to WLE with a greater sensitivity and NPV. ▶ **Table 1** Paired concordance between light modalities was 166/173 (95.9%). In the discordant cases, LCI identified 4 additional recurrence cases not detected by WLE and reclassified one false-positive as normal histology. Whereas, WLE only reclassified two false-positives with LCI to no recurrence without any increase on recurrence detection.

Conclusions LCI tends to have a higher sensitivity and NPV when compared with WLE.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	LCI	LCI plus BLI	WLE	WLE plus BLI
Sensitivity	0.96 (0.88-0.99)	0.96 (0.88-0.99)	0.89 (0.79-0.95)	0.91 (0.81-0.96)
Specificity	0.90 (0.83-0.94)	0.91 (0.84-0.95)	0.91 (0.84-0.95)	0.90 (0.83-0.94)
Positive predictive value	0.82 (0.71-0.89)	0.83 (0.72-0.90)	0.82 (0.71-0.90)	0.81 (0.7-0.89)
Negative predictive value	0.98 (0.93-0.99)	0.98 (0.94-0.99)	0.95 (0.89-0.98)	0.96 (0.90-0.98)
Accuracy	0.92 (0.87-0.95)	0.93 (0.88-0.96)	0.90 (0.85-0.94)	0.90 (0.85-0.94)

BLI: Blue light imaging, LCI: Linked Color Imaging, WLE: High-definition White light endoscopy.

▶ **Table 1** Performance of evaluation of post-polypectomy scar for Linked Color Imaging (alone and combined Blue light imaging) and high-definition white-light endoscopy (alone and combined with Blue light imaging).

OP163 Endoscopic mucosal resection for complex large lateral-spreading colorectal polyps in a large Dutch cohort

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DOI 10.1055/s-0043-1765167

Aims It is known that higher polyp complexity, based on the SMSA (size, morphology, site, access) scoring system, is associated with higher recurrence rate after EMR. Our aim was to describe long-term recurrence after EMR in a large cohort of highly complex lateral-spreading non-pedunculated colorectal polyps (LNPCPs).

Methods EMR procedures for presumed benign, large (≥ 30 mm), LNPCPs were retrospectively analyzed from two referral centers (2011-2021).

Results EMR was performed on 745 colorectal polyps in 685 patients (mean age 68 years (SD ± 9.0), 59.6% male). LNPCPs had a median size of 40 mm (IQR 35-55mm), with almost 40% larger than 50mm. 61.2% of polyps were located in the proximal colon and 91.1% were SMSA level 4 polyps. Technical success was achieved in 93.3%, in 21.4% after adjunctive treatment. In 74.1% adjuvant treatment was applied. Benign histology was found in 92.2%. Recurrence at first follow-up (6 months, IQR 5-8 months) occurred in 89 of 525 polyps (17%). Factors associated with recurrence were larger polyp size > 60 mm (OR 8.05, 3.73-17.34 95% CI, $p = 0.000$) and adjuvant ablation (OR 0.48, 0.29-0.83 95% CI, $p = 0.008$). Complete benign polyp clearance was achieved in 91.4% (480/525) after a median of 15 months follow-up, requiring one ($n = 417$), two ($n = 55$) or three ($n = 8$) endoscopic interventions. 18 patients are still being treated endoscopically and 7 underwent surgery for benign disease. Overall, recurrence could be treated endoscopically in 98.7%.

Conclusions Recurrence after EMR for large, complex LNPCPs still occurred in 17% at first follow-up. However, the vast majority of cases were polyp-free after repeated endoscopic treatment.

Conflicts of interest Paul Didden and Leon Moons declare that they were employed as consultants for Boston Scientific in the past 3 years.

OP164 Standardizing training for endoscopic mucosal resection of large non-pedunculated colorectal polyps to reduce recurrence (* STAR-LNPCP study): a multicenter, cluster randomized trial

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⁵, M. Vlug⁶, F. Wolfhagen⁷, M. Baven-Pronk⁸, M. Van Der Voorn⁹, M. P. Schwartz¹⁰, L. Vogelaar¹¹, W. H. De Vos Tot Nederveen Cappel¹², T. Seerden¹³, W. L. Hazen¹⁴, R.W. M. Schrauwen¹⁵, L. Alvarez Herrero¹⁶, R. M. Schreuder¹⁷, A. B. Van Nunen¹⁸, E. Stoop¹⁹, G. J. De Bruin²⁰, P. Bos²¹, W. A. Marsman²², E. Kuiper²³, M. De Bièvre²⁴, Y. Alderlieste²⁵, R. Roomer²⁶, J. N. Groen²⁷, M. Bigirwamungu-Bargeman²⁸, M. Van Leerdam²⁹, L. Rob-

erts-Bos³⁰, F. Boersma³¹, K. Thurnau³², R. S. De Vries³³, J. M. Ramaker³⁴, R.J. J. De Ridder², M. Pellisé³⁵, M. J. Bourke³⁶, A.A. M. Masclee², L.M. G. Moons³⁷

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Ziekenhuis, Eindhoven, Netherlands; 18 Zuyderland Medisch Centrum Sittard-Geleen, Geleen, Netherlands; 19 HMC Westeinde, Den Haag, Netherlands; 20 Tergooi – locatie Hilversum, Hilversum, Netherlands; 21 Gelderland Valley Hospital, Ede, Netherlands; 22 Spaarne Gasthuis Haarlem Zuid, Haarlem, Netherlands; 23 Maasstad Hospital, Rotterdam, Netherlands; 24 VieCuri Medisch Centrum, Venlo, Netherlands; 25 Rivas Care Group, Gorinchem, Netherlands; 26 Franciscus Gasthuis & Vlietland, Rotterdam, Netherlands; 27 Hospital St Jansdal, Harderwijk, Netherlands; 28 MST, Enschede, Netherlands; 29 The Netherlands Cancer Institute (NKI), Amsterdam, Netherlands; 30 Laurentius Hospital, Roermond, Netherlands; 31 Gelre ziekenhuizen Apeldoorn, Apeldoorn, Netherlands; 32 ZGT Almelo, Almelo, Netherlands; 33 Deventer Hospital, Deventer, Netherlands; 34 Elkerliek ziekenhuis, Helmond, Netherlands; 35 Hospital Clínic de Barcelona, Barcelona, Spain; 36 Westmead Hospital, Westmead, Australia; 37 University Medical Center Utrecht, Utrecht, Netherlands
DOI 10.1055/s-0043-1765168

Aims Endoscopic mucosal resection (EMR) is the preferred treatment for non-invasive large (≥ 20 mm) non-pedunculated colorectal polyps (LNPCPs) but is associated with a high recurrence rate of up to 30%. We evaluated whether standardized EMR training could reduce the post-EMR recurrence rate in Dutch community hospitals.

Methods In this multicenter, cluster randomized trial, 63 endoscopists of 30 hospitals were randomly assigned to the intervention (e-learning and 2-day training including hands-on session) or control group. From April 2019 until August 2021, all consecutive LNPCPs treated by EMR were included. Primary endpoint was the recurrence rate after 6 months.

Results A total of 1412 LNPCPs were included, 699 in the intervention group and 713 in the control group (median size 30mm vs 30mm, 45% vs 52% SMSA IV, 64% vs 64% proximal location). Recurrence rate was lower in the intervention group compared to controls (13% vs. 25%, OR 0.43; $p = 0.006$), with a similar complication rate (8% vs 8%). As for subgroup analysis, the intervention effect was present in 20-40mm LNPCPs (7% vs. 20%; $p < 0.001$) but not for ≥ 40 mm LNPCPs (24% vs. 31%; $p = 0.109$). The intervention group more often used a colloid (87% vs 63%) and adrenaline (73% vs 41%) in the submucosal injection fluid, identified and adjunctively removed residual neoplastic tissue (24% vs 18%), and applied adjuvant treatment (92% vs 75%).

Conclusions Standardized EMR training for LNPCPs significantly reduced post-EMR recurrence in community hospitals. However, LNPCPs ≥ 40 mm remained associated with high recurrence rates. For these lesions, centralization of treatment in referral centers should be considered.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP165 Risk factors for late post-procedural bleeding after endoscopic resection of large colorectal lesions: a multicenter retrospective study

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DOI 10.1055/s-0043-1765169

Aims Post-procedural bleeding is a major adverse event after endoscopic resection of large colorectal lesions. Late post-procedural bleeding is challenging as it frequently occurs after discharge of patients. Here, we aimed to identify clinical risk factors for late bleeding for adapted management of these patients.

Methods We retrospectively screened patients who underwent endoscopic resection of colorectal lesions between 2010 and 2019 at three German institutions for post-procedural bleeding events. For identified patients, we collect-

ed demographic data, clinical courses, characteristics of colorectal lesions and procedure-related variables. Risk factors for late bleeding were determined by group comparison and logistic regression analysis

Results A total of 6820 patients were included in the analyses. We identified 119 patients with post-procedural bleeding after endoscopic resection of colorectal lesions. The median onset time of post-procedural bleeding was at day 3 and late bleeding occurred in 51.3% of cases. Comparison of patients with early (<48 h) and late bleeding (>48 h) demonstrates that arterial hypertension and continued intake of antiplatelet drugs were significant predictors for late bleeding events. Multivariate logistic regression analysis confirmed that continued use of antiplatelet agents during endoscopy was independently associated with late onset bleeding.

Conclusions Patients with arterial hypertension and continued intake of antiplatelet drugs are at higher risk for late post-procedural bleeding and might benefit from extended intraprocedural bleeding prophylaxis and extended clinical monitoring.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP166 Recurrence risk after piecemeal endoscopic mucosal resection of 10-20mm non-pedunculated colorectal adenomas

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DOI 10.1055/s-0043-1765170

Aims The aim of our study was to assess the recurrence risk after pEMR of 10-20mm non-pedunculated colorectal adenomas and to assess possible predictors of recurrence.

Methods A retrospective, multicenter study was conducted in four hospitals in the Netherlands. Patients that underwent pEMR of 10-20mm non-pedunculated colorectal adenomas and a 6-month (range: 4-9 months) surveillance colonoscopy (SC1) between 2014 and 2021 were included. Primary outcome was recurrent lesions during SC1. Secondary outcomes included scar identification rate at SC1 and histologic findings. Possible predictors of recurrence were assessed using logistic regression analyses.

Results In total, 228 patients with 238 colorectal adenomas with a median size of 15mm (IQR 12–20mm) underwent pEMR. In 15 (6.3%) of these adenomas high-grade dysplasia was found. Recurrence rate at SC1 was 9.2% (22 recurrences of 238 adenomas), including colonoscopies with no scar identified at SC1. The scar at SC1 was identified in 59% of all pEMRs (141 of 238 adenomas), with recurrent adenomatous tissue in 16% (22 of 141) of identified scars. No independent predictors for recurrence were identified.

Conclusions Following piecemeal EMR of 10-20mm adenomas, early recurrence occurs in almost 10%. When the scar was identified during the first surveillance colonoscopy, recurrent lesions were detected in 16% of cases. The high recurrence rate after pEMR of 10-20mm adenomas underlines the necessity to carefully inspect the previous resection site to discover recurrences at a still treatable stage.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Endoscopy goes green

21/04/2023, 14:00 – 15:00

Liffey Meeting Room 1

OP167 International Delphi Consensus Study on Disposable Single-Use Endoscopy: A Path to Clinical Adoption

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DOI 10.1055/s-0043-1765171

Aims Increasing infectious rate estimates and low microbiological surveillance affect safety of gastrointestinal endoscopy globally. Single use endoscopes and accessories have been claimed to improve safety, but there is lack of data on their indication and sustainability. We aimed to identify a series of best practice recommendations for the use of single use endoscopes and accessories using a modified Delphi.

Methods Consensus statements were developed utilizing an international endoscopist expert panel of 63 experts from 33 nations. The main steps in the process were selecting the consensus group, conducting systematic literature reviews, developing statements, and anonymous voting on the statements until consensus was reached [1–10].

Results Category 1: single use accessories (8 statements), related to defining recommendations for the use of single use accessories in all patient populations or high-risk patients. Category 2: clinical indication for single use endoscopes (9 statements), including indications to high-risk patients, protecting the endoscope apparatus and contamination measures in endoscopy units. Category 3: technical factors (4 statements), related to superior performance and technical specifications with the new innovation. Category 4: environmental issues (2 statements), concerning mechanisms that reduce the detrimental burden to the environment. Category 5: financial implications (3 statements), related to healthcare policies, cost neutrality and other financial associations of single use endoscopy (► Fig. 1).

Conclusions This is the first international initiative in determining clinical indications for single use endoscopy and accessories for their implementation in clinical practice.

Final Delphi Consensus Recommendations

Conflicts of interest Cesare Hassan: Consulting fees for Fuji, and Medtronic. Alessandro Repici: Consulting fees for Fuji, Olympus, and Medtronic and receiving research grant and speaker fees from Boston Scientific, ERBE, Alfasigma, Norgine. Pradeep Bhandari: Research support from Fujifilm Europe, Boston Scientific, Pentax and Olympus Medical. VRM – consultant and research support for Boston Scientific, Medtronic; consultant: Medivators, Interpace Diagnostics; honoraria/speakers bureau: Torax Medical/Ethicon; equity interest/stockholder: Capsovision.

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Delphi Consensus Recommendations	
Single Use Accessories	
1	We recommend the use of single use endoscope valves for endoscope biopsy channels in high-risk patients
2	Single use biopsy forceps should be used in all patients
3	Single use cold polypectomy and cold EMR snares should be used in all patients
4	Single use hot polypectomy and hot EMR snares should be used in all patients
5	Single use sphincterostomes should be used in all patients
6	Single use endoscopic clips should be used in all patients
Clinical Indications for Single Use Endoscopes	
7	Endoscopes with a single use tip and/or elevator mechanism may reduce the risk of infection when used in high-risk patients at significant risk of acquiring or transmitting infection
8	In order to protect the re-usable endoscope armamentarium from contamination with a Multidrug Resistant Organism (MDRO), it is a viable option to use single use endoscopes in patients with a known MDRO infection or in known MDRO carriers.
9	Single use endoscopes (including duodenoscopes) may offer a safer option when used in high-risk patients at significant risk of acquiring or transmitting infection
10	Single use duodenoscopes may be considered in all patients when multi-drug related organisms (MDRO) are cultured from reusable duodenoscopes whilst appropriate measures are taken to isolate and manage the source of the infection
Technical Factors	
11	The performance and technical specification of single use endoscopes should be similar to that of conventional reusable/multi-use endoscopes
12	The performance and technical specifications of single use endoscopes should be assessed via well designed clinical research studies prior to widespread adoption
Environmental Issues	
13	Single use endoscopes should be distributed with an effective recyclable mechanism in place.
14	The patients' perspective about safety, environmental impact, sustainability, and acceptability of single use endoscopes should be explored prior to their adoption
Financial Implications	
15	An adequate reimbursement policy should be discussed with healthcare providers to integrate single use endoscopes in daily practice in a financially sustainable manner
16	Single use endoscopes should be cost neutral with similar technical performance to conventional multi-use/reusable endoscopes
17	The economic burden of single use endoscopes will be dependent on the volume and set up of individual centres.

▶ Fig. 1

OP168 The carbon cost of inappropriate endoscopy

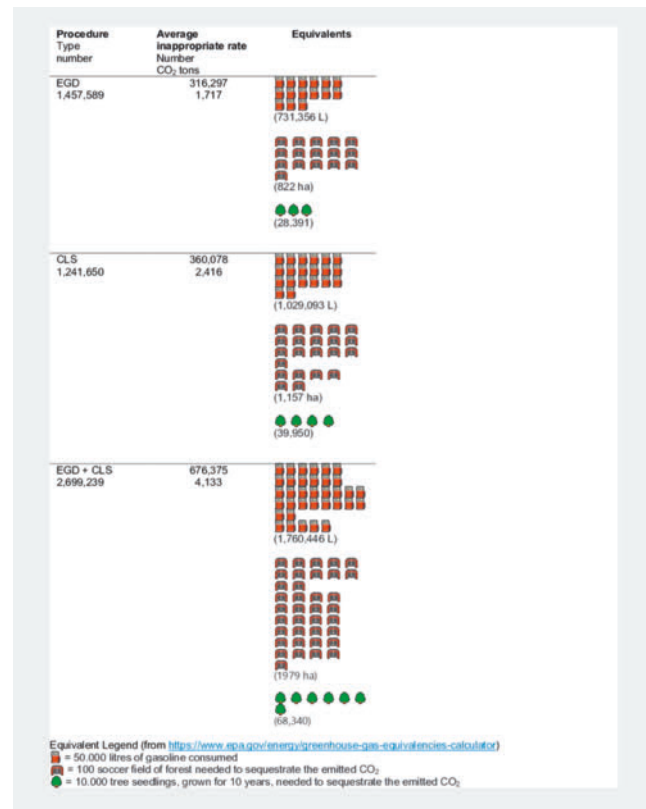
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DOI 10.1055/s-0043-1765172

Aims Digestive endoscopy is a resource-intensive activity with a conspicuous carbon footprint and estimated rate of inappropriateness. However, the carbon cost of inappropriate endoscopies still remains obscure. The aim of this study is to evaluate the environmental impact of inappropriate endoscopic examinations in Italy.

Methods We calculated the carbon cost of a standard endoscopic procedure (esophagogastroduodenoscopy (EGD) and colonoscopy (CLS)) considering the items (e.g. disposable materials, personal protective equipment) and the energy needed for endoscopy and the cleaning process. The rate of inappropriateness and the mortality carbon cost (MCC) of endoscopic examinations in Italy and Europe were calculated.



▶ **Table 1** Estimated of CO₂ production and equivalents in inappropriate esophagogastroduodenoscopies (EGD) and colonoscopies (CLS) in Italy.

Results EGD and CLS present a carbon cost of 5.43 and 6.71 kg of CO₂, respectively. Different scenarios were evaluated, according to the number of endoscopic procedures performed in Italy per 1.000 inhabitants and the reported data on inappropriateness. The carbon cost of inappropriate EGD and CLS in Italy is 4,133 CO₂ tons (MCC 0.93) per year, ranging from 3,527 to 4,749 and equivalent to 1,760,446 Liters of gasoline burnt. Applying the same data to the European population, the estimated carbon footprint of inappropriate digestive endoscopy in Europe is 30,804 tons [1–5].

Conclusions The environmental impact of inappropriate endoscopic examinations in Italy and Europe is remarkable. These results underline the necessity of novel strategies to reduce both the carbon footprint of digestive endoscopy and the rate of unnecessary procedures (▶ **Tabl 1**).

Equivalent Legend (from <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>)

? = 50.000 litres of gasoline consumed

?? = 100 soccer field of forest needed to sequesterate the emitted CO₂

?? = 10.000 tree seedlings, grown for 10 years, needed to sequesterate the emitted CO₂

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Bortoluzzi F, Sorge A et al. Sustainability in gastroenterology and digestive endoscopy: Position Paper from the Italian Association of Hospital Gas-

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OP169 Environmental impact of Capsule endoscopy: eco-audit of different types of capsules

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DOI 10.1055/s-0043-1765173

Aims The environmental impact of endoscopy is far from negligible as it is the third most polluting discipline according to NHS assessment. Endoscopic capsule has not yet been assessed.

Methods Faced with this practice of unmanaged capsule waste, we wanted to carry out an eco-audit on the endoscopic capsule in order to assess the impact of the examination, the patient's journey of the examination, the patient pathway, the devices themselves and their packaging and finally the management of their waste.

Results Capsule useful mass is about 3.3%, the rest is packaging with two silver oxide batteries, 4 LEDs and printed circuit boards. Its environmental impact is 0.039 of CO₂ equivalent for the 3 brands. In total, the overall impact (transport, packaging, etc.) is approximately 1 kg of CO₂ equivalent. Capsocam appears advantageous as the capsule is recovered and does not go with the wastewater, but the environmental impact is multiplied by 2.2 by the recovery device. The film weight is about 514 MB on average (over 20 videos) which represents 10 kg of CO₂ eq for the transfer and 10 times more for a one year storage on Cloud. Questionnaire of patients show that 69% of them come by car (50% VSL, 50% private car) with a round trip distance of 74 km (i.e. 15 kg of EQ). 1/3 of them return home and 1/3 go for a walk in town during the day. 44% declare that they generate more waste than usual (meals in hospital with plastic). Only 32% are aware that capsule is a forbidden waste to be thrown away and 62% agree to recover the capsule with an appropriate device.

Conclusions The capsule, like all our endoscopic activities, has a significant impact on the environment.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP170 Environmental Footprint and Material Composition Comparison between Single-use and Reusable Endoscopes

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DOI 10.1055/s-0043-1765174

Aims Single-use endoscopes have vigorously entered the endoscopy market due to concerns about patient-to-patient transmission of infection. We aimed to determine reusable and single-use endoscopes composition and compare environmental footprint between them.

Methods Material composition analysis (thermogravimetric analysis) and life-cycle assessment (LCA) of two single-use endoscopes and one reusable

duodenoscope was performed. Carbon footprint (kgCO₂e) was calculated. When evaluating LCA of reusable duodenoscope, environmental impact from reprocessing was taken into account. We considered that a reusable duodenoscope may last at least 1600 procedures [1–2].

Results Weight of the reusable endoscope was 3480 g and composition was mainly non-plastic materials (95%). Meanwhile, single use cholangioscope and duodenoscope were lighter (581.6 g and 943 g, respectively) and material composition was mostly plastics (99% and 76%, respectively). Environmental footprint of single-use cholangioscope was 1.8 kgCO₂e, equivalent to the production of 30 plastic bottles of water. LCA of reusable endoscope lifetime (minimum of 1600 procedures) represented 151,48 kgCO₂e. If single-use duodenoscopes were used on a daily basis, environmental footprint would increase sixty-five-fold (9920 kgCO₂e).

Conclusions Global implementation of single-use endoscopes may compromise our environmental impact. We should find an alternative approach which minimizes the carbon footprint.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Rodríguez de Santiago E, Dinis-Ribeiro M, Pohl H et al. Reducing the environmental footprint of gastrointestinal endoscopy: European Society of Gastrointestinal Endoscopy (ESGE) and European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA) Position Statement. *Endoscopy* 2022; 54: 797–826

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OP171 Green Proposal Prospective Study based on Material Composition Analysis and Life-Cycle Assessment of Commonly-used Endoscopic Instruments

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DOI 10.1055/s-0043-1765175

Aims Gastrointestinal endoscopy unit represent the third largest producer of medical waste. We aimed to determine endoscopic instrument composition, life-cycle assessment (LCA) and assess the environmental impact of a sustainability proposal

Methods Material composition analysis (thermogravimetric analysis) and LCA (kgCO₂e) of forceps, snares and hemostatic clips from four different manufacturers (A-D) was performed. One-week prospective study was conducted to assess the efficacy of a Green Mark (separate the handle and section of the instrument body that can be potentially recyclable) [1–2].

Results Most common materials were polyethylene, polypropylene, acrylonitrile and stainless steel. Production of stainless steel (forceps 35–59%, hemoclips 12–54%) and acrylonitrile (hemoclips 23–53%, snares 0–50%) caused more carbon footprint effect than other materials. Significant differences were found for forceps (0.31–0.47 kgCO₂e) and hemoclips (0.41–0.57 kgCO₂e) among the manufacturers. Green study evaluated 184 procedures, corresponding to a total of 67.74 kgCO₂e. Applying our sustainability proposal, environmental impact could be reduced up to 27.1% (18.26 kgCO₂e). This allows the recycling of up to 60% of the instrument total weight

Conclusions Knowledge of instrument composition is essential to select the most sustainable among different manufacturers. A green mark could reduce our environmental impact significantly

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Rodríguez de Santiago E, Dinis-Ribeiro M, Pohl H et al. Reducing the environmental footprint of gastrointestinal endoscopy: European Society of Gastrointestinal Endoscopy (ESGE) and European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA) Position Statement. *Endoscopy* 2022; 54: 797–826

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OP172 Carbon emissions from a FIT versus a colonoscopy screening program – environmental impact of travel and waste

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DOI 10.1055/s-0043-1765176

Aims Environmental harms of colorectal cancer (CRC) screening have not been considered although their impact to planet and human health can be substantial. The aim was to compare carbon footprint generated by travel and waste of three CRC screening strategies.

Methods We examined three hypothetical cohorts of 1000 screen eligible persons in the US participating in one of three CRC screening programs over a 10-year time horizon: a) primary colonoscopy, b) annual FIT, c) biennial FIT. Probabilities were obtained from publicly available data. Waste estimates were based on a 5-day audit at two hospitals. Environmental impact analysis was performed following ISO14040 standards. The main outcome of interest was the carbon footprint of travel and waste in each of these cohorts (expressed as kgCO₂e) and when applied to all screen eligible persons in the US (expressed as tCO₂e).

Results The primary colonoscopy screening strategy generated the greatest carbon footprint (9,806 kgCO₂e), followed by the annual FIT strategy (3,970 kgCO₂e), and the biennial FIT strategy (2,202 kgCO₂e). Compared to a colonoscopy screening program, an annual FIT program would reduce the carbon footprint by 60% and a biennial FIT program by 78% (table). Transitioning to a primary annual FIT based program in the US would reduce the carbon footprint by 5,360 tCO₂e, and by 6,983 tCO₂e for a biennial FIT program (equivalent of 5,100 and 6,600 transatlantic passenger flights avoided, respectively) (► **Table 1**).

Conclusions Switching from a primary colonoscopy CRC screening program to a FIT program would lower the carbon footprint related to travel and waste alone by at least 60%, which would be in line with the international goal of a 50% reduction of greenhouse gas emissions by 2030.

Carbon footprint from travel and waste of three CRC screening strategies for cohorts of 1000 screen-eligible persons over a 10-year screening period and applied to all screen eligible persons in the US each year.

Conflicts of interest Research grants Steris and Cosmo

	Colonoscopy	Annual FIT	Biennial FIT
N of colonoscopies for 1000 screen eligible persons over 10 years	1,412	468	260
Carbon footprint per person screened, kgCO ₂ e	9.8	4.0	2.2
Relative difference	1.00	0.40	0.22
Carbon footprint of screening for all eligible persons in the US each year, tCO ₂ e	9,005	3,646	2,022
Absolute difference, tCO₂e	reference	5,360	6,983
Equivalent to transatlantic flights, n	reference	5,100	6,600
Equivalent to forest needed, km ²	reference	26	33

► **Table 1**

Endoscopic treatment of early rectal cancer

21/04/2023, 15:30 – 16:30

Liffey Meeting Room 2

OP173 Risk factors of recurrence after surgical and endoscopic resection of T1 rectal cancer

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DOI 10.1055/s-0043-1765177

Aims Optimal treatment of T1 rectal cancer remains to be determined. The aim of this investigation was to determine risk factors related to recurrence after surgical and local resection of T1 rectal cancer in a large nationwide cohort.

Methods This is a retrospective registry-based population study on prospectively collected data on all patients with T1 CRC undergoing surgical and local (endoscopic or transanal endoscopic microsurgery, TEM) resection in Sweden between 2009–2018. Potential risk factors of recurrence, including tumour location, resection margins, lymphovascular, perineural and submucosal invasion, grade of differentiation as well as mucinous subtype were analyzed using uni- and multivariate logistic regression.

Results 1103 patients with T1 rectal cancer with a median follow-up time of 60 months was included. Resection surgery was performed in 550 patients, TEM in 213 and 340 patients underwent endoscopic resection. 5-year recurrence was higher in patients undergoing TEM (11.3%) and endoscopic resection (9.7%) compared to resection surgery (5.1%). Submucosal invasion was found to be an independent risk factor for recurrence. Five-year disease-free interval was 94%, 87% and 90% in patients undergoing resection surgery, TEM, and endoscopic resection, respectively.

Conclusions This large population-based study on recurrence after resection of T1 rectal cancer shows that tumor recurrence is higher after local excision compared to surgery. In addition, our data show that depth of submucosal invasion is an independent risk factor of recurrence after resection of early rectal cancer.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP174 STAGING OF PT1 RECTAL CANCER IN A NATIONWIDE POPULATION BASED COHORT– EPIT-1 consortium

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DOI 10.1055/s-0043-1765178

Aims To describe the use of locoregional staging and analyze its yield in a pT1CRC state-wide population-based cohort of pT1 rectal cancers

Methods Nation-wide population-based cohort, multicenter study (EpiT1 Consortium), including 33 centers from 12 different Spanish states. All pT1 CRC cases diagnosed between 2007-2018 were included regardless of the treatment received. Information on the demographic of the patient, diagnosis, staging, treatment, complications and histology of pT1 were collected. Multivariate analysis was performed using binary logistic.

Results From 3161 patients, 681 pT1 rectal cancer were included for the analysis. 424/681 (62.3%) underwent staging: 234 (55.2%) with MRI only, 131 (30.9%) MRI and EUS, 59 (13.9%) only EUS. The characteristics independently associated with the staging (MRI and/or EUS) were: location in lower/middle vs upper rectum (69.1% vs 30.9%; OR 2.8[1.7-4.5]), suspicion of invasive carcinoma at baseline colonoscopy (64.8% vs 35.2%; OR 2.6[1.6-4.2]), high risk vs low risk histology (69.5% vs 30.5%; OR 2.4[1.3-4.2]), patient management by other specialist vs gastroenterologist (82.7% vs 17.3%; OR 2.2[1.3-3.7]). T staging was correct in 54/191 (28.3%) with MRI and with EUS in 69/117 (59%) and considering staging by MRI or EUS, 67.1% of patients were over-staged for the T. For N staging considering MRI or EUS the sensitivity and specificity were 15.4% and 82.6%, respectively (► Table 1).

Conclusions The limited yield of locoregional staging imaging techniques should be taken into account when choosing the therapeutic strategy of suspected/known T1 rectal cancers

Conflicts of interest Authors do not have any conflict of interest to disclose.

	MRI+EUS	MRI	EUS
	N+ (oncological surgery) N=39	N+ (oncological surgery) N=122	N+ (oncological surgery) N=49
Sensitivity %	0% (0/1)	16,7% (2/12)	0% (0/2)
Specificity %	78,9% (30/38)	85,4% (94/110)	93,6% (44/47)
PPV %	0% (0/8)	11,1% (2/18)	0% (0/3)
NPV %	96,8% (30/31)	90,4% (94/104)	95,6% (44/46)

► Table 1 Diagnostic accuracy for N: in MRI+EUS, only MRI and only EUS.

OP175V Technical feasibility of salvage full thickness resection after chemoradiation for locally advanced rectal adenocarcinoma

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DOI 10.1055/s-0043-1765179

Abstract Text There is an emerging role for “organ preserving strategies”, i.e. non-surgical management after chemoradiotherapy (CRT) for locally advanced rectal cancer. Performing endoscopic resection for residual lesions after CRT can be challenging due to extensive fibrosis/scarring in the muscularis mucosae and submucosal layers. Endoscopic full thickness resection (EFTR) may offer an effective therapeutic tool for resection of residual lesions after CRT with the

potential to avoid (major) surgery. In this video case report we demonstrate that salvage EFTR after CRT for locally advanced rectal cancer is technically feasible and safe [1].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Leung G, Nishimura M, Hingorani N et al. Technical feasibility of salvage endoscopic submucosal dissection after chemoradiation for locally advanced rectal adenocarcinoma. *Gastrointest Endosc* 2022; 96 (2): 359–367

OP176V Endoscopic Intermuscular Dissection (EID) For Removal Of Early Rectal Cancers And Benign Fibrotic Rectal Lesions

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DOI 10.1055/s-0043-1765180

Abstract Text Several reports support the use of endoscopic intermuscular dissection (EID) instead of endoscopic submucosal dissection (ESD) for the removal of deeply invasive rectal submucosal cancers. The resection plane into the intermuscular space, the space between the longitudinal (external) and circular (internal) muscle layer, provides a radical removal for rectal invasive cancers. Furthermore, the technique offers the potential for dissection of scarred and severe fibrotic lesions in the rectum by cutting deeper and perform a partial myectomy avoiding the narrow submucosal space. We would like to present our case series with 10 EIDs both for deeply invasive rectal cancers and benign rectal lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP177 Outcome of Endoscopic Submucosal Dissection for Rectal Neuroendocrine Neoplasms: a multicentre study

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DOI 10.1055/s-0043-1765181

Aims Recent guidelines recommend advanced endoscopic resection techniques, such as Endoscopic Submucosal Dissection (ESD), for the treatment of rectal neuroendocrine neoplasms (R-NENs) under 15mm due to high rate of positive margins at Endoscopic Mucosal Resection (EMR) (1,2). Data for supporting ESD on R-NENs are scarce. We retrospectively ruled in a western cohort of patients who had ESD for R-NENs and a post ESD endoscopic follow-up to evaluate its efficacy.

Methods Patients from eight western international tertiary referral centres were enrolled in the study. Adverse events, R1 rate and recurrences were analysed. Baseline demographics, as well as tumour characteristics and peri and post procedural adverse events were recorded. Given the retrospective nature of the study, follow up endoscopic time was not standardized.

Results A total of 40 ESD procedures were performed in 39 patients. Mean lesion size was 10.4 mm (SD 4.0, range 8.0-20.0), with 15% of the lesion > 15mm. ESD was feasible in all procedures, with a 97.5% en-bloc resection

rate. In one case the ESD was not curative. The overall rate of peri-procedural complications was 7.5%, including 1 case of perforation (2.5%) which was managed endoscopically without the need for adjunctive surgery. The rate of R1 was (3/40) 7.5%. A statistically significant relationship between the resection of R1 and Ki67 (OR 1.28, CI95% 1.04-1.68, $p=0.03$) was found. After a median follow up time of 20 months, recurrence occurred in 1/39 patients (2.5%), subsequently referred for surgery [1–2].

Conclusions ESD is an effective treatment for resection of R-NENs. An optimal R0 resection rate with low peri-procedural complications was found. Further prospective studies are warranted.

Conflicts of interest Authors do not have any conflict of interest to disclose.
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[2] Deprez PH, Moons LMG, O'Toole D et al. Endoscopic management of subepithelial lesions including neuroendocrine neoplasms: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2022; 54 (4): 412–429

OP178 Post-procedural recovery and functional outcomes of endoscopic intermuscular dissection (EID) for suspected deep submucosal invasive rectal cancers

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DOI 10.1055/s-0043-1765182

Aims Endoscopic intermuscular dissection (EID) was recently introduced for rectal deep submucosal invasive cancer (D-SMIC). EID has shown high radical resection rates for D-SMIC (93%), but little is known about post-procedural recovery and functional outcomes.

Methods A prospective registry of EID procedures for suspected rectal D-SMIC between '18-'22 was used. Details on post-procedural recovery, pain and functional outcome using a validated low anterior resection syndrome (LARS) questionnaire were collected by telephone surveys.

Results 140 patients underwent EID (median age 65yrs, 70% male, mean tumor size 29mm) of whom 96 (68.6%) had rectal preservation, including 12 (8.6%) with adjuvant chemoradiotherapy (CRT). Intentional or accidental transmural defects > 1cm occurred in 19 (13.6%), for which closure in 15/19. After EID, 135 (96.5%) patients were discharged < 24 hours and 4 (2.9%) patients were readmitted due to pain [1], fever [1] or delayed bleeding [2], without transfusion/intervention. Two (1.4%) needed dilation for stenosis. Survey response rate was 83.6%. Of responders, 70.9% resumed daily routine < 3 days, while 2.9% needed ≥ 7 days. Regarding pain, 95 (74.8%) patients did not use analgesics, whereas significant pain (analgesics ≥ 7 days or opioids) occurred in 15 (11.8%). Significant pain was related to lesions ≤ 4cm from anal verge and specimen size > 4cm, but not to transmural defects. Major/minor LARS after EID alone was 5.9%/7.4%, after adjuvant CRT 0%/27.3%, and after completion TME 25%/20% respectively, at a median FU of 20 months.

Conclusions EID is a safe procedure with rapid recovery and a low risk of serious adverse events or long-term bowel dysfunction. Post-procedural pain should be anticipated for lower rectum lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Prevention and treatment of ERCP related adverse events

21/04/2023, 15:30 – 16:30

Liffey Meeting Room 3

OP179 Short course vs conventional antibiotic therapy after successful biliary drainage in patients with moderate to severe acute cholangitis: Non-inferiority randomized trial

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DOI 10.1055/s-0043-1765183

Aims Duration of antibiotic after successful biliary drainage in patients with acute cholangitis has not been prospectively evaluated. We conducted randomized, non-inferiority trial to compare short and conventional duration of antibiotic in patients with moderate to severe cholangitis.

Methods Consecutive patients were screened for the inclusion criteria and randomized into either conventional duration (8 days; group A) or short duration (4 days; group B) of antibiotics. Primary outcome was clinical cure (absence of recurrent cholangitis at day 30 and > 50% reduction of bilirubin at day 15). Secondary outcomes were total days of antibiotics and hospitalization, antibiotic related adverse events and all-cause mortality at day 30 (► Table 1).

Outcomes	Group A	Group B	p value
Clinical cure	47(79.66%)	46(77.97%)	0.822
Recurrent of cholangitis	5 (9.09%)	5 (9.09%)	1.00
Total duration of antibiotics	8.58 ± 1.92	4.75 ± 2.32	0.001
Total days of hospitalization	2.81 ± 1.48	3 ± 1.76	0.535
All-cause mortality	4 ± 6.78%	7 ± 11.8%	0.342

► Table 1

Results Mean age of included patients (n = 120) was 55.85 ± 13.52 years and 50% were male. 51.7% of patients had malignant aetiology and 92 patients had moderate cholangitis. 79.66% (95%CI = 67.58%– 88.12%) patients in group A and 77.97% (95%CI = 65.74%– 86.78%) patients in group B had clinical cure (p = 0.822). On multivariate analysis, malignant aetiology, severe cholangitis, hypotension and drainage by percutaneous route were associated with lower clinical cure. Total duration antibiotics required was lower in group B (8.58 ± 1.92 and 4.75 ± 2.32 days; $p < 0.001$). Hospitalization days and mortality were similar in both the groups (Table 1).

Conclusions Short duration is non-inferior to conventional duration of antibiotics in patients with moderate to severe cholangitis in terms of clinical cure, recurrence of cholangitis and overall mortality.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP180 Audit of UK ERCP practice using data from the National Endoscopy Database (NED)

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DOI 10.1055/s-0043-1765184

Aims This analysis aimed to assess current ERCP practice within the UK, evaluating service and procedure level data, including analysing sedation practice and patient comfort.

Methods ERCPs conducted over 1 year (1/7/21-30/6/22) and uploaded to the NED were analysed. The workforce was described by sex and specialty. Annual procedure numbers were calculated and compared to national recommendations. Sedation practice and discomfort rates were analysed, with logistic regression analysis performed to identify impact of patient age, sex, and procedure indication on risk of patient discomfort (moderate/severe).

Results 27,812 ERCPs were conducted (estimated 50% total UK activity), 99% within the NHS; 13% were training procedures. 94% of endoscopists were male and most (72%) were gastroenterologists. 22% of NHS trusts performed fewer than 150 ERCPs annually. The median number of procedures per endoscopist was 68 (IQR 40-95); only 153 (43%) of endoscopists performed >75 ERCPs in a year. Most ERCPs were performed under conscious sedation (89%). Patient discomfort was less frequent when deep sedation/general anaesthetic was used (0.3% vs 5.1%, $p < 0.05$). Younger and female patients had increased discomfort rates during ERCPs under conscious sedation: those aged <30 were three times more likely to experience discomfort as those aged 70-79 (OR 3.0, 95% CI 2.2-4.3, $p < 0.05$); males had decreased risk compared to females (OR 0.9, 95% CI 0.8-1.0, $p = 0.05$).

Conclusions The ERCP workforce remains male-dominated. Many ERCP-ists do not achieve recommended annual procedure numbers. Discomfort rates could be improved by triaging more patients, particularly young females, to deep sedation lists.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP181 Is there a relationship between ERCP outcomes and ERCP volume per center and endoscopist? A systematic review and meta-analysis

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DOI 10.1055/s-0043-1765185

Aims Center/endoscopists' volume might have a relation with ERCP outcomes, as in other fields of endoscopy and in surgery. An effort to assess this relationship is important to improve practices. This study aimed to evaluate the association between ERCP outcomes and volume per endoscopist and center, through a systematic review and meta-analysis.

Methods We performed a literature search in PubMed and Web of Science until March 2022. The rates of successful procedure and of post-ERCP adverse events (AEs) based on centers/endoscopists' volume were the outcomes of interest. The methodological quality of the studies was assessed using the Newcastle-Ottawa scale. Data synthesis was obtained by direct meta-analyses using random-effects model. [1-31]

Results From 5262 relevant citations, 31 studies (2013381 ERCPs) met the inclusion criteria. The procedure's success was higher in high-volume endoscopists (Odds Ratio [OR] = 1.81 [95% confidence interval [CI], 1.59-2.06) and in high-volume centers (OR = 1.77 [95%CI, 1.22-2.57]). The rate of overall AEs was higher in low-volume endoscopists (OR = 0.71 ([95%CI, 0.61-0.82]) and in low-volume centers (OR = 0.70 [95%CI, 0.51-0.97]). Bleeding was higher in low-volume endoscopists (OR = 0.67 ([95%CI, 0.48-0.95]), but did not differ regarding centers volume (OR = 0.68 [95% CI, 0.24-1.90]). No statistical differences were detected concerning PEP, cholangitis and perforation rates, although there was a tendency to occur more often in low-volume endoscopists and centers.

Conclusions Our study demonstrated that ERCP performed either in a high-volume center or by a high-volume endoscopist is related to a higher rate of success and lower rate of overall AEs.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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OP182 The relation between post-ERCP pancreatitis and different cannulation techniques: the experience of a high-volume center from North-Eastern Romania

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 DOI 10.1055/s-0043-1765186

Aims Despite numerous advances aimed to increase the safety of endoscopic retrograde cholangiopancreatography (ERCP), post-ERCP pancreatitis (PEP) still remains a major issue. We aimed to assess the rate of PEP as well as the relation

to the cannulation techniques in our unit, a high-volume center from North-Eastern Romania.

Methods ERCPs performed in our unit from March to August 2022 were retrospectively included. Data concerning demographic information, presence of difficult cannulation, the technique used for cannulation, as well as immediate and late complications was gathered from the electronic database.

Results During the 6-month period, 233 ERCPs were included in the study. PEP was diagnosed in 23 (9.4%) of cases, Easy cannulation was achieved in 68% of all the cases included. TPBS, PS, and a combination of TPBS and PS were performed in 6.4%, 10.3%, and 1.7% of cases, respectively, while Erlangen type PS was performed in one case. Both in patients with PS as well as TPBS the rate of PEP was 21%. When the two techniques were associated the rate of PEP was 25%. The only case that required Erlangen type PS did not develop PEP. Univariate analysis found TPBS and PS to be risk factors for PEP (OR 1,211 for a CI of 0.946-1.551, P=0.041, and OR 1.124 for a CI of 0,928-1.361, P-0.088, respectively). Hyperlipasemia in the absence of PEP criteria was found in 29% of patients.

Conclusions Both PS and TPBS associated a similar risk for PEP. Severe PEP was diagnosed in only one case, and no PEP related deaths were identified. A rise in lipase was frequently found after ERCP but was not related to symptoms or the development of PEP.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP183 Role of prophylactic octreotide in preventing post ERCP pancreatitis: Randomised control study

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 DOI 10.1055/s-0043-1765187

Aims Octreotide is a synthetic somatostatin analogue with a longer half-life. Similar to somatostatin, octreotide is a potent inhibitor of pancreatic enzyme secretion and effect on the contractility of sphincter of Oddi. ESGE 2020 guidelines recommends that future studies to evaluate the efficacy of Octreotide in a dose $\geq 0.5\text{mg}$ [1].

Methods The present is a Double Blinded Randomised Control Study which was carried out in the Department of Gastroenterology and a total of 75 patients were taken which were divided into 2 groups as Control (N = 35) and Study group (N = 40). 2 ml of normal saline and octreotide were given according to respective groups subcutaneously 1 hour before procedure followed by 6 hour and 12 hours after ERCP and Serum Amylase and Lipase were measured along with clinical features. The following protocol was followed based on previous studies.

Results The overall mean age of the study population including study and control group was 52 years. Most common Indications for ERCP was Cholelithiasis (50%) followed by malignant cause (30%), Benign Biliary Stricture (10-15%). Clinical and ERCP related risk factors according to ESGE Guidelines were present in nearly 50-60%. Hyperamylasemia was present in Study group in 19 patients (47.5%) and amongst Control group in 16 patients (45.7%). Incidence of Post ERCP Pancreatitis was present in only 5% in study group and 11.4% in control group though statistically it was not significant (p = 0.47)

Conclusions Though, there is decrease in the incidence of Post ERCP pancreatitis in the group receiving octreotide, not statistically significant as compared with the control (5% vs 11.4%).

Conflicts of interest Authors do not have any conflict of interest to disclose.

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OP184 Efficacy and safety of novel hemostatic gel in endoscopic sphincterotomy or endoscopic papillectomy: A multicenter, randomized controlled clinical trial

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DOI 10.1055/s-0043-1765188

Aims Endoscopists often experience obstacles with traditional hemostasis using the side-viewing duodenoscope for bleeding after endoscopic sphincterotomy (EST) or endoscopic papillectomy (EP). In this randomized controlled trial, we evaluated the efficacy and safety of a novel hemostatic gel for post-EST or post-EP bleeding.

Methods A randomized trial was conducted from November 2020 to December 2021 at two tertiary centers in South Korea. Patients who experienced bleeding immediately after EST or EP were enrolled in the study, and primary hemostasis was achieved with either the novel hemostatic gel or epinephrine spray.

Results A total of 84 patients were enrolled in this study, and 41 patients were finally analyzed in each group. Hemostatic gel was significantly superior to epinephrine spray for successful primary hemostasis (100% vs. 85.4%; $P=0.026$). In terms of delayed bleeding, no significant difference was observed between the hemostatic gel and epinephrine spray (2.4% vs. 7.3%; $P=0.329$). The mean procedural time was significantly higher for the hemostatic gel than epinephrine spray (3.23 ± 1.94 vs. 1.76 ± 0.99 min; $P < 0.001$), and no differences were observed in the adverse events.

Conclusions The novel hemostatic gel is expected to achieve satisfactory results with easier hemostasis for immediate bleeding after EST or EP.

Conflicts of interest Authors do not have any conflict of interest to disclose.

EUS guided treatment of pancreatic collections

21/04/2023, 15:30 – 16:30

Liffey Meeting Room 1

OP185 Lumen apposing metal stents for the treatment of pancreatic and peri-pancreatic fluid collection and bleeding risk: a propensity matched study

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DOI 10.1055/s-0043-1765189

Aims Endoscopic ultrasound (EUS)-guided drainage with luminal apposing metal stent (LAMS) has become the treatment of choice of symptomatic pan-

creatic fluid collections (PFCs). Recent studies reported a not negligible bleeding risk after Axios stent placement. Spaxus stent has blunt extremity and a softer design. Our aim was to compare the risk of bleeding between the two stents. (► **Table 1–9**).

Model number	Stent Sadden portion Diameter	Stent Length	Stent Flange Diameter	Device diameter
AXS-10-10	10 mm	10 mm	21 mm	10.8 Fr
AXS-15-10	15 mm	10 mm	24 mm	10.8 Fr
AXS-15-15	15 mm	15 mm	24 mm	10.8 Fr
AXS-20-10	20 mm	10 mm	29 mm	10.8 Fr

Model number	Stent Sadden portion Diameter	Stent Length	Stent Flange Diameter	Device diameter
HSS1002FW	10 mm	20 mm	25 mm	10 Fr
HSS1602FW	16 mm	20 mm	31 mm	10 Fr

► **Table 1** Characteristics of the Axios/Hot-Axios (a) and Spaxus/Hot-Spaxus (b) utilized for drainage of pancreatic fluid collection.

Variable	Overall (n=363)	Spaxus (n=174)	Axios (n=189)	p value
Age (years)	55 (39-65)	52.5 (37.25-61)	56 (41-68)	0.01
Gender Male	251 (69%)	123 (71%)	128 (68%)	0.61
Collection				0.12
Pseudocyst	123 (34%)	68 (39%)	55 (29%)	
WON	236 (65%)	104 (60%)	132 (70%)	
Pancreatic abscess	4 (1%)	2 (1%)	2 (1%)	
Collection max diameter (cm)	10 (7-13)	9.65 (7-12.57)	10 (7-13.8)	0.50
Approach				0.9
Transgastric	348 (96%)	168 (97%)	180 (95%)	
Transduodenal	12 (3%)	5 (3%)	7 (4%)	
Combined	3 (1%)	1 (1%)	2 (1%)	
Access type				<0.001
Freehand cystotome, guidewire placement and cold LAMS	22 (9%)	22 (13%)	0 (0%)	
19G needle, guidewire, cystotome and cold LAMS	93 (38%)	89 (54%)	4 (4%)	
19G needle, guidewire, hot LAMS	19 (8%)	14 (8%)	5 (6%)	
Freehand hot LAMS	109 (45%)	40 (24%)	69 (88%)	
Plastic stent inside the LAMS	168 (52%)	90 (58%)	78 (45%)	0.02
Necrosectomy	140 (39%)	47 (27%)	93 (49%)	<0.001

► **Table 2** Baseline characteristics of the 363 patients who were treated with Hot-Axios and both Cold and Hot-Spaxus who were retrospectively retrieved from database of 18 centers.

Mean age	55 (IQR 37.25-61) Spaxus group 52.5 (IQR 37.25-61) years and Axios group 56 (41-68) years; (p=0.01)
Gender	112 F (31%) and 251 M (69%); (p=0.61) 51 F (29%) and 123 M (71%) in the Spaxus group and 61 F (32%) and 128 M (68%) in the Axios group
Collection	65% WON and 35% PC 60% in Spaxus group vs 70% in Axios group; p=0.12
Median size of the collection	10 cm (7-13 cm) 9.65 cm (7-12.57) in the Spaxus and 10 cm (7-13.8) in the Axios group; (p=0.50)
Approach	348 patients (96%) transgastric and 12 patients (3%) transduodenal, meanwhile in 3 patients (1%) a combined approach was performed: mainly transgastric in both groups (p=0.9)
Plastic stent inside the LAMS	168 (52%): more frequent with Spaxus (58%) as compared to Axios (45%); p=0.02.
Necrosectomy	140 patients (39%) 47 patients with Spaxus (27%) vs 93 patients (49%) with Axios (p<0.001).

► **Table 3** Overall patient's and procedures features.

Variable	Overall (n=324)	Spaxus (n=162)	Axios (n=162)	p value
Age (years)	55 (40-62.25)	54 (40-61)	55 (41-64)	0.48
Gender Male	224 (69%)	112 (70%)	112 (70%)	0.89
Collection				0.37
Pseudocyst	115 (35%)	62 (38%)	53 (33%)	
WON	209 (65%)	100 (62%)	109 (67%)	
Collection max diameter (cm)	10 (7-13)	9.85 (7-13)	10 (7-13)	0.93
Approach				0.91
Transgastric	313 (97%)	157 (97%)	156 (96%)	
Transduodenal	11 (3%)	5 (3%)	7 (4%)	
Access type				<0.001
Frechand cystotome, wire placement and cold LAMS	21 (9%)	21 (14%)	0 (0%)	
19G needle, wire placement, cystotome, and cold LAMS	89 (39%)	86 (56%)	3 (4%)	
19G needle, wire placement and hot LAMS	19 (8%)	14 (9%)	5 (7%)	
Frechand hot LAMS	97 (43%)	32 (21%)	65 (89%)	
Plastic stent inside the LAMS	154 (53%)	82 (58%)	72 (48%)	0.12
Necrosectomy	125 (40%)	43 (27%)	82 (52%)	<0.001

► **Table 4** Baseline characteristics of 324 patients who were selected after 1-to-1 propensity score matching,

After 1-to-1 propensity score match, 324 patients were selected for comparison

Outcome	Overall (324)	Spaxus (162)	Axios (162)	p value
Technical success	322 (99%)	162 (100%)	159 (98%)	0.10
Clinical success	298 (91.9%)	150 (92.6%)	148 (93.1%)	0.76
Adverse events rate	19 (5.8%)	4 (2.4%)	15 (9.2%)	0.001
Bleeding	13 (4%)	2 (1.2%)	11 (6.7%)	0.01
Perforation	1 (0.3%)	0 (0%)	1 (0.6%)	0.76
Stent migration	2 (0.6%)	0 (0%)	2 (1.2%)	0.43
Others	4 (1.2%)	0 (0%)	1 (0.6%)	0.40
Severe bleeding	12 (3.7%)	2 (1.2%)	10 (6.1%)	0.01
LAMS Occlusion	49 (15.1%)	22 (13.5%)	27 (16.6%)	0.43

► **Table 5** Outcomes of EUS-guided Pancreatic fluid collection drainage with divided based on the stent utilized.

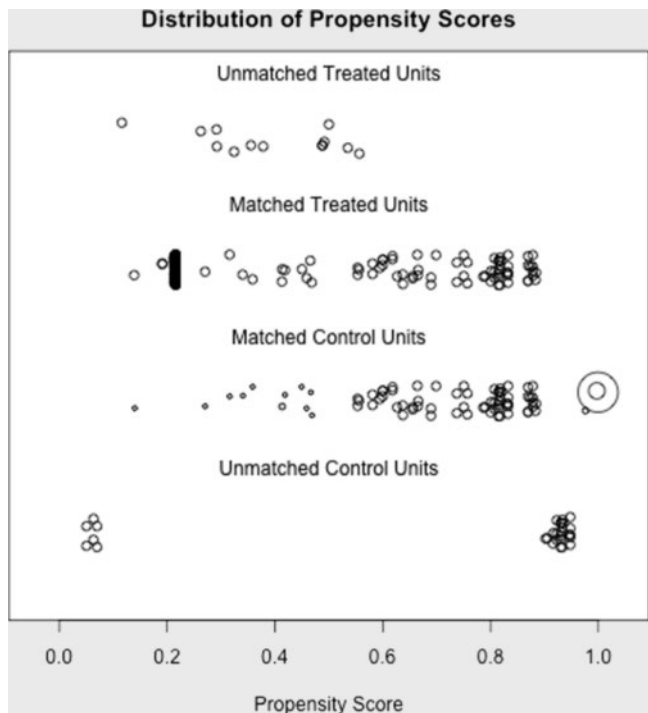
Outcome	Spaxus (162)	Axios (162)
	8 mm Spaxus	10 mm Axios
Technical success	5/5 (100%)	15/18 (83.3%)
Adverse event rate	0/8 (0%)	2/18 (11.1%)
Severe bleeding	0 (0%)	1/18 (5.5%)
Occlusion of the LAMS	0/5 (0%)	0/18 (0%)
Clinical success	5/5 (100%)	15/18 (83.3%)
	10 mm Spaxus	15 mm Axios
Technical success	35/35 (100%)	70/70 (100%)
Adverse event rate	0/35 (0%)	7/70 (10%)
Severe bleeding	0/35 (0%)	6/70 (8.5%)
Occlusion of the LAMS	2/35 (5.7%)	18/70 (25.7%)
Clinical success	32/35 (91.4%)	55/70 (78.6%)
	16 mm Spaxus	20 mm Axios
Technical success	122/122 (100%)	74/74 (100%)
Adverse event rate	4/122 (3.2%)	9/74 (12.1%)
Severe bleeding	2/122 (1.6%)	3/74 (4%)
Occlusion of the LAMS	20/122 (16.4%)	9/74 (12.1%)
Clinical success	113/122 (92.6%)	70/74 (94.6%)

► **Table 6** Outcomes of the enrolled patients regarding relating to LAMS type and diameter.

Variables	Univariate Analysis		Multivariate Analysis	
	Odds Ratio (CI 95%)	p-value	Odds Ratio (CI 95%)	p-value
Age	1.10 (1.03-1.18)	0.04	1.15 (1.09-1.32)	0.02
Gender (reference,male)	0.88 (0.73-1.83)	0.78		
Type of collection (reference pseudocyst)	1.83 (0.72-4.65)	0.20		
Diameter (reference < 10 cm)	1.29 (0.91-1.55)	0.11		
Approach (reference transgastric)	0.84 (0.65-1.45)	0.83		
Stent used (reference Axios)	0.19 (0.04-0.88)	0.03	0.24 (0.11-0.93)	0.01
Necrosectomy (reference no)	0.41 (0.13-1.25)	0.12		
Use of plastic stent inside the LAMS (reference no)	1.12 (0.31-3.95)	0.85		

Abbreviations: CI 95%, confidence interval 95%;

► **Fig. 7** Logistic regression analysis for severe bleeding rate.

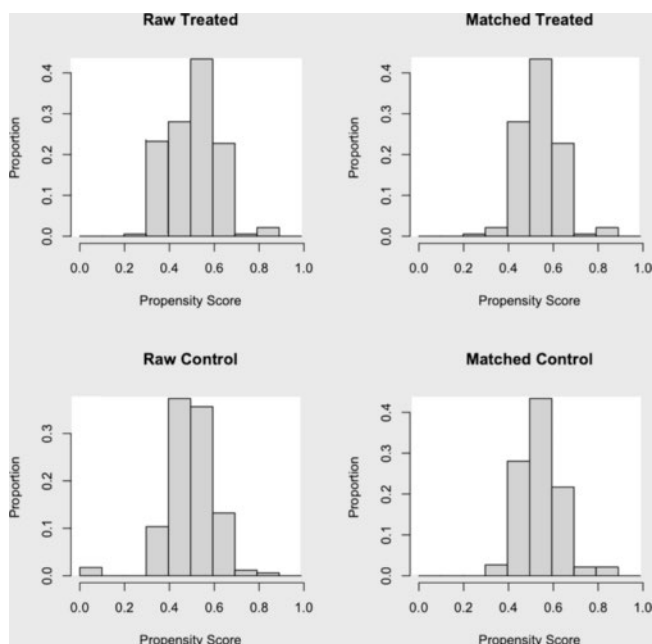


► **Fig. 8**

Methods This is a retrospective study in patients with PFC and treated by Axios and Spaxus (both cold and hot), in eighteen endoscopic referral centers [1–27].

Results 363 patients were included in the study. The most common type of collection was WON (60% Spaxus group vs 70% Axios; $p = 0.12$). Median size of the collection was 9.65 cm (7-12.57) in the Spaxus and 10 cm (7-13.8) in the Axios group ($p = 0.50$). After 1-to-1 propensity score match, 324 patients were selected (162 per group). Technical success was 100% with Spaxus and 98% with Axios ($p = 0.10$). Adverse events (AEs) were observed in 4 patients treated with Spaxus (2.4%): 2 patients experienced severe bleeding (1.2%); 18 patients experienced AEs with Axios (11.1%): 10 cases of severe bleeding (6.1%) and 1 moderate (0.6%). The difference between the two groups in terms of both AE rate and severe bleeding rate was significant ($p = 0.001$ and $p = 0.01$, respectively).

Conclusions Bleeding is a not negligible AE after PFC drainage by LAMS and is more than five times with Axios, as compared to Spaxus stent. Spaxus stent results the stent of choice over Axios for the EUS-guided PFC drainage with LAMS.



▶ Fig. 8

Conflicts of interest Authors do not have any conflict of interest to disclose.

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OP186 Endoscopic ultrasound-guided drainage of pancreatic fluid collection with dedicated metal stents: a nationwide, multicenter, propensity score-matched comparison

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DOI 10.1055/s-0043-1765190

Aims The aim of this study is to compare safety, technical and clinical success of Nagi and Hot-Axios stents for EUS-guided drainage of pancreatic fluid collections (PFC).

Methods Retrospective data on the use of Hot-Axios and Nagi stents for PFC drainage were retrieved among 30 Italian centers (2016–20). Technical (TS) and clinical success (CS), rate of adverse events (AE) were considered, with a median follow-up of 290 days. To overcome biases, a 1-to-1 match was created using propensity score analysis.

Results Out of 476 patients, 386 were treated with Hot-Axios and 90 with Nagi stent, becoming 84 vs 84 after 1:1 propensity score matching. Median age was 62 years in Hot-Axios and 63 years in Nagi group ($p=0.40$), male patients were 70% and 61% in the two groups, respectively ($p=0.59$). WON represented 39% of cases in Hot-Axios and 32% in Nagi group ($p=0.70$), with a median width of 92 mm in Hot-Axios and 88 mm in Nagi group ($p=0.25$). TS was 92% for Hot-Axios and 95% for Nagi group ($p=0.36$). The two stents did not differ in terms of CS (91% vs 94%; $p=0.64$) and AE rate (13% vs 15%, $p=0.29$). Overall, 11 AEs were observed in the Hot-Axios group, of which 3 mild, 4 moderate, 3 severe and 1 fatal, whereas 13 AEs were registered in the Nagi group, of which 3, 5, 3 and 2 mild, moderate, severe and fatal, respectively ($p=0.63$). Most common AE was bleeding (5.9% in both groups). Collection recurrence was observed in 4 cases after Hot-Axios (4.7%) and 3 cases (3.5%) after Nagi stent ($p=1.0$) (► Fig. 1).

Conclusions Hot-Axios and Nagi stents have similar TS and CS rate for PFC drainage with comparable safety profile, so their choice should be multifactorial, rather than just efficacy rate.

Conflicts of interest Carlo Fabbri is a consultant for Boston Scientific, lecturer for Steris and Q3 Medical. Andrea Anderloni is a consultant for Boston Scientific, Olympus and Medtronic. Chiara Coluccio is a lecturer for Steris.

	Total (168 pts)	Hot-Axios (84 pts)	Nagi (84 pts)	p value
Technical success	157 (93.4%)	77 (92%)	80 (95%)	0.36
Clinical success	155 (92.2%)	76 (91%)	79 (94%)	0.64
Adverse event rate	24 (14.2%)	11 (13%)	13 (15%)	0.29
Type of adverse event				0.18
Bleeding	10 (5.9%)	5 (5.9%)	5 (5.9%)	
Infection	8 (4.7%)	4 (4.7%)	4 (4.7%)	
Stent occlusion	1 (0.5%)	0 (0%)	1 (1.1%)	
Stent migration	2 (1.1%)	1 (1.1%)	1 (1.1%)	
Perforation	3 (1.7%)	1 (1.1%)	2 (2.3%)	

► Fig. 1

OP187 Prospective multicenter evaluation of Luminal Apposing Metallic Stent for endoscopic pancreatic necrosectomy: The Diabologig Trial

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DOI 10.1055/s-0043-1765191

Aims Endoscopic necrosectomy is indicated as a first-line procedure in case of symptomatic solid pancreatic collection following a step-up strategy. The use of luminal apposing metal stent (LAMS) to facilitate the procedure is prospectively poorly established. The aim of this study was to validate the effectiveness of LAMS for endoscopic pancreatic necrosectomy.

Methods This is a prospective multicenter study conducted in 11 academic or private centers from March 2016 to January 2021. Adult patients with a necrotic solid pancreatic collection with indication for endoscopic drainage were consecutively included. After the EUS-guided placement of a 15 to 20 mm LAMS, a CT-scan evaluation every 48 hours was performed with necrosectomy session if needed. Clinical success was defined as a reduction of more than 80% in the size of the collection associated with resolution of symptoms. The primary endpoint was the number of necrosectomy sessions required to achieve clinical success.

Results Seventy-seven patients were included (60 men; 58.3 ± 12.5 years) with pancreatitis of biliary origin mainly ($n=46$; 67.6%) with a mean severity (Marshall's score) of 0.65 ± 1.09 [0–5]. The main indication for endoscopic drainage was the infection of necrosis ($n=56$; 73.7%). The collections were mainly toto-glandular ($n=33$; 43.4%) and measured 153.5 ± 53.2 cm [5.4–34 cm]. The technical success of LAMS placement was 100% ($n=77$). The median number of necrosectomy sessions to achieve clinical success was 2 (interquartile range [1; 3], Min 1 Max 8) with a mean of 2.2.

Conclusions LAMS allow a significant reduction in the number of endoscopic necrosectomy sessions using a step-up approach as recommended to date (clinicaltrials.gov NCT02739074).

Conflicts of interest Boston Scientific, Ambu, Fujifilm, Pentax, Tillots

OP188 Treatment of infected necrotizing pancreatitis using lumen-apposing metal stent (lams) versus plastic stents: meta-analysis of randomized trials

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DOI 10.1055/s-0043-1765192

Aims There are conflicting data from retrospective studies on comparative efficacy of LAMS and plastic stents in endoscopic management of necrotizing pancreatitis. This meta-analysis compared clinical outcomes of patients treated using either approach in randomized trials.

Methods MEDLINE/EMBASE databases were searched to identify all randomized trials that compared LAMS and plastic stents for treatment of necrotizing pancreatitis. Main outcome measure was to treatment success at 6-month follow-up.

Results Three randomized trials (USA and Europe, $n=206$) met inclusion criteria. Except for procedural duration, which was significantly shorter for LAMS (SMD-1.22, 95%CI, -1.64 to -0.79, $p<0.001$), there was no significant difference in tx success (93.3vs.94.9%, RR0.99, $p=0.63$), no. of interventions (SMD-0.094, 95%CI, -0.40 to 0.22, $p=0.55$), need for necrosectomy (36.9vs.41.2%, RR0.98, $p=0.93$), new onset organ failure (10.6vs.14.6%, RR 0.72, $p=0.67$), mortality (8.5vs.9.8%, RR0.70, $p=0.42$), bleeding (11.0vs.10.7%, RR1.09, $p=0.89$), procedure-related AEs (23.6vs.19.2%, RR 1.38, $p=0.22$), endocrine insufficiency (26.2vs.18.6%, RR1.44, $p=0.40$), exocrine insufficiency (33.3vs.23.2%, RR1.43, $p=0.59$), length of hospital stay (SMD-0.062, 95% CI, -0.55 to 0.43, $p=0.80$), recurrence (4.6vs. 0.60%, RR3.73, $p=0.24$), readmissions (42.6vs.50.2%

RR0.84, $p=0.27$), overall costs (SMD-0.094, 95% CI, -0.40 to 0.21, $p=0.55$) between LAMS and plastic stents, respectively.

Conclusions Except for procedural duration, there is no significant difference in treatment outcomes and overall costs between LAMS and plastic stents. Therefore, LAMS may be preferentially used in sicker patients who cannot undergo prolonged procedures.

Conflicts of interest Disclosures: Dr. Ji Young Bang is a Consultant for Boston Scientific Corporation and Olympus America Inc. Dr. Shyam Varadarajulu is a Consultant for Boston Scientific Corporation, Olympus America Inc. and Medtronic. Dr. Robert Hawes is a Consultant for Boston Scientific Corporation, Olympus America Inc., Medtronic and Cook Medical. Dr. Udayakumar Navaneethan is a Consultant for Janssen, Pfizer, Takeda, AbbVie, Bristol Myers Squibb and GIE Medical Inc.

OP189 Comparison between plastic stents and lumen-apposing metal stents for necrotizing pancreatitis: a systematic review and meta-analysis of randomized controlled trials

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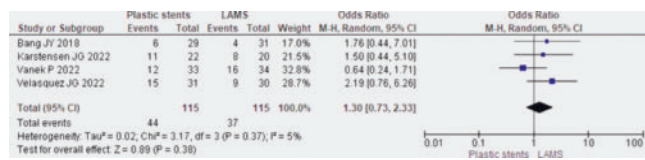
Aims Increasingly, minimally invasive step-up procedures using lumen-apposing metal stents (LAMS) or plastic stents are employed to drain necrosis in treating necrotizing pancreatitis. We performed a meta-analysis of randomized controlled trials (RCTs) comparing (LAMS) and plastic stents to treat necrotizing pancreatitis.

Methods A comprehensive search of publications was conducted from inception to November 2022. The RCTs comparing plastic stents vs. LAMS using in patients with necrotizing pancreatitis were eligible for enrollment. The primary outcomes were the need of necrosectomy and clinical success rate.

Results In total, 4 RCTs involving 230 patients were identified. There was no significant difference in the need of necrosectomy (OR 1.30, 95%CI: 0.73-2.33, $p=0.38$, $I^2=5\%$) (► Fig. ► 1) and clinical success rate (OR 0.73, 95%CI: 0.28-1.87, $p=0.51$, $I^2=5\%$). In addition, the technical success (OR 3.46, 95%CI: 0.13-89.95, $p=0.75$), the mortality rate (OR 0.65, 95%CI: 0.19-2.16, $p=0.48$, $I^2=0\%$), and procedure-related side effects (OR 0.55, 95%CI: 0.15-2.00, $p=0.36$, $I^2=75\%$) were also no significant difference.

Conclusions In contrast to plastic stents, our study found that LAMS do not lower death rates or the requirement for necrosectomy. Meanwhile, the rate of clinical success, technical success, and procedure-related adverse effects are comparable. These results suggest that LAMS and plastic stents can both be used for the drainage of pancreatic necrosis.

Conflicts of interest Authors do not have any conflict of interest to disclose.



► Fig. 1

OP190 Safety of early versus late endoscopic or percutaneous interventions in infected necrotizing pancreatitis -a Systematic Review and Meta-analysis-

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DOI 10.1055/s-0043-1765194

Aims IPN (infected pancreatic necrosis) treatment experienced a significant revolution in the past decades, yet the optimal time of intervention was not evaluated since the surgical era. We performed a systematic review and meta-analysis to compare early vs delayed endoscopic or percutaneous drainage in IPN.

Methods A systematic search was performed on PubMed, Embase, Cochrane, Scopus, and Web of Science from inception until 31st March 2022, without restrictions. Eligible studies reported on differences in patients with IPN who underwent early drainage (<4 weeks) vs patients who had late intervention (>4 weeks). We included both randomized controlled trials (RCTs) and observational studies. Indication for drainage was IPN or persistent organ failure. The random-effects model estimated pooled odds ratios (OR) and mean differences (MD) with 95% confidence interval. Study protocol is registered on PROSPERO, CRD42022296711.

Results Out of 10141 records screened we included seven in the meta-analysis. Two studies are RCTs, and five are retrospective cohorts. Our analysis revealed no significant differences between the two groups for mortality rates [OR 0.95; 95%CI 0.52-1.72], for the incidences of new-onset organ failure [OR 0.91; 95%CI 0.26-3.13] bleeding [OR 0.85; 95%CI 0.46-1.58], and the need for open surgery [OR 1.13; 95%CI 0.17-7.62] while the length of hospital stay (LOH) [MD 4.33; 95%CI -2.96- 11.62] and number of days in intensive care unit (ICU) [MD 1.55; 95%CI -18.20- 21.29] tended to be longer in the early drainage.

Conclusions Our results suggest that while early endoscopic and percutaneous intervention may not worsen the clinical outcomes they seem to be associated with prolonged LOH and ICU days.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Engineering Endoscopy: Circuits and bolts, muscles and joints

22/04/2023, 08:30 – 09:30

Liffey Meeting Room 3

OP191 Domain-specific pretraining of deep learning systems in gastrointestinal endoscopy improves performance over current state-of-the-art pretraining methods

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Aims Pretraining might be more effective if the training data resemble the envisioned application. We investigated if pretraining on general endoscopic imagery results in a better performance of five existing AI systems with an application in gastro-intestinal endoscopy, compared to current state-of-the-art pretraining approaches (i.e., supervised pretraining with ImageNet and semi-weakly supervised pretraining with the Billion-scale data set).

Methods Our group has created an endoscopy-specific dataset called GastroNet for pretraining deep learning systems in endoscopy. GastroNet consists of 5,084,494 endoscopic images retrospectively collected between 2012 and 2020 in seven Dutch hospitals. We created four pretrained models: one using GastroNet and three using the ImageNet and/or the Billion-scale data sets. The pretraining method was either supervised, self-supervised, or semi-weakly supervised. The pretrained models were subsequently trained towards five independent, commonly used applications in GI endoscopy, using their original application-specific datasets. The outcome parameters were classification and/or localization performance of the five trained applications

Results Results are presented in Table 1. Overall, the domain-specific pretrained model resulted in a statistically superior performance for the five different GI applications (► Fig. 1).

Conclusions Domain-specific pretraining is superior to current state-of-the-art pretraining approaches for developing deep learning algorithms in GI endoscopy. It also allows more effective use of the generally scarce application-specific endoscopy images. These findings might cause a paradigm shift in the development of AI systems in endoscopy.

Conflicts of interest This project was funded by Olympus Endoscopy (Tokyo, Japan)

Data set (metric)	ImageNet Supervised model	GastroNet model	ImageNet Self-supervised model	Billion-scale model
GRAIDS (AUC)	99%	100%	98%	99%
Kvasir (Dice)	64%	82%	59%	78%
GIANA (accuracy)	92%	94%	71%	93%
Barrett's neoplasia (AUC)	91%	97%	84%	94%
Colonic polyps (AUC)	88%	91%	84%	89%

► **Table 1** Overview of performance of the five different application-specific data sets using four different pretrained models. Cells highlighted in green represent the highest scoring pretrained model per application-specific data set.

OP192 Deep Learning And Capsule Endoscopy: Panendoscopic Classification Of Small Bowel And Colon Preparation Using A Convolutional Neural Network

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DOI 10.1055/s-0043-1765196

Aims Colon capsule endoscopy (CE) allows minimally invasive inspection of the small bowel and colonic mucosa. An adequate bowel preparation is crucial for conclusive CE exams. Different scales have been applied for the evaluation of bowel preparation in CE videos, however their application is time-consuming and have a high interobserver variability. To date, no AI-based model has been developed for automatic evaluation of small bowel and colon preparation in CE exams.

We aimed to develop a Convolutional Neural Network (CNN) for automatic classification of small bowel and colon preparation in CE exams.

Methods We developed, trained, and validated a CNN based on CE images. Each frame was labelled according to the quality of bowel preparation: excellent; satisfactory and unsatisfactory. The CNN's output was compared to the classification provided by the experts. The performance of the CNN was measured by the area under the curve (AUC), accuracy, sensitivity, specificity, positive and negative predictive values (PPV and NPV, respectively).

Results For the small bowel analysis, a total of 5070 CE images were included and the model had an overall accuracy of 94.3%. For the colonic mucosa, a total of 5774 frames used to develop the CNN and the model had an overall accuracy of 95.8%

Conclusions We developed a CNN-based model for automatic classification of bowel preparation of both small bowel and colon mucosa based on a simple and reproducible quantitative scale. The development of AI systems for automatic assessment of bowel preparation in CE may improve the reliability and reproducibility of bowel preparation scales.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP193 Artificial intelligence increases sustainability of colonoscopy by promoting histology-sparing strategies

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Aims Artificial intelligence (AI) has made great strides over the past years in endoscopy. The ongoing climate crisis forced the healthcare systems to include sustainability in the decision-making process. The aim of our study is to define the CO2 footprint modifications induced by AI use in colorectal polyps' identification.

Methods Findings from a recently developed AI-based medical device (GI Genius, Medtronic), allowing a real-time Computer-Aided polyps detection (CADE) and a Computer-Aided-Diagnosis (CADx) were used to define sensitivity, specificity, accuracy, positive and negative predictive values for colon polyps. Data were then adjusted according to the available carbon footprint of routine histologic examination (0.28 kg CO₂, 1 jar).

Results In the reported cohort, GI Genius CADx provided an optical diagnosis of 454/476 diminutive polyps, 295 in the rectosigmoid tract. According to CADx, 242/295 rectosigmoid diminutive polyps were amenable for a leave-in-situ strategy being diagnosed as non-adenomas with a NPV for CADx adenoma prediction of 97.6% (95%CI, 94.1%-99.1%, p=0.002). 212 polyps overall, both adenomas and non-adenomas (44.5% of all diminutive polyps retrieved) would be amenable for a resect-and-discard approach. Overall, using CADx 95.4% (454/476) of the diminutive polyps could avoid histologic analyses with a reduction of CO₂ emission ranging from about 133kg to 13kg (Table 1). Notably, no adenocarcinoma was found (► Table 1).

Scenario	Diminutive polyps (n, %)	KgCO2 emission	p-value (compared to scenario 1)
1. Histological analysis of all diminutive polyps (1 jar)	N = 476 476 (100)	133.8	NA
2. Histological analysis of rectosigmoid diminutive polyps	295 (61.9)	82.6	<0.001
3. Histological analysis of diminutive polyps predicted as adenomas by CADx	163 (34.2)	45.6	<0.001
4. Histological analysis of rectosigmoid diminutive polyps predicted as adenomas by CADx	49 (10.3)	13.7	<0.001

► **Table 1** Scenarios of different biopsy-sparing approaches.

Conclusions CADx could efficiently reduce the CO2 footprint of colonoscopy by avoiding histological analyses. From 2016 to 2021, about 2,432,900 subjects underwent screening colonoscopies in Italy, thus the environmental effect could be relevant in supporting a "green endoscopy".

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP194 A 3D-printed Innovative pedal fixator for connecting different pedal-operated tools reduces the number of mistakes during endoscopic submucosal dissection

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DOI 10.1055/s-0043-1765198

Aims Introduction: The particularity of endoscopic submucosal dissection (ESD) compared to endoscopic mucosal resection is the need of three feet pedals to activate electrosurgical unit, flushing and knife injection. The lack of connection between the various pedals of different shapes and brands leads to numerous pedals displacements and potential mistakes. The aim of this study was to evaluate an innovative pedal fixator (IPEFIX) to reduce pedal mistakes during ESD.

Methods Methods: This was a prospective, multicenter randomized study. Consecutive ESD procedures were randomly assigned to two groups: control group with the three pedals free and the IPEFIX group where the three pedals were linked by IPEFIX. The main outcome evaluated was the number of foot mistakes (wrong pedal, foot push beside the pedal).

Results Results: 107 ESD were performed by 8 experts in 5 centers. The median number of mistakes per hour of ESD procedure was 0/h in the IPEFIX group and 1.9/h in the control group ($p < 0.001$). The mean number of look down to control the position of the pedals was 2.2/h in the IPEFIX group and 7.7/h in the control group ($p < 0.001$). Mean replacements of the pedals was 0./h in the IPEFIX group and 1.7/h in the control group ($p < 0.001$). Similar results were obtained in trainees in simulated ESD on animal models.

Conclusions Conclusion: IPEFIX is a simple device to connect different pedals during endoscopic procedure. It helps to reduce the numbers of foot mistakes during ESD and improve the comfort of the operator.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP195 Kinetic ergonomics program based on movement analysis for long-term endoscopy practitioners

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DOI 10.1055/s-0043-1765199

Aims The purpose of this study is to develop a new method for musculoskeletal injury (MSI) assessment in long-term endoscopy practitioners and to establish an individualized MSI restoration plan through the special 16-week intervention of Kinetic Ergonomics based on Movement Analysis (KEMA) program by physical therapists.

Methods Fifteen volunteer endoscopists practicing more than 10 years from 4 tertiary medical centers, were evaluated by demographics, endoscopy burden, location and degree of pain, and endoscopy posture. A comprehensive functional evaluations of ergonomic position, posture, and MSI and load during endoscopy was made by the physical therapist and self-perception questionnaire for involved joints was also evaluated. Then personalized KEMA program (musculoskeletal function evaluation and customized exercise program based on ergonomics) was delivered for 16 weeks by physical therapists on a one to one basis.

Results Among 12 areas evaluated, pain areas were most commonly found in the order of the low back, neck, shoulder, wrist, and thumb. After 16-weeks KEMA program, among these 5 main painful joints, the remaining 4 joints (80%) showed improvement in the intensity and frequency of pain, except for the shoulder. Also the level of understanding of knowledge about ergonomics increased from an average of 28 points to 33.6 by 5-point scale, but unfortunately, ergonomic attitudes and performance did not show significant changes.

Conclusions The evaluation of MSI based on kinetic ergonomics for endoscopists and customized exercise program helped to recognize one's own body condition and relieve pain and recovery of the MSI even with a relatively short-term management of 16 weeks.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP196 Prevalence of musculoskeletal disorders among digestive endoscopy physicians

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DOI 10.1055/s-0043-1765200

Aims Endoscopy is known for the non-ergonomic positions responsible for joint constraints and a physical workload. Work-related Musculoskeletal disorders (MSDs) are disorders caused or aggravated by working conditions. our work aim to measure the prevalence of MSDs among endoscopist and evaluate risk factors

Methods In an international prospective study, we enrolled 417 endoscopists. Using self-administered questionnaires, we collected data on endoscopy practice; MSDs occurrence; location; treatments; and evaluated psychosocial environment and workload.

Data analysis was done by Jamovi 2.2.5 software.

Results Endoscopists median age was 37 [32; 48], 250(60%) were women with a mean BMI of 24.9 (± 3.44). Near half participants 171 (41%) reported a history of muscular and joint disorders, the incidence of MSDs in the last 7 days was 183 (43.88%).

Most affected areas were lower back 130(71%), neck 120(65.5%) and right wrist 75(41%).

Practitioners with history of muscular and joint disorders had a higher risk of MSDs in the year, p value of $p < 0.003$ (52.6% vs 37.8%);

Other risk factor were age; practice of therapeutic endoscopy; duration of practicing endoscopy with respective p values of $p < .001$ (40-60years 61.2% vs <40years 30.5%); $p < .001$; $p = 0.024$.

Conclusions Rarely addressed Work-related MSDs are frequent (more than one practitioner out of 3)

Age, length of lifetime practice, therapeutic endoscopy practice were the main risk factors.

Awareness and attentive care should be given to prevent this professional pathology.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Clinical pearls for your everyday practice

22/04/2023, 08:30 – 09:30

Liffey Meeting Room 1

OP197 Combination of endoscopic ultrasound-guided radiofrequency ablation and stereotactic body radiation therapy for the treatment of lymph node metastases from colon adenocarcinoma: a case report

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DOI 10.1055/s-0043-1765201

Aims Oligometastatic colorectal cancer (CRC) is a clinical entity whose surgery is the current gold-standard treatment. Endoscopic ultrasound-guided radiofrequency ablation (EUS-RFA) and stereotactic body radiation therapy (SBRT) could be considered as locally ablative therapeutic alternatives when surgery is not feasible. We report a case of oligometastatic CRC treated with EUS-RFA combined with SBRT [1–4].

Methods In 2019 a 40-year-old female underwent laparoscopic proctocolectomy with ileal pouch-anal anastomosis and adjuvant chemotherapy for long-standing ulcerative colitis complicated by transverse colon cancer. In February 2021, a CT-scan showed confluent 46x16cm lymphadenopathies adjacent to the superior mesenteric vein, suggestive for disease recurrence. Multidisciplinary team assessment considered the patient surgically unresectable because of high-risk superior mesenteric vessels injury. EUS-RFA and SBRT were therefore indicated as LATs options.

Results In October 2021, the patient underwent EUS-RFA with a 19G RFA needle with a 15-mm active tip. RFA was first applied into the cranial part of the target lymphadenopathies. After 2 weeks, EUS-RFA was repeated to treat the caudal section of the malignant lymph nodes. In December 2021, the patient underwent SBRT. No early or late complications were observed after both treatments. 1-month follow-up CT scan showed a larger hypodense area within the lymphadenopathies suggestive for a complete necrosis.

Conclusions EUS-RFA combined with and SBRT for oligometastatic CRC is feasible and safe. These LATs should be considered as likely alternative options in patients not eligible for surgery (► Fig. 1).

EUS-RFA: endoscopic ultrasound-guided radiofrequency ablation; SBRT: stereotactic body radiation therapy.

EUS-RFA		SBRT	
Sessions, n	2	Fractions, n	5
Power setting, watt	30	Total radiation dosage, Gy	35
Mean time of RFA application, sec	1st session: 10 2nd session: 15	Adverse events, n	0
Adverse events, n	0		

► Fig. 1

Conflicts of interest Authors do not have any conflict of interest to disclose.

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OP198 Application of a novel swallowable telemetric device for real time luminal blood detection to guide timing of enteroscopy in a patient with obscure-occult gastrointestinal bleeding. A case report

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DOI 10.1055/s-0043-1765202

Aims Gastrointestinal (GI) bleeding is deemed “obscure” when upper and lower GI endoscopy reveal no bleeding site. While the term “overt” is used in cases where visible blood passage is observed or reported, cases without macroscopic bleeding stigmata are defined “occult”. Small bowel origin makes up the majority of obscure GI bleedings [1–8].

Methods We report the case of a frail patient with iron deficiency and multiple comorbidities and evidence of bleeding small bowel angiodysplastic lesions within 1 to 13 minutes after pylorus passage on videocapsule assisted enteroscopy (VCE). Device assisted enteroscopy (DAE), planned in order to treat the bleeding lesions, was delayed after the patient contracted SARS-CoV-2 infection. Eight weeks after, in the absence of clinical signs of bleeding, a device for real time luminal blood detection was applied to guide timing of enteroscopy.

Results Upon recovery from SARS-CoV-2 infection we administered orally, without bowel preparation, the luminal blood detection capsule device. The measurement showed positivity to photometric blood detection with peak at 1h 47min after capsule administration and was therefore indicative of a small bowel bleeding site, best approachable by antegrade oral route, in keeping with the prior VCE findings. On subsequent DAE, performed through spiral enteroscopy, the small bowel angiodysplastic lesions were successfully treated (► Fig. 1).



► Fig. 1

Conclusions Our case report illustrates how a novel telemetric blood detection device was able to confirm luminal blood presence and successfully guide tim-

ing of therapeutic DAE in a patient with obscure-occult GI bleeding, without the need for repetition of VCE.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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OP199 Successful Management of Occluded Hepaticojejunostomy Anastomotic Stricture and Multiple Intrahepatic Duct Stones, in a Patient with Prior Failed Radiological Treatment, Using a Combination of Transhepatic Cholangioscopy and Enteroscopy

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DOI 10.1055/s-0043-1765203

Aims We are reporting an innovative approach using a combination of transhepatic cholangioscopy and enteroscopy to successfully manage hepaticojejunostomy anastomotic stricture (HJAS) associated with multiple intrahepatic duct stones (IHDS).

Methods A 40-year-old female with history of complicated cholecystectomy and a Roux-en-Y Hepaticojejunostomy 7 year ago presented with increasing jaundice and itching. Liver function tests (LFTS) confirmed cholestatic jaundice and ultrasound abdomen showed dilated IHDS along with multiple small stones. A percutaneous transhepatic cholangiography (PTC) was done with an intention to dilate the HJAS but could not be succeeded and external biliary drainage was established. Another attempt was made two weeks later but this time it resulted in false tracking of guidewire, so patient was referred for percutaneous transhepatic cholangioscopy (PTCS). The pinhole opening of HJAS was located with some difficulty and 0.035 inches guidewire negotiated under direct vision in Jejunum. Enteroscopy was performed and guidewire retrieved using rendezvous technique. The HJAS was further dilated using 15 mm balloon. Multiple sub-centimetric stones, along with sludge were removed using extractor balloon. A 10 French percutaneous transhepatic biliary drainage catheter was placed.

Results Post-procedure course was uneventful except for mildly deranged LFTS and slight rise in leucocyte count which settles in few days, and she was discharged home.

Conclusions Combination of PTCS and enteroscopy can be successfully used to manage HJAS associated with bilateral IHDS stones.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP200 Infective endocarditis as possible complication of endoscopic stricture dilation in Crohn's disease

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DOI 10.1055/s-0043-1765204

Aims Infective endocarditis is one of the rarest complications of endoscopic procedures.

Methods The authors present a case of an infective endocarditis following a dilation of a Crohn-related intestinal stricture [1–3].

Results 61-year-old male patient was admitted twice in a month in our hospital because of Crohn's disease exacerbation with intestinal sub-occlusion. He had a 30-year history of ileocolonic Crohn's disease (Montreal score A2L3B2) and aortic insufficiency with implantation of biological aortic prosthesis. The patient improved only with conservative management. He was previously treated with long-term maintenance therapy with azathioprine 200 mg/day and Infliximab 5 mg/kg (8/8 weeks). Serum Infliximab levels were at the therapeutic range and anti-infliximab antibodies were absent. His last MRI described a 4 cm long sigmoid colon's fibrotic stenosis. Following the last admission an elective TTS endoscopic balloon dilation of the sigmoid colon stenosis was performed. At the time of the procedure, the patient was not on any corticosteroid therapy and no prophylactic antibiotic was given. A first dilation up to 10 mm followed by another (after 4 weeks) up to 12 mm were performed without immediate complications. One month later, because of a history of a persistently feverish syndrome, he was referred to his assistant Cardiologist with the diagnosis of late infective endocarditis to *Streptococcus gallolyticus*. Aortic valve prosthesis replacement was necessary.

Conclusions A few cases of infective endocarditis following endoscopic procedures were described, none following endoscopic balloon dilation of a colonic stricture.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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OP201 Endoscopic multi-step strategy is effective in treatment severe anastomotic stenosis with tracheoesophageal fistula after atresia repair

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DOI 10.1055/s-0043-1765205

Aims Esophageal atresia (EA) with or without tracheoesophageal fistula (TEF) is a congenital condition that occurs in every 2500–4500 live births [1] and is usually repaired by primary anastomosis of the proximal and distal esophagus

with concurrent ligation of any TEF [2]. After surgical interventions, various gastrointestinal complications may occur and dysphagia secondary to anastomotic strictures affects up to 50% of cases [3]. Endoscopic balloon dilatation is considered the first-line treatment [4], but sometimes the strictures can be so tight that conventional technique is impossible.

Methods A 3-month-old baby was admitted to our hospital for severe malnutrition after surgical repair for EA type III. Barium swallow showed no passage of liquid contrast into gastric cavity due to severe anastomotic stenosis. We used two neonatal scopes –one in the mouth and one via gastrostomy– to confirm the absence of a residual esophageal lumen.

Results Under fluoroscopic guidance, we passed the stricture using a 0.018 guidewire, that was retrieved from the oral cavity; then, we used a 4mm-angioplasty balloon catheter to dilate the stricture. The subsequent injection of contrast showed its passage into bronchial tree. A biliary, fully-covered SEMS (WallFlex Biliary 6mmx40mm, Boston Scientific) was deployed for treatment of new-onset TEF. Repeat radiography highlighted the correct position of stent, that was left in place for 4 weeks. Resolution of stenosis and repair of TEF was achieved after one more similar endoscopic session.

Conclusions Full access to multidisciplinary expertise is crucial in making decisions in complex cases and maximize patient's outcomes.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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Complex biliary problems in liver transplant patients

22/04/2023, 08:30 – 09:30

Ecocem

OP202 Internal biliary stents and biliary complications after liver transplantation: 16 years of experience in a single center

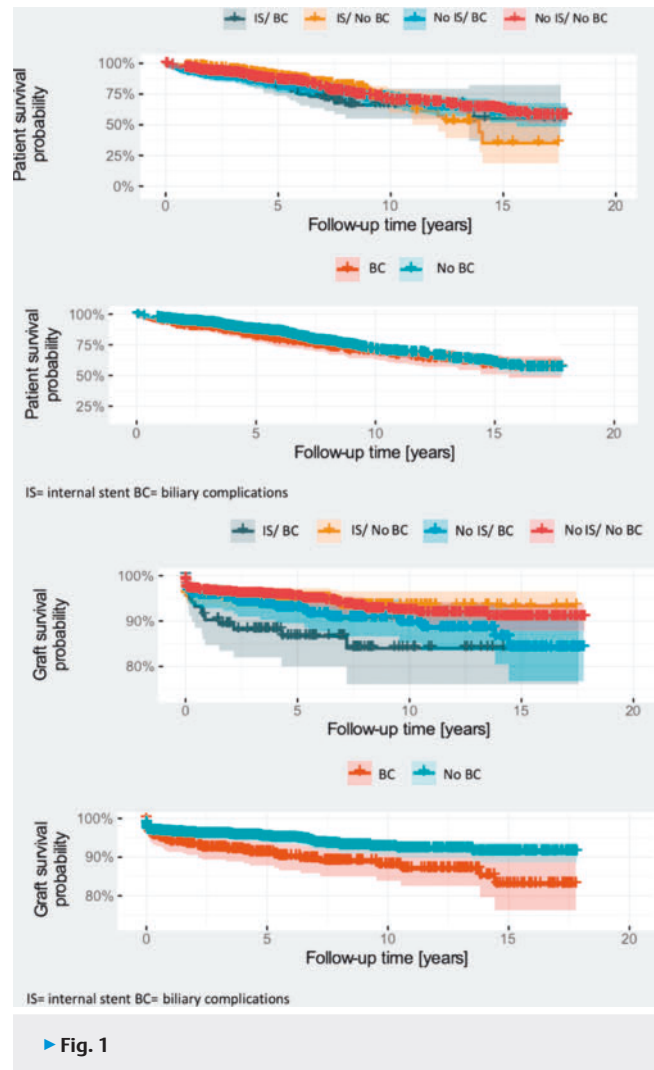
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DOI 10.1055/s-0043-1765206

Aims The aim of the study was to examine the prophylactic effect of internal biliary stents on the incidence of biliary complications, graft loss and overall mortality. Furthermore, the risk factors of biliary complications were studied

Methods We performed a large-volume single-center study including all adult patients who underwent a deceased-donor liver transplantation either with end-to-end choledococholedostomy or hepaticojejunostomy between 2005-2021 (► Fig. 1).



Results Out of 1447 liver transplant recipients (1555 liver transplantations), 456 (29%) patients had the size of the recipient or donor duct smaller < 6mm, making them eligible for biliary stenting. The incidence of biliary complications between the patients with and without internal biliary stents was comparable (24% vs. 23%, $p = 0,7$). Five, ten and fifteen-year graft survival rates were significantly lower among patients with biliary complications regardless of the presence of biliary stents ($p < 0,01$), whereas patient long term survival did not differ between the groups. In multivariate analysis, thrombosis of the hepatic artery was the only risk factor for all types of biliary complications ($p < 0,001$). The relative number of biliary interventions was significantly higher in patients with biliary stents ($p < 0,001$).

Conclusions Biliary stenting in liver transplant recipients with a narrow bile duct resulted in a similar incidence of biliary complications when compared to recipients with a normal duct and no stents, suggesting its protective role. During a long-term follow-up, graft loss was significantly higher among patients with biliary complications regardless of the presence of internal biliary stents, whereas mortality was comparable.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP203 Interventional EUS (i-EUS) in the management of biliary complications of deceased-donor orthotopic liver transplantation (OLT) not amenable to ERCP

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DOI 10.1055/s-0043-1765207

Aims Primary, technical success; Secondary, short (30 days) and long-term (symptom resolution without surgery/PTBD/indwelling stents) clinical success, and adverse events (AEs).

Methods Retrospective cases series from tertiary-referral center. Among 770 consecutive OLT patients between 2001-2022, 142 underwent primary ERCP/PTBD of which 18 (16 male, median age = 62) then had secondary i-EUS for biliary access after incomplete/failed therapy, either EUS-guided biliary drainage (EUS-BD) or EUS-directed trans-Enteric ERCP (EDEE).

Results GI anatomy: native (n = 13), Roux-en-Y hepaticojejunostomy (n = 5). Prior approaches: Incomplete (successful cannulation) ERCP (n = 9), failed ERCP cannulation (n = 5), external PTBD and failed ERCP access (n = 4). Biliary anatomy: disconnected (no contrast passage) anastomosis (n = 9), anastomotic stricture (n = 4), non-anastomotic stricture (n = 4), migrated stent (n = 1). 20 i-EUS procedures: EUS-BD (n = 16), including 11 temporary anastomoses (8 hepaticogastrostomy, 3 choledochoduodenostomy) and 5 rendezvous; EDEE (n = 4) with transjejunal ERCP through 15-mm LAMS. Overall, technical success was 94% (n = 17), short-term clinical success 89% (1 early death in a critically ill patient with progressive sepsis despite successful drainage), long-term clinical success 78% (n = 14; 1 unrelated late death with indwelling stent, 1 patient requiring surgery), and mild/moderate AEs 28% (2 cholangitis, 2 bacteremia, 1 LAMS misdeployment).

Conclusions i-EUS is feasible & effective in select patients with complex post-OLT biliary disease.

Conflicts of interest Dr. Manuel Perez-Miranda is a consultant for Boston Scientific, Olympus, Medtronic and M.I.Tech.

OP204 Recurrence of anastomotic biliary stricture in orthotopic liver transplantation (OLT) recipients after previous endoscopic treatment. Risk factors and endoscopic treatment options

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DOI 10.1055/s-0043-1765208

Aims Primary, post-OLT anastomotic biliary stricture (ABS) recurrence; Secondary, time to and risk factors for recurrence and efficacy of a second endotherapy course.

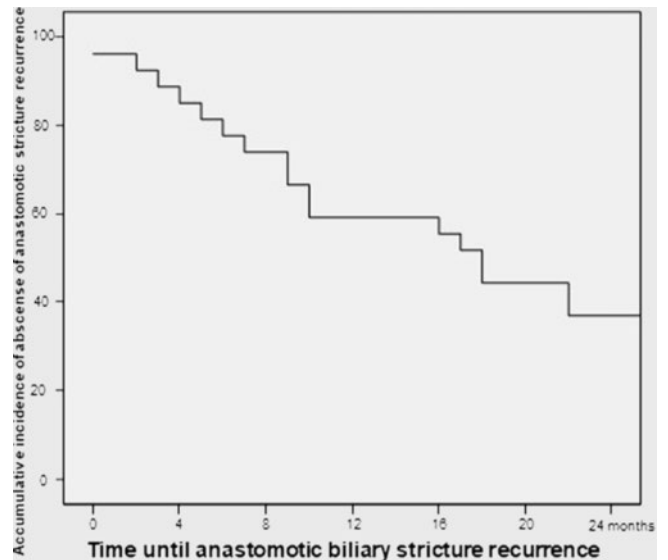
Methods Retrospective single-center cohort study including consecutive OLT recipients with choledocho-choledochostomy stricture and complete response to prior endotherapy using plastic, self-expandable metal stent (SEMS) or combined plastic and SEMS between Nov 2001-June 2021. Cox Regression was used to identify risk factors.

Results Among 680 OLTs, 131 recipients presented ABS and were treated endoscopically; 119 recipients (90.8%) achieved ABS resolution (SEMS n = 57 [47.9%], plastic [16%] and combined n = 43 [36.1%]). At 55.5 month (IQR: 21.2-89.7) median follow-up after ABS resolution, 25 (21%) patients (median age 61.2 +/- 6.9 years) experienced recurrences. Median time to recurrence

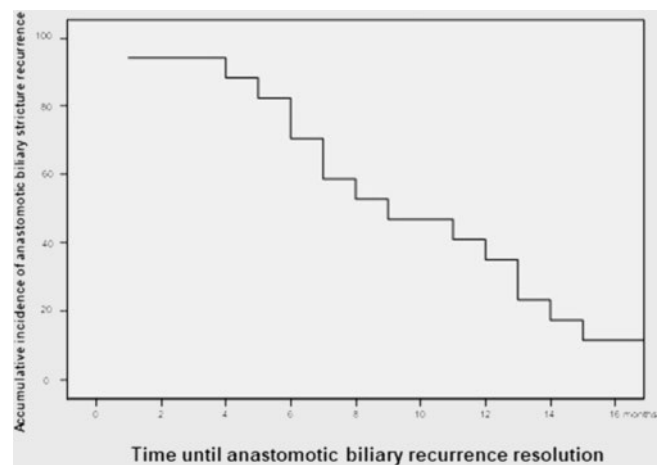
was 18 (IQR 7-27) months (► Fig. ► 1). Cox-regression identified prolonged endoscopic treatment (> 12 months) as protective against recurrence (HR 0.031, p = 0.02). A second endotherapy course was attempted in 23 patients, EUS-guided drainage in one patient and follow-up without further intervention in another. ABS resolution was obtained in 18/23 patients who underwent ERCP treatment (21 SEMS, 2 plastic stent) after a median of 2.4 (+/-0.8) sessions and a median treatment time of 9 (IQR 6-13) months (► Fig. ► 2). One patient experienced a second ABS recurrence, requiring surgical management.

Conclusions Prolonged baseline ABS endotherapy protects against recurrence. A second endoscopic treatment course appears effective as definitive treatment of recurrent ABS.

Conflicts of interest Dr. Manuel Perez-Miranda is a consultant for Boston Scientific, Olympus, Medtronic and M.I.Tech.



► Fig. 1 Time to anastomotic biliary stricture recurrence amongst all patients presenting anastomotic biliary stricture recurrence.



► Fig. 2 Time to endoscopic resolution of anastomotic biliary stricture recurrence following a second course of endotherapy using self-expandable metal stent and plastic stent.

OP205 Impact of Endoscopic Ultrasound in Unresectable Perihilar Cholangiocarcinoma patients in Liver Transplantation work-up

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DOI 10.1055/s-0043-1765209

Aims For a highly selected group of patients with unresectable perihilar cholangiocarcinoma (pCCA) liver transplantation (LT) is a treatment option. The Dutch screening protocol comprises lymph node (LN) assessment by endoscopic ultrasound (EUS) and whenever LN metastases are identified, further LT screening is precluded. The aim of this study is to investigate the yield of EUS in patients with pCCA who are potentially eligible for LT.

Methods In this retrospective, nationwide cohort study, all consecutive patients with suspected unresectable pCCA who underwent EUS in the screening protocol for LT were included from 2010-2021. During EUS, sampling of a 'suspicious' LN was performed based on the endosonographer's discretion. The primary outcome was the added value of EUS, defined as number of patients who were precluded from further screening due to malignant LN (► **Table 1**).

Results In 75 patients (characteristics in Table) a total of 84 EUS procedures were performed. In 18 patients (24%), 31 suspicious non-regional LN were identified with tissue acquisition in 28 (90%). In two patients LN biopsy confirmed malignancy and further screening was precluded. Finally, 44 (59%) underwent surgical staging and positive LN were identified in 6 patients (14%). In an additional 6 patients (21%) positive regional LN were identified in the liver explant.

Conclusions Our current EUS screening for the detection of malignant LN in patients with pCCA eligible for LT shows a limited but clinically important yield. EUS with systematic screening of all LN stations and sampling of 'suspicious' lymph nodes according to defined and set criteria (size, shape, homogeneity, etc) could potentially increase this yield.

Conflicts of interest M.J. Bruno received research funding for industry initiated studies from Boston Scientific and Cook Medical. He received research funding for investigator initiated studies from Boston Scientific, Cook Medical, Pentax Medical, Interscope, Mylan and ChiRoStim. He is a consultant to Boston Scientific, Cook Medical, and Pentax Medical. J.E. van Hooff received research funding for investigator initiated studies from Cook Medical. She is a consultant to Boston Scientific, Olympus, Medtronic and Abbvie. The remaining authors of this manuscript have no conflicts of interest to disclose as described by the American Journal of Transplantation.

	Number of patients (n = 75)
Primary sclerosing cholangitis diagnosis	39 (52%)
EUS precluded surgery	2 (3%)
Dropped out of LT protocol regardless of EUS	29 (39%)
Surgical staging -> LT	44 (59%) -> 29 (66%)

► **Table 1**

OP206 Single-use duodenoscopes in extreme conditions: ERCP in liver transplanted patients

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DOI 10.1055/s-0043-1765210

Aims Failure to reprocess reusable endoscopes has been reported as a major threat to patient health in digestive endoscopy. Single-use duodenoscopes have been successfully used to perform ERCP although they present high costs and difficulties in disposal. For these reasons it is necessary to rationalize their use. Liver transplanted patients are immunosuppressed and they are ideal candidates for the use of these devices. We have evaluated feasibility, safety, and performance of single-use duodenoscope in this subgroup of patient.

Methods This case series study was carried out in the Digestive Endoscopy Unit of Pisa University Hospital between July 2020-2022. We selected liver transplanted patients with positivity to KPC infection and ASGE grade for the complexity of ERCP of 3-4. EXALT Model D (Boston Scientific Corporation, USA) was used for all the procedures. Information on ERCP was collected and compared with the average at our center using a reusable duodenoscope. The performance of the disposable duodenoscope was evaluated with a 10-point VAS score.

Results We selected 25 patients. ASGE grade of procedural difficulty was grade 3 in 68% and grade 4 in 32% of cases. Adverse effects are comparable with reusable duodenoscopes. Comparison between the single-use duodenoscope and our center's annual average with reusable duodenoscopes for ERCP showed no significant differences. Operators expressed positive evaluations of the performance of single-use duodenoscopes with the exception of suction and insufflation performance and radiological image quality.

Conclusions Liver transplant patients might be an ideal target for the use of single-use duodenoscope.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP207 Motorized spiral enteroscopy-assisted therapeutic ERCP in patients with Roux-en-Y reconstruction

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DOI 10.1055/s-0043-1765211

Aims Postsurgical upper gastrointestinal anatomy impedes access to the biliary system in case an appropriate intervention is needed. Motorized spiral enteroscopy (MSE) was shown feasible in patients with altered anatomy and has the advantage that standard ERCP instruments can be used. Therefore, MSE-ERCP appears to be the optimal solution for postsurgical patients, especially with long limb anatomy.

Methods We retrospectively analyzed all MSE-ERCP procedures performed in patients with Roux-en-Y reconstruction between September 2021 and October 2022 in our hospital.

Results We identified 18 MSE-ERCP procedures (10 in long afferent limb situation – e.g. after gastrectomy or hepaticojejunostomy; 8 in very long limb situation – e.g. gastric bypass) in a total of 15 patients. In 15/18 MSE-ERCPs (83%) the papilla/hepatico-jejunostomy was reached and in 13/18 MSE-ERCPs (72%) the intended "standard" ERCP-interventions (e.g. cholangiography, endoscopic papillotomy, biopsy, balloon-dilation, stone-removal, plastic as well as fully covered metal stent-insertion) were successfully performed. Observed complications were caused either by enteroscopy in one patient or by the biliary intervention in two patients. Mean procedure time for successful interventions was 118 minutes. In 14/18 cases (78%) MSE-ERCP was carried out on an outpatient basis.

Conclusions MSE-ERCP is a valuable procedure with excellent success rates for patients with Roux-en-Y anatomy which can be carried out in an outpatient setting.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Barrett's esophagus: taking patient care to the next level

22/04/2023, 10:00 – 11:00

Liffey Meeting Room 2

OP208 Sustaining standards of upper endoscopy for Barrett's oesophagus by implementing key performance measures – a quality improvement initiative

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DOI 10.1055/s-0043-1765212

Aims Improving quality in endoscopy for Barrett's esophagus (BE) is expected to improve the outcome for patients. ESGE has published key performance measures in BE assessment. Our study aimed to assess the impact of implementing these performance measures and whether such improvements could be sustained long term with regular educational measures (► **Table 1**).

Methods A baseline retrospective study was conducted over 8 weeks in 2019. The key performance measures assessed were 1) pre-procedure metrics including indication, consent, and safety checklist (target of 100%) and 2) Prague classification, Seattle protocol or target biopsies, inspection time of 1 minute per cm, advanced imaging techniques and appropriate surveillance recommendations with a target of 90%. Subsequently, 6 monthly educational interventions were implemented for proceduralists and nurses including pictorial reminders in endoscopy suites. Repeat analysis was performed at 6 months, 1 year and 3 years from baseline [1].

Results Baseline analysis displayed sub-optimal performance compared to ESGE metrics for Barrett's assessment. After educational interventions, quality standards significantly improved and were able to be largely maintained over a 3-year period (see **Table 1**).

Conclusions Quality metrics are important in upper endoscopy especially for pre-malignant conditions such as Barrett's esophagus. Our study suggests that implementation of ESGE performance measures can improve quality in Barrett's endoscopy long term. Ongoing education and regular reminders in the endoscopy suites are likely to sustain quality improvements.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Weusten B, Bisschops R, Coron E et al. Endoscopic management of Barrett's esophagus: European Society of Gastrointestinal Endoscopy (ESGE) Position Statement. *Endoscopy* 2017; 49:

Key Performance Measure	Baseline	Post-implementation	1 Year from Baseline	3 Years from Baseline
	Long Segment (n=16) Total (n=39)	Long Segment (n=28) Total (n=40)	Long Segment (n=33) Total (n=59)	Long Segment (n=20) Total (n=34)
Prague Classification (%)	68.8 56.4	100 95.0	66.7 57.6	80.0 67.6
Time 1 min/cm (%)	46.7 52.8	100 100	100 100	100 100
Biopsies (%)	69.2 66.7	100 100	100 87.1	93.3 88.9
Advanced Imaging	78.1 66.7	97.0 97.5	93.8 84.2	96.0 93.8
Surveillance Recommendation (%)	75.0 72.7	96.0 97.3	100 96.5	94.7 93.8

Table 1: Comparison of key performance measures

► **Table 1** Comparison of key performance measures.

OP209 Endoscopic Follow-up Of Radically Resected Submucosal Adenocarcinoma In Barrett's Esophagus: Interim Results Of An Ongoing Prospective, International, Multicenter Cohort Registry (PREFER Trial)

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DOI 10.1055/s-0043-1765213

Aims Current guidelines advise esophagectomy for submucosal esophageal adenocarcinoma (T1b EAC). Our aim is to evaluate the safety of a watchful waiting strategy with regular endoscopic FU as an alternative in patients treated endoscopically for T1b EAC.

Methods This study aims to include 141 patients with 5-yr FU. After endoscopic resection of T1b EAC (R0), patients are re-staged with endoscopic ultrasound (EUS) and CT/PET. Patients (NOM0) undergo strict endoscopic FU with gastroscopy and EUS. The cohort is divided into high-risk (submucosal invasion ≥500um, G3-4, a/o LVI+) and low-risk (high risk features absent). Outcomes: 5-yr disease specific survival, overall survival, rates of LNM and local recurrence (► **Fig. 1**).

N=120	Follow-up (months), Median (IQR)	Lymph node metastasis, N (% [95%CI])	Intra-luminal tumor recurrence*, N (% [95%CI])	Distant metastasis, N (%)
High-risk T1b (N=80)	19 (10-32)	4 (5% [0.1-9.9%])	5 (6% [0.8-11.7%])	0
Low-risk T1b (N=40)	24 (10-37)	2 (5% [0-12.1%])	2 (5% [0-12.1%])	0

*not eligible for endoscopic therapy

► **Fig. 1**

Results 120 patients (median 68 yrs) were included and underwent median FU of 22 (IQR 10-32) months. 6 patients (5% [95%CI 1.0-9.0]) were diagnosed with LNM: 2/6 neoadjuvant chemo(radio)therapy with esophagectomy (ypT-ONOM0, ypTON1M0), 1/6 esophagectomy only (pTON2M0), and 3/6 selective surgical LN resection. 7 patients (6% [95%CI 2.0-10.0]) were diagnosed with an intra-luminal tumor recurrence not eligible for endoscopic re-treatment: 2/7 esophagectomy (pT1bNOM0, pTisNOM0), 1/7 neoadjuvant chemoradiothera-

py and esophagectomy (ypT1aN0M0), 3/7 (chemo)radiotherapy only, and 1/7 refused additional treatment. No distant metastases were diagnosed. 6 patients died (non EAC-related). 3 patients discontinued FU (old age). 2 patients were lost to FU.

Conclusions The interim results suggest that in patients with radically removed T1b EAC (N0M0), a strict endoscopic FU protocol is feasible and curative therapy remains possible in patients who develop LNM or a local intra-luminal recurrence. Most patients demonstrate uneventful FU.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP210 Feasibility and safety of tailored lymphadenectomy using sentinel node navigated surgery with a hybrid tracer of technetium-99m and indocyanine green in high-risk T1 esophageal adenocarcinoma patients

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DOI 10.1055/s-0043-1765214

Aims Selective lymphadenectomy using sentinel node navigated surgery (SNNS) might offer a less invasive alternative to esophagectomy in patients with high-risk T1 esophageal adenocarcinoma (EAC). We aimed to evaluate the feasibility and safety of a new treatment strategy, consisting of radical endoscopic resection of the tumor followed by SNNS.

Methods In this multicenter pilot study, 10 patients with a radically resected high-risk T1 cN0M0 EAC underwent SNNS. A hybrid tracer of technetium-99m nanocolloid and indocyanine green was injected endoscopically around the resection scar the day before surgery, followed by preoperative imaging. During surgery, sentinel nodes (SNs) were identified and resected using a thoracoscopic gamma probe and fluorescence-based detection. Endpoints were surgical morbidity, and number of detected and (tumor-positive) resected SNs.

Results Localization and dissection of SNs was feasible in all patients (median 3 SNs [range 1-6] per patient). The concordance between preoperative imaging and intraoperative detection was high. In one patient (10%), dissection was considered incomplete after two SNs could not be identified intraoperatively. Additional peritumoral SNs were resected in four patients (40%) after fluorescence-based detection. In two patients (20%), a (micro)metastasis was found in one of the resected SNs. One patient (10%) experienced neuropathic thoracic pain related to surgery, while none of the patients developed functional gastroesophageal disorders.

Conclusions SNNS appears to be a feasible and safe instrument to tailor lymphadenectomy in patients with high-risk T1 EAC. The exact position of this esophageal preserving strategy in the treatment algorithm for high-risk T1 EAC needs to be studied in future research.

Conflicts of interest R. van Hillegersberg is a consultant for Intuitive Surgical and Medtronic. J.P. Ruurda is a consultant for Intuitive Surgical. M.I. van Berge Henegouwen is a consultant for Alesi Surgical, BBraun, Johnson & Johnson, Medtronic and Viatrix, and has received research funding from Stryker. The remaining authors declare to have no disclosures relevant to this manuscript.

OP211 Validation of the Charlson Comorbidity Index for prediction of mortality caused by other causes than esophageal adenocarcinoma after successful endoscopic eradication therapy for Barrett's neoplasia

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DOI 10.1055/s-0043-1765215

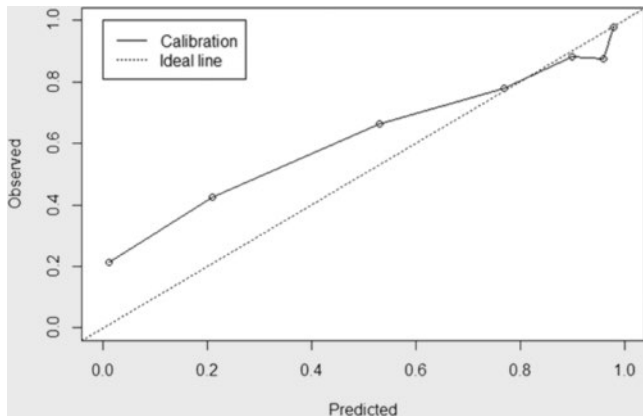
Aims After endoscopic eradication therapy (EET) for Barrett's neoplasia, follow-up (FU) protocols do not take into account unrelated mortality. Accurate prediction of this risk is however key to patient-tailored and cost-effective care. We evaluated the performance of the well-known Charlson Comorbidity Index (CCI) in patients with successful EET.

Methods In the Netherlands, EET is centralized in expert centers with a joint registry, which is merged with National Statistics for survival outcomes. CCI was calculated at the end of EET based on medical records. Primary outcome: predictive value of CCI for other-cause mortality (► Fig. 1).

Results A total of 1,154 patients (mean age 64 years (± 9)) were followed for median 59 months (IQR 37-91). Median CCI was 3 (IQR 2-4). Most common comorbidities: myocardial infarction ($n = 165$, 14%) and diabetes mellitus ($n = 158$, 14%). During FU, 154 (13%) patients died due to unrelated causes. Baseline CCI score was significantly higher among patients who died (4.0 ± 1.7) as compared to patients alive (2.9 ± 1.6 , $p < 0.05$). Mortality increased significantly with increasing baseline CCI (hazard ratio 1.5 (95% CI 1.37-1.60)). For increasing CCI-quartiles (i.e. CCI <2; 2-3; 3-4; >4), mortality during FU was 7%, 11%, 21% and 27% respectively. The C-statistic of CCI for mortality was 0.78 (95% CI 0.72-0.84), with higher scores indicating better discrimination, i.e. ability to predict the risk for mortality among individuals (range 0-1). The calibration plot indicated reasonable calibration, based on comparable predicted and observed risks.

Conclusions CCI predicts unrelated mortality well in a BE-population after successful EET and could be used to guide decisions for patient-tailored management such as when to stop FU.

Conflicts of interest R.E. Pouw: consultant for Medtronic and MicroTech; received speakerfee from Pentax. J.J.G.H.M. Bergman: financial support for IRB-approved research from C2Therapeutics/Pentax Medical, Medtronic, and Aqua Medical. N. Shaheen: financial support for IRB-approved research from Medtronic, Steris, Pentax, CDx Diagnostics, Interpace Diagnostics, and Lucid Medical; consultant for Cernostics, Phathom Pharmaceuticals, Exact Sciences, Aqua Medical, and Cook Medical. B.L.A.M. Weusten: financial support for IRB-approved research from C2Therapeutics/Pentax Medical, and Aqua Medical.



► **Fig. 1** Calibration plot at 10 years FU for external validation of the CCI in the Dutch cohort of patients after successful EET (n=1154). The horizontal axis represents the predicted mortality risk. The vertical axis represents the observed mortality risk. The dotted-line represents perfect calibration.

OP212 Clinical relevance of random biopsies from the esophagogastric junction after complete eradication of Barrett's esophagus is low

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DOI 10.1055/s-0043-1765216

Aims Although random histological sampling from the esophagogastric junction (EGJ) after complete eradication of Barrett's esophagus (BE) is recommended, its clinical relevance is questionable. This study aimed to assess the incidence and long-term outcomes of findings from random EGJ biopsies in a nationwide cohort with long-term follow-up.

Methods We included all patients with successful endoscopic eradication therapy (EET), defined as complete endoscopic eradication of all visible BE (CE-BE), for early BE neoplasia from the Dutch registry. Patients were treated and followed-up in nine expert centers according to a joint protocol. Outcomes included the incidence of intestinal metaplasia at the EGJ (EGJ-IM) and the association between EGJ-IM and visible BE recurrence.

Results 1,154 patients were included with a median follow-up of 43 months (IQR 22-69). At the moment of CE-BE, persisting EGJ-IM was found in 7% (78/1,154), which was reproduced during follow-up in 46% (42/78). Among patients with no EGJ-IM after EET (1,043/1,154; 90%), EGJ-IM recurred in 7% (72/1,043) after median 21 months (IQR 15-36), and was reproduced during further follow-up in 26% (19/72). No significant association was found between EGJ-IM and recurrent BE (Table 1). Besides IM, random EGJ biopsies showed LGD in 9/1,154 (0.8%) patients, of which none progressed to neoplasia during endoscopic follow-up of median 2 years (IQR 2-5). None of the random EGJ biopsies showed HGD or cancer (► Table 1).

Conclusions Since EGJ-IM was not associated with a higher risk for recurrent disease, we recommend abandoning random EGJ biopsies after successful EET and during further follow-up, under condition that care is provided in expert centers, and the esophagus is carefully inspected.

Conflicts of interest CF has received speaker's fee from Pentax Medical. JB is a consultant for Medtronic, Cook Medical, and Boston Scientific, and has received financial support for Institutional Review Board (IRB)-approved research from Pentax Medical, Medtronic, and Aqua Medical. RP is a consultant for MicroTech, and has received speaker's fee from Medtronic. BW has received financial support for IRB-approved research from Pentax Medical. The remaining authors declare to have no disclosures relevant to this manuscript.

	Recurrent non-dysplastic BE		Recurrent dysplasia		Recurrent neoplasia	
	HR (95% CI) ¹	P	HR (95% CI) ¹	P	HR (95% CI) ¹	P
Persisting EGJ-IM	1.15 (0.63-2.13)	0.66	0.73 (0.17-3.06)	0.67	0.49 (0.67-3.67)	0.49
Recurrent EGJ-IM	1.18 (0.67-2.06)	0.56	0.27 (0.04-1.96)	0.19	NA ²	NA ²
Persisting or recurrent EGJ-IM	1.18 (0.76-1.82)	0.45	0.45 (0.14-1.48)	0.19	0.19 (0.03-1.42)	0.11

¹Adjusted for gender, age, BE length at baseline, baseline histology, new visible lesion during treatment and poor squamous regeneration after radiofrequency ablation.
²No recurrent neoplasia was observed in the group with recurrent EGJ-IM.

► **Table 1** Association between EGJ-IM and recurrent disease.

OP213 A Tissue Systems Pathology Test has Significant Clinical Utility to Standardize Management Leading to Improved Health Outcomes for Barrett's Esophagus Patients with Low-Grade Dysplasia

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DOI 10.1055/s-0043-1765217

Aims Low-grade dysplasia (LGD) is a predictor of malignant progression in Barrett's esophagus (BE). However, pathology review is prone to inter-observer variability. A tissue systems pathology test (TissueCypher, TSP-9) has been shown to outperform pathology review in risk-stratifying BE patients. This study evaluated the clinical utility of the TSP-9 test to improve management decisions and health outcomes for BE patients with community LGD.

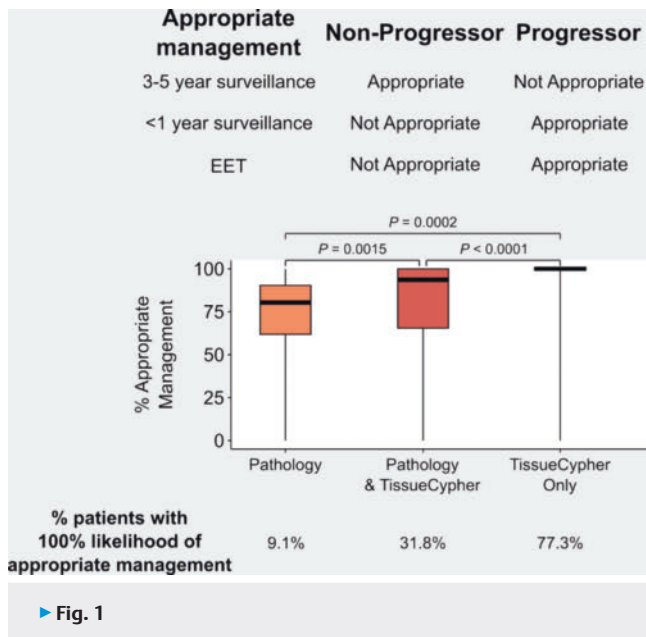
Methods 154 BE patients with community LGD from the screening cohort of the SURF trial were evaluated. Patient management decisions were simulated 500 times with a single pathology review (randomly selected from 16 generalists and 14 expert pathologists from 5 countries to mimic real-world practice) to determine the most likely care plan with or without use of TSP-9 results for guidance. The percentage of patients receiving appropriate management was calculated based on the known progression/non-progression outcome (► Fig. 1).

Results Use of the TSP-9 test results with pathology significantly increased the percentage of BE patients receiving appropriate management from a median of 80.4% (IQR, 62-90) to 93.6% (IQR, 66-100) ($P=0.0015$) when the test results were used to guide management decisions. A similar improvement in management was observed when TSP-9 results alone were used to guide management decisions ($P=0.0002$) (Fig. 1).

Conclusions The TSP-9 test provided objective risk stratification and demonstrated significant clinical utility to improve health outcomes when used with pathology review. The optimal clinical utility was obtained when TSP-9 test results were used independently, indicating the test can guide management decisions for BE patients across a variety of practice settings.

Conflicts of interest R. J. Critchley-Thorne is a full-time employee of, and holds stock and stock options in Castle Biosciences, Inc, and is an inventor on patents on the TissueCypher Barrett's Esophagus Assay. C. Smolko, M. Arora, and J.J. Siegel are full-time employees of and hold stock and stock options in Castle

Biosciences, Inc. J.J.G.H.M. Bergman has received research funding from Castle Biosciences, Inc., CDx Diagnostics, and Lucid Diagnostics.



Ampullary lesions: challenges for complete resection

22/04/2023, 10:00 – 11:00

Liffey Meeting Room 3

OP214 Endoscopic papillectomy: a multicenter, retrospective, nationwide study after the standardization of the technique

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DOI 10.1055/s-0043-1765218

Aims Endoscopic papillectomy (EP) is the gold standard of treatment for ampullary adenomas. However, the data supporting EP outcomes derive from multiple retrospective studies, that included procedure mostly performed before 2015, when first guidelines on this technique were published. This is

probably why among studies a large variability in patient selection and endoscopic techniques is present, resulting in heterogenous outcomes. Therefore, the aim of our study is to provide data on the efficacy and safety of this technique, by including consecutive patients treated after the standardization of this technique [1–6].

Methods Consecutive patients who underwent EP between 2016 and 2021 were included. Clinical success was defined as the complete endoscopic management of the neoplasm and of any recurrence diagnosed during follow-up. All recurrences were collected and adverse events (AEs) were recorded, according the ASGE Lexicon.

Results A total of 225 patients in 19 Italian Centers were included. The mean lesion's size was 20 mm. En bloc resection was achieved in 72.5% of cases, with an overall R0 resection rate of 50.7%. During a mean follow-up period of 23.2 months, the rate of recurrence was up to 17.2%. However, clinical success was achieved in 76.7% of the cases. Post-EP AEs occurred in 39.5% of patients, of which 88.9% were mild or moderate in severity, and 11.1% were severe. No EP-related deaths were recorded. At uni and multi-variate analysis, R1 resection, lesion size and histological diagnosis were predictors of recurrence.

Conclusions EP is an effective option of treatment of ampullary neoplasms. However, it is associated with not negligible risk of complications.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Fritzsche JA, Klein A, Beekman MJ, van Hooft JE, Sidhu M, Schoeman S, Fockens P, Bourke MJ, Voermans RP. Endoscopic papillectomy; a retrospective international multicenter cohort study with long-term follow-up. *Surg Endosc* 2021; 35 (11): 6259–6267

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OP215 Endoscopic papillectomy: results of a tertiary referral center experience

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DOI 10.1055/s-0043-1765219

Aims We reported our tertiary referral center experience to evaluate the efficacy and long-term management of patients affected by adenomas of major or minor papilla.

Methods From 2014 to 2022, all consecutive patients affected by adenomas of major papilla were included in the present observational study showing adverse events and adenoma recurrence rate during follow-up.

Results 91 patients (49 M, 42 F) underwent EP. The mean dimensions of the lesions were 22 mm. The adenoma was localized at the major papilla in almost all the cases of our case series. Histological report showed adenoma with low grade dysplasia in 29 patients, high grade dysplasia in 13, intraepithelial neo-

plasia in 4, NET in 3, adenocarcinoma T2 in 4, papillary carcinoma T2 in 1. Mean follow-up after EP was 85 weeks. Adverse events' rate was 11% (10/91 patients): post-procedural bleeding in 7 patients (in the first 48h after EP) treated endoscopically, cholecystitis in 1 patient, cholangitis in 1 patient and retroperitoneal fluid collection in 1 patient, treated conservatively. Adenoma recurrence rate was 36% during the whole follow-up (33/91). The recurrent nodules were treated endoscopically using argon plasma coagulation in 4/91 patients, intraductal radiofrequency in 11/91 patients and polypectomy snare in 13/91 patients. Different procedures were applied as combined treatment for recurrence in 5 patients. 7 patients were referred to surgery [1].

Conclusions EP and ancillary endoscopic techniques are safe and effective in the management of patients with benign and superficially malignant lesions of major or minor papilla in expert hands and tertiary referral centers.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Vanbiervliet G, Strijker M, Arvanitakis M, Aelvoet A, Arnelo U, Beyna T, Busch O, Deprez PH, Kunovsky L, Larghi A, Manes G, Moss A, Napoleon B, Nayar M, Pérez-Cuadrado-Robles E, Seewald S, Barthet M, van Hooft JE. Endoscopic management of ampullary tumors: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2021; 53 ((4):): 429–448. doi:10.1055/a-1397-3198. Epub 2021 Mar 16PMID: 33728632

OP216V Combined endoscopic resection of ampullary adenoma, with lateral periampullary spreading extension, with pre-emptive elective embolization of the pancreaticoduodenal artery in high-risk bleeding patients

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DOI 10.1055/s-0043-1765220

Abstract Text A 69-year-old male patient with a diagnosis of low-grade dysplastic adenoma of the ampulla of Vater, involving 50% of the lumen periphery, was referred for endoscopic treatment. The patient was under combination therapy with antiplatelets and oral anticoagulants. Due to the high peri-operative bleeding risk, a pre-emptive elective embolization of the anterior branch of the superior pancreaticoduodenal artery was performed prior endoscopic resection. The patient was hospitalised for five days without complications and was discharged with anti-coagulant therapy [1].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Probst A, Freund S, Neuhaus L et al. Complication risk despite preventive endoscopic measures in patients undergoing endoscopic mucosal resection of large duodenal adenomas. *Endoscopy*. 2020; 52 (10): 847–855

OP217 Endoscopic Papillectomy for Ampullary Lesions in patients with Familial Adenomatous Polyposis compared to sporadic lesions in a propensity-score matched cohort

Authors M. Hollenbach¹, K. Vu Trung¹, C. Heise², A. Gulla³, A. E. Abou⁴, F. Auriemma⁵, S. Regner⁶, S. Gaujoux⁷

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DOI 10.1055/s-0043-1765221

Aims Familial-adenomatous-polyposis (FAP) is a rare inherited cancer predisposition syndrome. The treatment for FAP-related ampullary lesions (AL) is challenging and the role of endoscopic papillectomy (EP) is not elucidated yet. Data of FAP associated AL are limited and showed, at least in part, inconclusive results. We retrospectively analyzed the outcomes of EP in matched cohorts of FAP-related and sporadic ampullary lesions (SAL).

Methods The ESAP study included 1422 EPs. A propensity-score matching (nearest-neighbor-method) including age, gender, comorbidity, histologic subtype and size was performed. Main outcomes were complete resection (R0), technical success, complications and recurrence.

Results Propensity-score-based matching identified 202 patients (101 FAP, 101 SAL) with comparable baseline characteristics. FAP-patients were mainly asymptomatic (79.2% vs. 46.5%, $p < 0.001$). The initial R0-rate was significantly lower in FAP-patients (63.4% vs. 83.2%, $p = 0.001$). However, after repeated (mean: 1.30 per patient) interventions, R0 was comparable (FAP 93.1% vs. SAL 97.0%, $p = 0.194$). The overall complication rate was 28.7% with pancreatitis and bleeding as most common adverse events in both groups ($p = 0.756$). Severe complications were very rare (3.5%). Twenty-one patients in the FAP group (20.8%) and sixteen patients in the SAL group (15.8%, $p = 0.363$) had a recurrence. Recurrences occurred later in FAP-patients (25 vs. 2 months in SAL-Patients).

Conclusions EP is safe and effective in FAP-related ampullary lesions and should be considered as the standard of care for selected non-invasive lesions. Criteria for endoscopic resection of AL can be extended to FAP-patients.

Conflicts of interest FUJIFILM

OP218 Development and Validation of the ES-AP-Score: a Simplified Tool to Predict Successful Endoscopic Papillectomy in Ampullary Lesions

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DOI 10.1055/s-0043-1765222

Aims Endoscopic papillectomy (EP) is a standard treatment for most non-invasive ampullary lesions (AL) However, management of AL can be challenging and may lead to over- or undertreatment. We analyzed predictors for endoscopic incomplete resection and developed a score to identify eligible patients for endoscopic or surgical treatment.

Methods 649 patients who underwent EP fulfilled the inclusion criteria without missing data. The cohort was split into a training set (473) and a validation set (176) by random. In the training set predictors for incomplete resection (R1) were analyzed by logistic regression and incorporated to a score of four items. The score was validated in a further independent cohort. Performance was estimated by AUROC.

Results Size ≥ 30 mm (odds ratio [OR] 4.4 (95%CI 2.0-9.6); $p < 0.001$), high-grade dysplasia or invasive cancer (OR 4.6 (95%CI 2.7-7.8); $p < 0.001$), laterally spreading lesion (OR 2.8 (95%CI 1.3-6.0); $p = 0.011$) and dilation of bile or pancreatic duct (OR 2.5 (95%CI 1.5-4.4); $p < 0.001$) were identified as independent factors for incomplete resection (R1) in multivariable analysis and used to develop the ESAP score. AL not exceeding one item (0-1 points) had the highest R0-rate (training set 88.4%; validation set 86.5%). By fulfilling at least two criteria R1-rate was significantly increased (training set 53.5%; validation set 51.4%; $p < 0.001$). The AUROC was 0.805 in the training cohort and 0.704 in the validation cohort.

Conclusions The ESAP score accurately predicts incomplete resection in patients undergoing EP and may help to optimize the decision process for endoscopic or surgical resection of AL.

Conflicts of interest FUJIFILM

OP219V A rare case of pedunculated ampulloma: EUS view and resection

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DOI 10.1055/s-0043-1765223

Abstract Text A contrast enhanced CT-scan of a 66-year-old male showed the presence of an enhancing intraluminal solid lesion (26 mm) in the second duodenum. Gastroscopy showed a large pedunculated polyp with a long stalk, whose biopsies revealed adenoma with low grade dysplasia. EUS showed a mild dilation of CBD (10 mm) and MPD (5 mm), both extending all the way through the stalk of the lesion to the polyp head. ERCP with hot snare en-bloc endoscopic resection was performed. An intraprocedural oozing bleeding was successfully treated with coagasper and application of hemostatic matrix. Post procedural course was uneventful and patient was discharged. Final histology showed R0 of a tubulo-villous adenoma with HGD.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Techniques to increase your polyp detection

22/04/2023, 10:00 – 11:00

Liffey Meeting Room 1

OP220 Efficacy and safety of ENDOCUFF VISION-assisted colonoscopy vs. standard colonoscopy in the Spanish national colorectal cancer screening programme: randomised, prospective, multicentre, open-label, parallel-group clinical trial

Authors F. Sábado^{1,2}, F. De Vera³, V. Martínez¹, J. Pitarch¹, M. Gómez⁴, M. P. Silva¹, R. Cuesta⁵, M. Jaen⁵, J. Martínez⁶, C. Mangas⁶, F. J. Serrano⁴, D. Bonillo³, L. Company⁶, B. Martínez⁶, J. R. Aparicio⁶, F. Ruiz⁶

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DOI 10.1055/s-0043-1765224

Aims To evaluate the efficacy and safety of Endocuff Vision at colonoscopy compared to standard colonoscopy in patients participating in the Spanish colorectal cancer screening programme.

Methods Randomised, prospective, multicentre, open-label, parallel-group clinical trial in patients who were to undergo screening colonoscopy between November 2020–October 2021 at 5 hospitals in Spain by 16 endoscopists. Patients aged 50–70 years with a previous positive occult blood test were randomised to have standard colonoscopy (SC) or colonoscopy using Endocuff Vision (EVAC) performed. Data were collected through the RedCap platform. The main objective was to assess adenoma detection rate (ADR), defined as the number of patients in whom ≥ 1 adenoma was detected. The number of adenomas and polyps detected, the time to reach the cecum, the number of incomplete colonoscopies and the adverse effects in both groups were also evaluated. IBM-SPSS v.22 and SAS Studio Version 9.04.01 were used for statistical analysis. ClinicalTrials.gov ID NCT04280393

Results A total of 822 patients included. 410 patients were randomised to EVAC and 412 to SC colonoscopy. 55.2% were male, with a mean age 61 years (SD +/- 6). ADR was significantly higher in the EVAC group (number of patients with ≥ 1 adenomas detected: 59.8% vs 51%; $p=0.02$). There were 11 incom-

plete colonoscopies in each group (2.7% vs 2.7%; $p=0.99$). No difference in adverse effects was observed (0.24% vs 0.24%).

Conclusions Colonoscopy performed with Endocuff Vision in Spanish CRC screening program was associated with an 8.8% increase in adenoma detection rate, thus reducing interval CRC, without an increase in adverse effects (► **Table 1**).

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Endocuff-assisted colonoscopy (n=410)	Standard colonoscopy (n=412)	P value
ADR, n (%)	245 (59,76%)	210 (50,97%)	0,0210
CRC, n (%)	17 (4,14%)	10 (2,42%)	0,3535
No. of adenomas	504	432	0,190
Time to reach cecum, mean \pm SD, seconds	331,7 (+/- 184,2)	373,7 (+/- 201,9)	0,002
Adverse effects, n (%)	1 (0,24%)	1 (0,24%)	

► **Table 1** Results with Endocuff Vision-assisted colonoscopy vs standard colonoscopy.

OP221 Colorectal cancer mortality after the diagnosis of serrated polyps and conventional adenomas

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DOI 10.1055/s-0043-1765225

Aims Patients with Serrated polyps are at increased risk for colorectal cancer (CRC) compared to those without polyps at screening colonoscopy. However, the burden of the serrated pathway by subtypes of serrated polyps (hyperplastic polyps, Sessile serrated lesions/traditional serrated adenomas) to long-term CRC mortality in screening patients is not well understood.

Methods We conducted a retrospective cohort study where we included screening participants of the Austrian Quality Certificate for Screening Colonoscopy between 2010–2020. We assessed cumulative incidence of CRC deaths after the diagnosis of SSL/TSA, HP and conventional adenomas with deaths from other causes as competing risk. Whether polyp size in HP, SSL/TSA, adjusted for polyp location, sex and age was associated with CRC death was assessed by Cox regression.

Results 10-year Cumulative incidence of CRC death was 0.13% (95% CI 0.12–0.14%) for participants with HP, 0.16% (95% CI 0.16–0.16%) for participants with SSL/TSA and 0.25% (95% CI 0.23–0.27%) after the diagnosis of conventional adenomas. When adjusted for polyp location, the association of polyp size ≥ 10 mm with CRC death was of similar magnitude in participants with conventional adenomas (HR 3.69, 95% CI 2.45 – 5.55), SSL/TSA (HR 3.24, 95% CI 1.35 – 7.79) and HP (HR 5.08, 95% CI 2.42 – 10.65).

Conclusions Across all histologic types, participants with a polyp sized ≥ 10 mm have higher hazards for CRC death after screening colonoscopy compared to polyps < 10 mm. Although only few participants had large HP detected at screening, polyp size is associated with CRC mortality in participants with HP, when adjusting for of polyp location.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP222 Endoscopic detection of cancer within colorectal polyps by young GI endoscopists: a pre- and post-intervention analysis of 680 individual responses

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DOI 10.1055/s-0043-1765226

Aims Endoscopic imaging to assess the risk of cancer in colorectal polyps is the main tool to decide on their management. Inadequate assessment may lead to incorrect decision making (e.g. surgery for benign disease or piecemeal resection of a polyp containing cancer) and is associated with negative outcomes for patients and excessive healthcare costs (► **Table 1**).

Methods Young GI endoscopists were invited to do a survey consisting of 20 randomized videos of ≥ 20 mm non-pedunculated colon polyps presented and were asked for their first impression on the presence of cancer within the displayed polyps. Subsequently, a 90-minute online educational course was held (gieqs.com/polyp-cancer), focussing on the use of an online tool to detect cancer within polyps (gieqs.com/smi). Finally, the participants completed a second survey containing the same 20 videos and were asked again for their first impression of the presence of cancer within these polyps. The responses were compared to histology [1].

Results 680 responses were obtained from 17 participants who completed both surveys. Before the educational video accuracy for assessment of cancer within polyps was 50.3% with a sensitivity of 69.1% and specificity of 45.6%. After the educational course, the accuracy, sensitivity and specificity all increased significantly to 69.7%, 88.2% and 65.1% respectively. Compared to the trainee group, consultants had higher accuracy, sensitivity and specificity before but not after the educational intervention (Table 1).

Conclusions A short online intervention can significantly improve the ability of both qualified and trainee endoscopists to accurately assess and reliably exclude cancer in colorectal polyps, highlighting the importance of education to optimize decision making in polypectomy.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Burgess NG, Hourigan LF, Zanati SA et al. Risk Stratification for Covert Invasive Cancer Among Patients Referred for Colonic Endoscopic Mucosal Resection: A Large Multicenter Cohort. *Gastroenterology* 2017; 153: 732–742

		Sensitivity			Specificity			Accuracy		
		PRE	POST	P-value	PRE	POST	P-value	PRE	POST	P-value
All participants	Mean (%)	69.1	88.2	0.043	45.6	65.1	< 0.001	50.3	69.7	< 0.001
	95% CI (%)	53.7 - 84.5	76.3 - 100.1		35.8 - 55.3	52.2 - 78.0		40.4 - 60.2	64.8 - 74.6	
New consultant gastroenterologists	Mean (%)	81.2	81.2	1.0	56.2	67.2	0.102	61.2	70.0	0.035
	95% CI (%)	61.4 - 101.1	61.4 - 101.1		31.9 - 80.6	46.9 - 87.7		43.6 - 78.9	52.8 - 87.2	
Trainee gastroenterologists	Mean (%)	65.4	90.4	0.036	42.3	64.4	< 0.001	46.9	69.6	< 0.001
	95% CI (%)	45.4 - 85.4	82.7 - 98.0		30.6 - 54.0	57.1 - 71.7		34.6 - 59.2	63.9 - 75.3	

► **Table 1** Sensitivity, specificity and accuracy of first impression assessment of cancer in colorectal polyps when compared to histopathology, both before (PRE) and after (POST) the educational intervention. CI, confidence interval.

OP223 Serrated Polyposis Syndrome: a diagnostic challenge

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DOI 10.1055/s-0043-1765227

Aims We aimed to assess the prevalence, features and the rate of missed diagnosis of Serrated Polyposis Syndrome (SPS) in patients submitted to polypectomy in a tertiary hospital.

Methods Retrospective single center cohort study. All consecutive patients that underwent polypectomy in a tertiary hospital, from January 2020 to December 2021, were reviewed. Data from patients with at least one histologically diagnosed serrated lesion were reviewed searching for cumulative colonoscopy findings and final patient diagnosis assigned by the attending physician. An evaluation of the fulfillment of the 2020 SPS World Health Organization criteria was performed [1–2].

Results During the study period, 1177 patients underwent polypectomy and 423 (35.9%) were included (65% male). Median age was 66 + 11.7 years. Thirteen (3.1%) patients met SPS criteria (69.2% male) with a median age of 59 + 12.5 years, 7 (53.8%) of these at the index colonoscopy. The total rate of SPS was 1.1%. Mean time between the first colonoscopy and the fulfillment of the WHO criteria was 36.9 months and the mean number of colonoscopies was 2 + 1.2. A diagnosis of SPS had not been previously assigned in 8 cases.

Conclusions Prevalence of SPS was higher than in the majority of previous reports. However, the diagnosis of SPS according to recently updated WHO's criteria had not been systematically assigned. Awareness to the diagnosis of SPS must be reinforced.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Dekker E, Bleijenberg A, Balaguer F Dutch-Spanish-British Serrated Polyposis Syndrome collaboration. Update on the World Health Organization Criteria for Diagnosis of Serrated Polyposis Syndrome. *Gastroenterology* 2020; 158 (6): 1520–1523. doi:10.1053/j.gastro.2019.11.310. Epub 2020 Jan 23 PMID: 31982410

[2] Fousekis FS, Mitselos IV, Christodoulou DK. Diagnosis, epidemiology and management of serrated polyposis syndrome: a comprehensive review of the literature. *Am J Transl Res* 2021; 13 (6): 5786–5795 PMID: 34306326; PMID: PMC8290820

OP224 The use of artificial intelligence improves quality criteria in screening colonoscopy

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DOI 10.1055/s-0043-1765228

Aims Artificial intelligence (AI) significantly improves polyp/adenoma detection rates (ADR/PDR) in screening colonoscopy. It is unknown if the use of AI also translates into improved key performance criteria (KPC) in a broad clinical application of screening colonoscopy. Aim: To evaluate KPC of screening colonoscopy in a multicentre, randomized controlled trial with/without support of AI performed in 3 private practices and a tertiary care hospital.

Methods Patients undergoing screening colonoscopy were randomized: A: conventional, high definition white light colonoscopy (HDWL; CC) or B: HDWL + AI algorithms (AI aided colonoscopy, AIAC; GI Genius, Medtronic, Ireland). Patient characteristics and KPC were recorded: Number, location, size of detect-

ed lesions; individual PDR/ADR; withdrawal time (in relation to time of day, 2h slots starting at 8.00h am until > 16.00h as last slot).

Results 1687 patients were randomized (CC = 844; AIAC = 843). CC showed a PDR of 40.3% compared to 59.7% in AIAC ($p = 0.01$), ADR was 26.9% and 44.8% ($p = 0.01$). In CC trainees (experience 200-250 colonoscopies) PDR/ADR were significantly lower compared to experts (experience > 2500 endoscopies; $p < 0.01$) but increased to expert level in AIAC. In CC withdrawal time significantly accelerated throughout the day ($dt = 128s \pm 84$; $p < 0.01$) between the first and last slot, this difference vanished ($p > 0.05$) with use of AIAC.

Conclusions AI algorithms significantly improve KPC in different settings (private practice/tertiary care center) of screening colonoscopy and could therefore improve patient safety. Though current results seem promising, long term studies (> 10y) are required to investigate whether increased PDR/ADR translate to reduced rates of CRC and increased long term survival.

Conflicts of interest ME received consultation fees from Medtronic

OP225 Sessile-serrated lesions: increasing quality in colonoscopy to improve detection and correlation with adenoma detection

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DOI 10.1055/s-0043-1765229

Aims Sessile serrated lesions (SSL) are challenging to identify and account for 20-30% of colorectal cancers. The relationship between SSL detection rate (SSL-DR) and adenoma detection rate (ADR) is not established. Aim: to analyse the correlation between SSL and adenoma detection and to assess colonoscopy predictors for increased SSL detection.

Methods Post-hoc analysis of a randomized controlled trial including patients submitted to high-quality colonoscopy between 2016 and 2021. Patients with a history of polyposis syndromes, inflammatory bowel disease and colorectal cancer were excluded.

Results 361 patients were included (52% males, age 64, IQR 55-69y). The SSL-DR was 6% and the ADR was 57%. The mean number of SSL detected per colonoscopy (NSSLPC) was 0.1 (± 0.5) and the mean number of adenomas per colonoscopy (NAPC) was 1.3 (± 1.8). There was no correlation between SSL-DR and ADR ($r = 0.06$, $p = 0.3$) nor between NSSLPC and NAPC ($r = 0.04$, $p = 0.4$). In a univariable logistic regression analysis including use of deep sedation, antispasmodic, withdrawal time, ascending colon preparation and previous history of polyps, only the use of antispasmodic, longer withdrawal time and previous history of polyps were significant predictors of the detection of SSL. In a multivariable analysis, all three predictors remained independently significant (Table 1). Meeting all three criteria was associated with a higher probability of SSL detection (23.3% vs 4.5%, $p < 0.001$). For SSL in the proximal colon, the use of antispasmodic increased the detection from 2.0% to 8.4% ($p = 0.004$) (► Table 1).

Conclusions SSL and adenoma detection seem to be independent. A previous history of polyps, use of antispasmodic and a longer withdrawal time are associated with increased SSL detection.

Conflicts of interest Authors do not have any conflict of interest to disclose.

VARIABLE	OR (95% CI)	P-VALUE
Previous history of polyps	OR 5.6 (2.1-14.5)	$p < 0.001$
Use of antispasmodic during colonoscopy	OR 4.1 (1.6-10.4)	$p = 0.003$
Longer withdrawal time	OR 1.8 (1.1-2.8)	$p = 0.01$

► **Table 1** Multivariate logistic regression analysis of colonoscopy quality parameters to predict SSL detection.

Cholangioscopy world 2

22/04/2023, 10:00 – 11:00

Ecocem

OP226 PERcutaneous transhepatic cholangioscopy using a new single-operator short CHOLangioscope (PERCHOL): a European feasibility study

Authors E. Perez-Cuadrado-Robles¹, S. Phillpotts², M. Bronswijk³, C. Cim Conrad⁴, C. Binda⁵, L. Monino⁶, K. Basiliya², M. Hollenbach⁷, A. Papaefthymiou², H. Alric¹, L. Quénéhervé⁸, A. Di Gaeta¹, P. Mathieu⁹, A. Khani¹⁰, D. Lorenzo¹¹, T. Moreels¹², G. Rahmi¹, F. Carlo⁵, F. Prat¹¹, W. Laleman³, C. Cellier¹, S. Van der Merwe³, G. Webster¹³, M. Ellrichmann⁴

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DOI 10.1055/s-0043-1765230

Aims The aim was to assess the feasibility and safety of percutaneous endoscopic cholangioscopy using a new short, dedicated device.

Methods This is an observational, multicenter retrospective study. All patients who underwent percutaneous cholangioscopy using Spyglass Discover in 2020-2022 were included.

The clinical success, defined as the complete duct clearance or the performance of at least one cholangioscopy-guided biopsy, was assessed. The histopathological accuracy was assessed. The technical success and the adverse event rate were considered.

Results Fifty-one patients (60.2 \pm 15.9 years, 45.1% male) were included. Most presented with an altered anatomy ($n = 40$, 78.4%) and biliary stones ($n = 34$, 66.7%). The technique was mainly wire-guided ($n = 44$, 86.3%) through a percutaneous sheath ($n = 36$, 70.6%) at a median of 8.5 days from percutaneous drainage.

Cholangioscopy-guided electrohydraulic lithotripsy was performed in 29 cases (56.9%), combined with a retrieval basket ($n = 8$, 27.6%). The clinical success was 96.6% requiring a median of 1 session. Seventeen patients (33.3%) underwent cholangioscopy-guided biopsies, with a clinical success and accuracy of 100% and 94.1%.

Overall, the technical success and adverse event rates were 100% and 7.6% in a median follow-up of 7 months.

Conclusions Percutaneous endoscopic cholangioscopy is effective and safe, requiring a low number of sessions for achieving duct clearance or accurate diagnosis.

Conflicts of interest EPCR is consultant of Boston Scientific

OP227 Cholangioscopy and electrohydraulic lithotripsy in the treatment of Mirizzi's syndrome treatment: a retrospective cohort study

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DOI 10.1055/s-0043-1765231

Aims Mirizzi's syndrome, in which biliary obstruction occurs due to a stone in the cystic duct or neck of gallbladder, can rarely be resolved with conventional endoscopic retrograde cholangio-pancreatography (ERCP), and so surgery has been considered the primary therapy. This retrospective cohort study aims to present the emerging role of single operator cholangioscopy (SOC) and electrohydraulic lithotripsy (EHL) as first line treatment.

Methods Adult patients with radiological evidence (MRCP, CT, ERCP) of Mirizzi's syndrome, who underwent ERCP with SOC and EHL from 2017 to 2020, were identified from our database and further analysed. Mirizzi's syndrome resolution during the first procedure was considered as the primary outcome; complete duct clearance, and adverse events were defined as secondary outcomes. Independent variables, such as gender, number of stones, method of sedation, were assessed for any impact on the outcomes, using the chi-square test.

Results Thirty-four patients were recruited with a mean age of 60.2 years (24-88.5) and a female to male ratio of 1.4:1. All cases had previous attempts at conventional ERCPs with a mean number of 2.5 procedures/case. Fifteen cases (44.1 %) had more than one stone. Resolution of Mirizzi's syndrome was achieved in 33 out of 34 cases (97%) during the index SOC. Considering secondary outcomes, complete clearance was achieved in 30 patients (88.2%) during the first session, and the remaining four were cleared in further session. No adverse events were recorded. None of the tested independent variables affected the outcomes.

Conclusions Single operator cholangioscopy with EHL offers high rates of successful Mirizzi treatment and should be the first choice for these cases.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP228 Efficacy and Safety of Digital Single-Operator Cholangioscopy Guided Laser Lithotripsy for Impacted Retained Cystic duct stones – A Single Tertiary Care Centre Experience

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DOI 10.1055/s-0043-1765232

Aims Cholangioscopy have expanded the horizons of pancreatico-biliary evaluation. Cholangioscopy guided laser lithotripsy have been reported to be safe and effective for difficult bile duct stones. Cystic duct stone (CDS) are technically challenging for endoscopic retrograde cholangiopancreatography (ERCP), so usually managed by surgery. We aimed to see efficacy and safety of cholangioscopy guided laser lithotripsy for cystic duct stones.

Methods All consecutive patients who underwent laser lithotripsy for CDS from July 2018 till Feb 2022 were recruited after obtaining institutional review board approval. Details of index ERCP and cholecystectomy were maintained prospectively. Patients with CDS underwent digital single-operator cholangioscopy (DSOC) guided laser lithotripsy. Primary outcome was complete cystic duct clearance determined by cholangioscopy or fluoroscopy (► Fig. ► 1).

Results Total 167 patients underwent laser lithotripsy for various indication during the study period. Out of 167 patients, 30 patients [median age 45.5 (range 26-73) years, male-20] underwent laser lithotripsy for CDS. Twenty-one patients had retained impacted CDS after cholecystectomy. Median size of CDS was 15 mm. Mechanical lithotripsy had failed in 40% patients. CDS clearance was achieved in 96.6% patients. Post ERCP CBD stenting was done in all patients and removed subsequently at median 4 weeks. Median duration of procedure was 65 (40-90) minutes. There were few adverse events 30% (mild-moderate-26.7% and major-3.3%). The median follow-up duration was 6 (range 3-43) months

Conclusions DSOC guided laser lithotripsy is safe and effective for cystic duct stones. It is minimally invasive and can be considered for retained impacted CDS after cholecystectomy

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Number of patients	Percentage (95% confidence interval)
Complete cystic duct clearance including Mirizzi syndrome	29	96.7% (0.64-1.38)
First attempt	25	86.6% (0.54-1.23)
Second attempt	29	96.7% (0.64-1.38)
Adverse events associated with procedure	9	30% (0.14-0.57)
Mild-moderate	8	26.7% (0.11-0.52)
Major	1	3.3% (0.00-0.18)

► Fig. 1

OP229V Bile duct tissue acquisition by cholangioscopic guided cryobiopsy technique: First in human case report

Authors J. Peveling-Oberhag¹, C. Zimmermann², W. Linzenbold², G. Peveling-Oberhag¹, M. Enderle², J. Albert³

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DOI 10.1055/s-0043-1765233

Abstract Text Indeterminate biliary strictures still pose a major challenge in endoscopic diagnostics. Brush cytology as well as fluoroscopic or cholangioscopic guided forceps biopsy show inadequate sensitivity. Cryobiopsy is a method for tissue acquisition, which allows for extraction of high tissue amounts with a minimal diameter endoscopic instrument. For the first time in man, we demonstrate cryobiopsy technique in the bile duct during direct cholangioscopy in a 41-year-old patient with primary sclerosing cholangitis and dominant stricture. Cryobiopsy led to a successful clinical outcome with excellent tissue samples that enabled histology-based diagnosis of a critical bile duct stricture.

Conflicts of interest The co-authors Corinna Zimmermann, Walter Linzenbold and Markus Enderle are employees of ERBE Elektromedizin GmbH, Tuebingen, Germany. Cryoprobes were provided by ERBE Elektromedizin GmbH, Tuebingen, Germany. All other authors have no conflict of interest.

OP230V Two endoscopic salvage extractions of fish bones by extra-anatomic cholangioscopy

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DOI 10.1055/s-0043-1765234

Abstract Text Fish bones can migrate through the digestive tract to the adjacent organ parenchyma, causing several complications such as perforation, infection or bleeding. The endoscopic alternatives in these cases are limited and a surgical approach is often required. Cholangioscopy and pancreatoscopy are expanding techniques with an increasing number of indications and could represent an alternative to surgery in selected cases. We report two cases in which extra-anatomic cholangioscopy was performed to access to a liver and pancreatic abscesses, allowing the extraction of these foreign bodies.

Conflicts of interest Enrique Pérez-Cuadrado-Robles holds a consultancy agreement with Boston Scientific. The remaining authors not have conflict of interest related to this manuscript.

OP231V Pancreatoscopy- Directed Electrohydraulic Lithotripsy for pancreatic ductal stones in painful chronic pancreatitis using SpyGlass System

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DOI 10.1055/s-0043-1765235

Abstract Text We performed pancreatoscopy with EHL (Electrohydraulic lithotripsy) using Spyglass System DS in order to clear pancreatic stones in a 65-year-old woman with chronic alcoholic pancreatitis. The patient was admitted for severe epigastric pain. Before EHL, the patient had undergone ERCP, including sphincterotomy, dilation of stricture of pancreatic duct (PD) and 2 previous PD stenting trial. EHL was successfully performed through the digital cholangioscope catheter using Spyglass System. Stone fragments were removed with the use of retrieval basket catheter and finally PD stenting was placed. No adverse events noted and the patient has been pain free since the procedure [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.
 [1] Sophia E, van der Wiel et al. Pancreatoscopy- guided electrohydraulic lithotripsy for the treatment of obstructive pancreatic duct stones: a prospective consecutive case series. *Gastrointest. Endosc* 2022; 95 (5): 905–914
 [2] Syed M, Saghir et al. Efficacy of pancreatoscopy for pancreatic duct stones: A systematic review and meta-analysis. *World J Gastroenterol* 2020; 26 (34): 5207–5219
 [3] McCarty Thomas R et al. Per-oral pancreatoscopy with intraductal lithotripsy for difficult pancreatic duct stones: a systematic review and meta-analysis. *Endoscopy International Open* 2020; 08: E1460–E1470

Results Of 276 patients, 58 (male 42, 72.4%; mean age- 44.3 ± 12.1 years) underwent EUS-CG and were compared with 102 propensity matched cases of E-CYA. In the EUS-CG arm, complete obliteration at 4-weeks was noted in 54 (93.1%) cases. At a median follow-up of 702 (IQR 466.5) days, 8 patients (13.8%) had re-bleeding. Compared to the E-CYA cohort, EUS-CG arm showed significantly lower number of sessions (1.0 vs 1.5; $p < 0.0001$) requirement, lower re-bleeding (13.8% vs 43.8%; $p < 0.0001$) and lower re-intervention (12.1% vs 47.4%; $p < 0.001$) rates. On multivariable regression analysis, size of the varix (aOR-2.89; CI 1.15-7.32) and technique of therapy (aOR-9.58; CI 3.15-29.1) were significant predictors of re-bleeding. A maximum GV size > 17.5 mm had a 69% predictive accuracy for need for re-intervention.

Conclusions EUS-guided therapy of GV using coil and CYA glue is a safe technique with better efficacy and lower re-bleeding rates compared to the conventional endoscopic CYA therapy (► Fig. 1).

Propensity matched comparison of the procedure details and outcome between EUS -guided and endoscopic management of gastric varices

Conflicts of interest Authors do not have any conflict of interest to disclose.

Outcome Parameters	EUS-Guided (n=58)	Endoscopic (n=102)	p value
Number of sessions required for complete obliteration	1.0 (1.0-2.0)	1.5 (1.0-4.0)	<0.0001
Obliteration at 4 weeks	54 (93.1%)	58 (62.4%)	<0.0001
Adverse events			
Abdominal pain	0 (0%)	18 (18.8%)	<0.0001
Embolization	0 (0%)	2 (2.1%)	0.53
Re-bleeding rate	8 (13.8%)	42 (43.8%)	<0.0001

Abbreviations: EUS Endoscopic ultrasound, RCS red color signs, GV Gastric varices, EV esophageal varices.

► Fig. 1

Upper GI bleeding: a mixed bag

22/04/2023, 11:30 – 12:30

Liffey Meeting Room 2

OP232 Endoscopic ultrasound-guided treatment of gastric varices with coil and glue injection fares better than endoscopic glue injection: an international multi-center propensity-matched analysis

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DOI 10.1055/s-0043-1765236

Aims Gastric varices (GV) are conventionally managed with endoscopic cyanoacrylate (E-CYA) glue injection. Endoscopic ultrasound (EUS) guided therapy using combination of coils and CYA glue (EUS-CG) is a newer modality. There is limited data comparing the two methods

Methods This international multicentre study included patients with GV undergoing endotherapy from 2 Indian and 2 Italian tertiary care centres. Patients undergoing EUS-CG were compared with propensity matched E-CYA cases from a cohort of 218 patients. Procedural details such as amount of glue, number of coils used, number of sessions required for obliteration, rebleeding rates, and need for re-intervention were noted.

OP233 Glasgow-Blatchford vs ABC score to identify low risk patients by Upper Gastrointestinal Bleeding patients: a prospective multicentre cohort study

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DOI 10.1055/s-0043-1765237

Aims Guidelines suggest using the Glasgow-Blatchford (GB) score to triage bleeding patients needing hospital admission. However, no data compared the predictive value of GB vs. other scores (Rockall, AIMS65, PNED, and ABC). We aimed at comparing their prognostic performance in identify the very low-risk patients for mortality by upper gastrointestinal bleeding (UGIB)

Methods Prospective multicenter cohort study including consecutive UGIB patients admitted to 50 Italian hospitals. We recorded the patients' clinical features, lab tests, procedures performed, and data to calculate scores. Re-bleeding, need for surgery/embolization, transfusions and endoscopic treatment were registered. Overall scores performance was measured by the ROC curve; the low-risk patients were defined by a score of 0/1.

Results Complete data of 2307 patients were evaluated (1887 non-variceal, 420 variceal). Survivors were 94.8%. The median scores at admission were GB 7, Rockall4, ABC4, PNED3, AIMS65 1. ROC area: GB 0.69; Rockall 0.70, AIMS65 0.77, ABC 0.80, PNED 0.84 ($p < 0.000$). At 1 point, the scores specificity was $\geq 95\%$ for all except for the AIMS65 (83.8%). The sensitivity varied, with AIMS65 at 60.4%, PNED at 28.1%, Rockall at 13%, and ABC at 11.2%, and GB at 7.4%. All scores had a high PPV ($\geq 98\%$) and a low NPV ($< 7\%$). The GB and the ABC scores showed the highest PPV (100%) with a lower NPV (5.5% and 5.8%). The number of low risk patients was statistically higher using the ABC score 245 compared to the GB 161 ($p < 0.002$).

Conclusions The ABC score 1 identifies a significant higher number of low-risk patients compared to GB. Further study is required to validate the result.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP234 Trans-jugular intrahepatic portosystemic shunt with or without gastro-esophageal variceal embolization for the prevention of variceal rebleeding: A systematic review and meta-analysis

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DOI 10.1055/s-0043-1765238

Aims The role of variceal embolization at the time of trans-jugular intrahepatic portosystemic shunt (TIPS) creation for the prevention of gastroesophageal variceal rebleeding remains controversial. Therefore, we performed a meta-analysis to compare the incidence of variceal rebleeding, shunt dysfunction, encephalopathy, death, and gastritis between patients treated with TIPS alone and those treated with TIPS in combination with variceal embolization

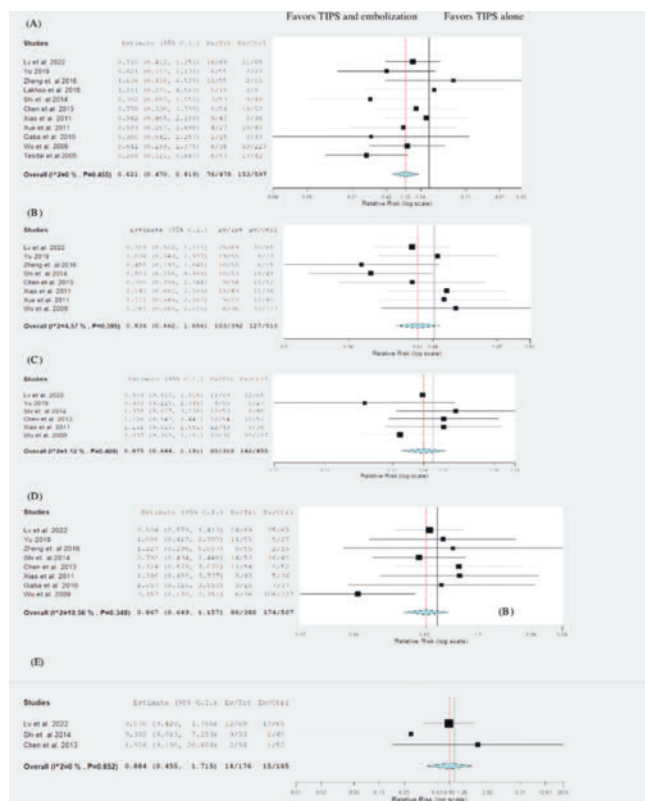


Fig. 1 Forest plots of meta-analyses comparing the incidence of variceal rebleeding (a), encephalopathy (b), shunt dysfunction (c), death (d) and gastritis/peptic ulcer between (TIPS) alone group and TIPS combined with variceal embolization group.

Methods We performed an extensive literature search from inception through November 2022 using the PubMed, Embase, Scopus, and Web of Science databases for all studies comparing the incidence of complications between TIPS alone and TIPS with embolization. The primary outcome of our study was variceal rebleeding. Secondary outcomes include shunt dysfunction, encephalopathy, death, and gastritis. The random effects model was used to calculate

the relative risk (RR) with the corresponding 95% confidence intervals (CI) of our desired outcome. A P-value < 0.05 was considered statistically significant.

Results Eleven articles were included in our study. Compared to the TIPS only group, the TIPS with variceal embolization group had a significantly lower incidence of variceal rebleeding (► Fig. 1a). There was no significant difference in risk of encephalopathy, shunt dysfunction, death and gastritis/peptic ulcer (Fig ► 1:B-E)

Conclusions Our study shows that adding variceal embolization to TIPS significantly reduced the incidence of variceal rebleeding in patients with cirrhosis. Given the variability in variceal indications, stent type, and embolic agents, additional randomized controlled trials with a larger sample size are warranted to validate these results.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP235 Early versus delayed resumption of anti-coagulation after endoscopic hemostasis in upper gastrointestinal bleeding: a propensity-score analysis

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DOI 10.1055/s-0043-1765239

Aims There were limited data on optimal timing of anticoagulant resumption after upper gastrointestinal bleeding (UGIB) and endoscopic hemostasis. We aimed to evaluate the bleeding and thrombotic risks in early or delayed anticoagulant resumption.

Methods A retrospective cohort study with propensity-score analysis was performed in 2016-2022. Active oral anticoagulant users who developed UGIB and received endoscopic hemostasis were included. Data on demographics, medications (antiplatelet, heparin bridging) and endoscopic factors (site, etiology, stigmata of hemorrhage, endoscopic therapy) were collected. A propensity-score weighting model was developed between the early (0-3 days) and delayed (> 3 days) anticoagulation resumption groups. The primary outcome was clinically significant rebleeding, defined as a composite endpoint of repeated endoscopy or blood transfusion within 30 days. The secondary outcome was new onset cardiovascular events within 90 days [1-3].

Results 146 patients were included. Delayed anticoagulation resumption was not associated with a reduced risk of 30-day rebleeding (HR 0.94, 95%CI 0.43-2.05, p=0.877). Use of heparin bridging was associated with a higher rebleeding risk (HR 2.28, 95%CI 1.04-4.99, p=0.040). In subgroup analysis, delayed resumption was associated with a lower rebleeding rate in patients with high-risk stigmata of hemorrhage (HR 0.42, 95%CI 0.18-0.96, p=0.041). (► Fig. 1) Thrombotic event rate was numerically higher in the delayed (6.2%, 5/81) than early (4.6%, 3/65) resumption group.

Conclusions Delayed resumption of anticoagulation was not associated with a lower rebleeding risk after endoscopic hemostasis in UGIB, but a numerically higher thrombotic risk.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Gralnek IM, Stanley AJ, Morris AJ et al. Endoscopic diagnosis and management of nonvariceal upper gastrointestinal hemorrhage (NVUGIH): European Society of Gastrointestinal Endoscopy (ESGE) Guideline – Update 2021. *Endoscopy*. 2021; 53 (3): 300–332

[2] Barkun AN, Almadi M, Kuipers EJ et al. Management of Nonvariceal Upper Gastrointestinal Bleeding: Guideline Recommendations From the International Consensus Group. *Ann Intern Med* 2019; 171 (11): 805–822

[3] Sung JJ, Chiu PW, Chan FKL et al. Asia-Pacific working group consensus on non-variceal upper gastrointestinal bleeding: an update 2018. *Gut* 2018; 67 (10): 1757–1768

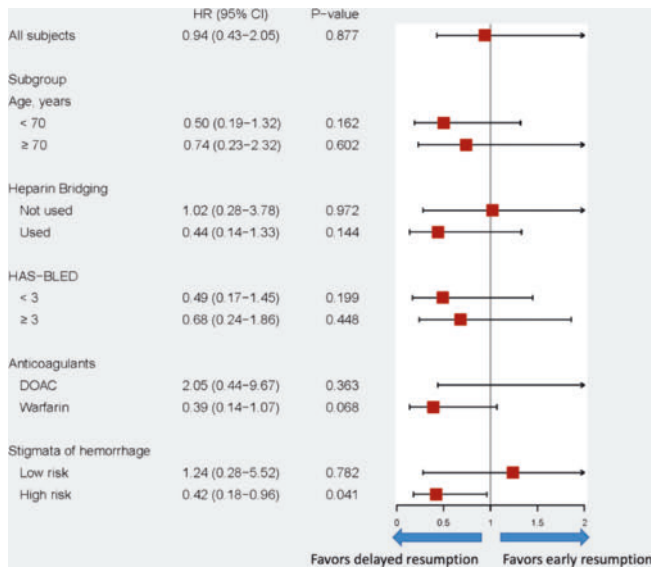


Fig. 1 Main and subgroup analysis – Forest plot comparing primary outcome (30-day clinically significant rebleeding) between early (0-3 days) and delayed (>3 days) anticoagulation resumption groups. HAS-BLED: bleeding risk prediction score. DOAC: direct oral anticoagulant.

OP236 Endoscopic Therapy in Suspected Upper GI Bleed in the UK: Analysis of data from the National Endoscopy Database (NED)

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DOI 10.1055/s-0043-1765240

Aims We aimed to improve triage of suspected upper GI bleed (UGIB) patients by investigating factors impacting whether endoscopic therapy was performed.

Methods Analysis of OGD uploads to the NED from 1/3/2019 to 29/2/2020 was performed. UGIB was defined as procedures with indications of melaena and/or haematemesis. The proportion where endotherapy (at least one of: injection, banding, heater probe, clip, haemostatic spray, APC) was performed was calculated. Mixed-effects logistic regression was performed with endoscopist as random effect and patient sex, patient age, admission, symptoms as fixed effects upon the dependent variable (endotherapy).

Results 47,481 OGDs were performed for UGIB; endotherapy was performed in 14.8%. Patients aged 18-39 were half as likely to undergo endotherapy (OR 0.5, 95% CI 0.5-0.6), with male patients at higher risk than females (OR 1.3, 95% CI 1.2-1.4). Patients presenting with both melaena and haematemesis were almost three times as likely to undergo endotherapy when compared to those presenting with melaena alone (OR 2.8 (95% CI 2.6-3.0))

Conclusions Younger and female patients were at lower risk of requiring endotherapy, while patients with both melaena and haematemesis were at three times the risk as those with each symptom alone. Incorporating these findings into UGIB risk scores would improve patient triage.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP237 Could BEST-J also be BEST-E? Validation of a Predicting Model for Delayed Bleeding After Gastric Endoscopic Submucosal Dissection on a European Sample

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DOI 10.1055/s-0043-1765241

Aims Delayed bleeding (DB) is a possible adverse event following gastric endoscopic submucosal dissection (ESD). The Bleeding after ESD Trend from Japan (BEST-J) score was created as a risk prediction model for DB following gastric ESD, but is yet to be validated in non-Asiatic populations. We aimed to apply and validate the BEST-J score on a European sample.

Methods Longitudinal study of consecutive patients undergoing gastric ESD on a European Endoscopic Unit. DB was defined as a hemorrhage with clinical symptoms and confirmed by emergency endoscopy from the time of completion of ESD to 28 days after ESD. BEST-J score (use of antithrombotic agents; chronic kidney disease; multiple lesions; lesion ≥ 30mm; lesion in lower-third of the stomach) was calculated and confronted with the outcome (DB).

Results Final sample included 161 patients, 102 (63.4%) male, with a mean age of 68 ± 8 years. From these, 10 (6.2%) presented DB following ESD, with a median time to bleeding of 7 days (IQR 6.8). According to BEST-J, bleeding risk was low (0-1 points) in 111 (68.9%), intermediate (2 points) in 29 (18.0%), high (3-4 points) in 16 (9.9%) and very high (≥ 5 points) in 5 (3.1%) patients. BEST-J score presented an excellent accuracy predicting DB in our sample, with an AUC = 0.907 ($p < 0.001$). The optimal cut-off value to predict DB was a BEST-J score ≥ 3, which matches the cut-off value for high-risk of bleeding in the original investigation. This value had a sensitivity of 90% and specificity of 92%.

Conclusions The BEST-J score still presents excellent accuracy in risk stratification for post-ESD bleeding in European individuals. Thus, this score may help to guide which patients benefit the most from prophylactic therapies following gastric ESD in this setting.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Interventional colonoscopy – beyond polyps

22/04/2023, 11:30 – 12:30

Liffey Meeting Room 3

OP238V Endoscopic LAMS placement for benign distal colonic obstruction due to complete rectal stricture in a patient with chronic ischemic colitis

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DOI 10.1055/s-0043-1765242

Abstract Text To describe LAMS placement in a poor surgical candidate with ischemic colitis and rectal stricture. An 87-year-old patient, refusing any kind of surgery, presented with tenderness and vomit. A tight (2-3 mm) short circumferential stricture was found, with severe dilation of proximal limbs. We deployed a 20x10 mm LAMS (Hot-Axios) under endoscopic and fluoroscopic control and dilated the stent up to 18 mm with a CRE balloon. Finally, a therapeutic gastroscope could easily pass through the LAMS. Obstruction resolved

and the patient was discharged 2 days later. Endoscopic LAMS deployment is a valid and effective alternative to endoscopic dilation or SEMS placement, reducing the risk of stent migration.

Conflicts of interest Lisotti has a proctorship contract with Boston Scientific.

OP239V EUS-guided drainage of non-surgical pelvic abscesses using small size lumen-apposing metal stents

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DOI 10.1055/s-0043-1765243

Abstract Text Endoscopic-ultrasound pelvic abscess drainage (EUS-PAD) is an alternative to the percutaneous and surgical approach to treat non-surgical pelvic abscesses. We reported case series of EUS-PAD of non-surgical pelvic abscesses using small lumen apposing metal stent (LAMS). Five patients (4 men, 36-83 years) underwent EUS-PAD using small LAMS. Technical success rate was 100 %. One LAMS was misdeployed and placed correctly using a rescue technique. All LAMS were endoscopically removed after 2 weeks and replaced by a double pigtail stent if it were necessary. Clinical success rate was 80 % without pelvic abscess recurrence. EUS-PAD using small LAMS seems feasible and safe to treat pelvic abscesses of non-surgical origin (► **Table 1**).

Conflicts of interest Braun Medical/Prion Medical

Patient	Indication	EUS-PAD method	Success	Adverse events
83 years old woman	Pelvic abscess on fistula	Wireguided method LAMS 10*10	Technical : Yes Clinical : Yes	none
36 years old men	Pelvic abscess on Crohn's disease	Wireguided method LAMS 6*8	Technical : Yes Clinical : No	Several anal pain, Mysdeployment LAMS
57 years old men	Diverticular abscess	Free Hand LAMS 10*10 + DPS	Technical : Yes Clinical : Yes	none
83 years old men	Diverticular abscess	Free Hand LAMS 10*10 + DPS	Technical : Yes Clinical : Yes	none
49 years old men	Pelvic abscess on fistula	Free Hand LAMS 6*8	Technical : Yes Clinical : Yes	none

► **Table 1** Characteristics of patients with pelvic abscesses treated with Endoscopic-ultrasound pelvic abscess drainage (EUS-PAD) with small lumen apposing metal stent (LAMS) (DPS: double pigtails stent).

OP240V Sphincter saving endoscopic resection of anorectal Gastro Intestinal Stromal Tumor (GIST) arising from Internal Anal Sphincter (IAS)

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DOI 10.1055/s-0043-1765244

Abstract Text AIMS:Submucosal tunneling endoscopic resection(STER),Endoscopic full-thickness resection(EFTR) rectum-sphincter saving resection of SELs.

METHODS:Case1:GIST-Anal canal.APR + end-colostomy-refused,Imatinib x 6m.Sigmoidoscopy-normal overlying mucosa. Anorectal Manometry(ARM)-normal.STER-Simultaneous digital palpation,distal border SEL marked proximal to dentate line,transverse incision,tunneling,enucleation-SEL from surrounding muscle avoiding injury-EAS.Case 2:Similar case-ulcerated overlying mucosa. EFTR-Full thickness resection (Blunt dissection-levator ani), closure [1].

RESULTS:ARM-Normal.

CONCLUSION: Safety,efficacy,technical aspects-STER/EFTR-anorectal GIST.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Qu H, Xu Z, Ren Y, Gong Z, Ju RH, Zhang F, Kang H, Xu Y, Chen X. Recent Advancements in the Treatment of Rectal Gastrointestinal Stromal Tumor: In Era of Imatinib. *Cancer Manag Res* 2022; ; 14: 1141-1152. doi:10.2147/CMAR.S352860. PMID: 35321404; PMCID: PMC8934706

OP241V Submucosal Tunneling Endoscopic Resection for Rectal GIST

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DOI 10.1055/s-0043-1765245

Abstract Text This video illustrates the resection of a rectal GIST by means of endoscopic tunnelling. A 60-year-old male was referred for resection of a rectal subepithelial tumor originating from the muscle layer. The procedure was undertaken under propofol sedation. A small horizontal anal incision was made, a pocket was created and the rectal tumor was enucleated and removed. The anal incision was closed and the patient was hospitalized for 1 night. Histology showed a 3 cm GIST. The patient had an uneventful recovery.

Conflicts of interest Authors do not have any conflict of interest to disclose.

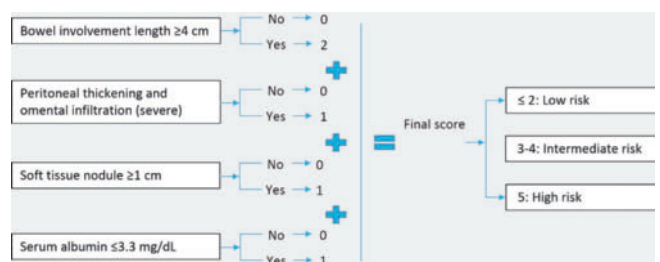
OP242 A Scoring Model to Predict the Clinical Outcome of Self-expandable Metal Stents in Patients with Colorectal Obstruction Due to Extracolonic Malignancy

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DOI 10.1055/s-0043-1765246

Aims We aimed to investigate the predictive factors for technical and clinical success of SEMS placement and develop simple and useful strategies for predicting the clinical outcome of SEMS placement in patients with colorectal obstruction due to ECM.

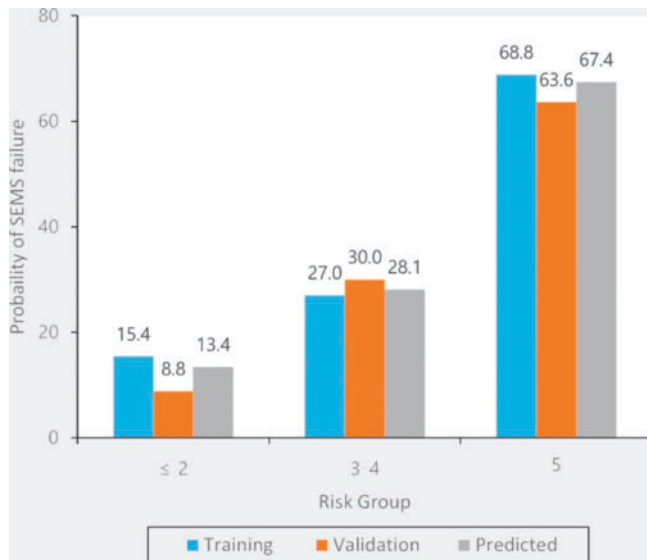


► **Fig. 1** Risk score algorithm for the entire cohort.

Methods Between January 2006 and December 2018, patients with colorectal obstruction due to ECM who had underwent SEMS placement were recruited. After identifying independent predictive factors for success of SEMS placement, we developed a prediction model using logistic analysis. The model was built and validated in a training and a validation data set, respectively. Using the model, we risk stratified patients into low-, intermediate-, and high-risk groups (► **Fig. 1**).

Results A total of 315 patients were identified. Overall, 282 patients (89.5 %) achieved technical success, and 226 patients (71.7 %) achieved clinical success. Multivariate logistic analysis showed that severe peritoneal thickening and

omental infiltration, soft tissue nodule ≥ 1 cm, bowel involvement length ≥ 4 cm, and serum albumin level ≤ 3.3 mg/dL were independently associated with a higher risk for failure of SEMs placement. The prediction model that incorporated these factors had an area under the receiver operating characteristic curve of 0.73 (95% CI 0.65–0.81) for the training data and 0.71 (95% CI 0.60–0.82) for the validation data. Patients with low-, intermediate-, and high-risk scores had a predicted failure of SEMs placement of 13.4%, 28.1%, and 67.4%, respectively (► Fig. 2).



► Fig. 2

Conclusions Our prediction model incorporating four variables may be useful for selecting patients who benefit from SEMs placement for colorectal obstruction caused by ECM.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP243V Endoscopic suturing in colorectal anastomotic leakage closure

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DOI 10.1055/s-0043-1765247

Abstract Text Endoscopic suturing is a novel treatment in colorectal anastomotic leakage offering a minimal invasive alternative to surgery. When clinically suspected, CT-scan was performed to detect the leakage and collection. They were later confirmed by contrast injection during the colonoscopy. A pig-tail stent was placed to drain the associated collection, guided by endoscopic and radiologic image and withdrawn after resolution in CT-scan. The margins of the wall defect were refresh with argon plasma and sutures were placed in two-layer pattern with Overstitch system (Apollo Endosurgery). A last verification with contrast injection was made to ensure the wall defect closure.

Conflicts of interest Authors do not have any conflict of interest to disclose.

ERCP for biliary problem solving

22/04/2023, 11:30 – 12:30

Liffey Meeting Room 1

OP244 Lack of effect of endoluminal radiofrequency ablation on survival and stent patency in patients with cholangiocarcinoma and pancreatic cancer: randomised controlled trial

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DOI 10.1055/s-0043-1765248

Aims Endoluminal radiofrequency ablation (RFA) has been suggested a promising treatment modality for palliative treatment of cholangiocarcinoma (CCC) and pancreatic cancer (PC).

Methods In a randomized controlled manner, we compared endoluminal radiofrequency ablation plus stenting with stenting alone in patients with malignant biliary obstruction with survival as the primary outcome and stent patency as the secondary outcome.

Results A total of 161 patients with malignant biliary obstruction (85 with CCC and 76 with PC) were randomized [81 RFA + stent (44 CCC, 37 PC), 80 stent (41 CCC, 39 PC)]. The recruitment was terminated for futility after an interim analysis before enrolling the originally planned 280 patients. There was no difference in survival in patients with cholangiocarcinoma (median survival 10.5 months (95%CI 6.7-18.3) vs. 10.6 months (95%CI 9.0-24.8) and pancreatic cancer (median survival 6.4 months (95%CI 4.3-9.7) vs. 5.6 months (95%CI 5.6-11.3)). Furthermore, no benefit was seen in stent patency in both CCC patients and PC patients. Complications occurred in 7 patients (8.6%) treated with RFA and 7 patients (8.8%) treated with stenting only (NS) (► Table 1).

Conclusions In malignant biliary obstruction, endoluminal radiofrequency ablation in addition to stenting was not superior to stenting alone in prolonging survival or stent patency.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	CCC		PC	
	G1 (RFA) N = 44	G2 (control) N=41	G1 (RFA) N = 37	G2 (control) N=39
3 months	83.3 (74.3-91.5)	77.5 (67.7-86.1)	99.8 (99.1-100)	95.8 (90.4-100)
6 months	74.3 (61.4-85.8)	66.0 (51.2-78.4)	98.5 (95.4-100)	92.6 (84.3-100)
9 months	67.4 (51.3-81.1)	57.6 (38.8-72.7)	94.9 (88.1-100)	89.6 (78.9-99.9)
12 months	61.7 (43.1-77.4)	50.9 (29.9-68.3)	88.4 (75.9-100)	86.9 (73.7-99.6)

► Table 1 Stent patency.

OP245 Needle Knife Fistulotomy Versus Partial Ampullary Endoscopic Mucosal Resection for Difficult Biliary Cannulation: a prospective randomised controlled trial

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DOI 10.1055/s-0043-1765249

Aims Cannulation success with standard techniques is reported to be around 90%. Even in expert hands and despite all efforts, it can be challenging that needs an alternate intervention. Needle-knife fistulotomy (NKF) is recommended as the initial technique for pre-cutting because the rate of post-ERCP pancreatitis (PEP) is significantly low. Still, it's performed as a free-hand technique without using a guidewire which may cause complications such as perforation

OP248 Performance Evaluation of Single-Use Duodenoscopes for Endoscopic Retrograde Cholangiopancreatography: A Systematic Review And Meta-Analysis

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DOI 10.1055/s-0043-1765252

Aims Single use duodenoscopes were developed to reduce the risk of infection transmission from contaminated reusable duodenoscopes. This systematic review and meta-analysis examined the performance of single use duodenoscopes in patients undergoing endoscopic retrograde cholangiopancreatography (ERCP).

Methods Medline, Embase, Scopus, and Cochrane databases were searched through Aug 2022. Primary outcome was the successful cannulation of the desired duct. Secondary outcomes assessed duodenoscope maneuverability and sphincterotomy, bile duct clearance, stent placement and removal, and balloon dilation. Rates of post-ERCP pancreatitis (PEP) and adverse events were also analyzed.

Results Seven articles were included (642 patients). The pooled rate of successful cannulation was 95% (95% Confidence Interval (CI): 93%-96%, I² = 0%, P = 0.46). The pooled rates of successful sphincterotomy was 73% (95% CI: 22%-100%, I² = 97%, P < 0.001) and of successful clearance of bile duct was 100% (95% CI: 95%-100%, I² = 2%, P = 0.38). The pooled rate of successful stent placement and removal was 97% (95% CI: 89%-100%, I² = 0%, P = 0.1) and 100% (95% CI: 96%-100%, I² = 0%, P = 0.88), respectively. The pooled rate of successful dilation of biliary strictures was 97% (95% CI: 81%-100%, I² = 0%, P = 0.74). The pooled rates of PEP was 2% (95% CI: 0.4%-3.4%, I² = 0%, P = 0.80) and of total adverse events 7% (95% CI: 4% - 10%, I² = 47%, P = 0.08). Procedure related infections were reported in 4 patients.

Conclusions Single use duodenoscopes are associated with high technical performance and thus represent a reliable alternative to reusable duodenoscopes.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP249V Biliary “empierrement” in a patient with biliodigestive anastomosis stricture after pancreaticoduodenectomy

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DOI 10.1055/s-0043-1765253

Abstract Text An 84-years-old man with a history of Whipple procedure presented biliodigestive anastomosis (BDA) stricture and bile duct stones (BDSs). A first ERCP performed in other hospital failed to reach the BDA, hence percutaneous transhepatic biliary drainage was placed and the patient was referred to our hospital. BDA was reached using a pediatric colonoscope. Pneumatic dilatation was performed, and stones were removed through Dromia basket. Multiple biliary fc-SEMS were placed, with plastic inside of them. Six months later, cholangiography showed recurrence of multiple large BDSs. Due to the large caliber of BDA after fc-SEMS placement, a direct access to hepatic duct was performed and BDSs were removed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

EUS guided pancreaticobiliary drainage: doing it safe and right

22/04/2023, 11:30 – 12:30

Ecocem

OP250 Outcomes of Minor versus Major Papilla Rendez-vous for EUS-guided Pancreatic Duct Drainage

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DOI 10.1055/s-0043-1765254

Aims EUS-guided pancreatic duct drainage (EUS-PD) using rendez-vous has been suggested as a safer alternative to pancreatogastrostomy. Large stones or extensive fibrosis in the pancreatic head may however preclude a major papilla rendez-vous, leading to preferential guidewire advancement through the minor papilla. Our aim was to compare the outcomes of minor and major papilla rendez-vous.

Methods This is a tertiary single-center retrospective analysis of all consecutive EUS-PD procedures performed for symptomatic chronic pancreatitis from 2015 to April 2022. Successful EUS-PD rendez-vous cases were included and minor and major papilla procedures were compared.

Results Sixty procedures were identified, of which 33 patients were included in the final analysis (66.6% male, mean age 56.1 [SD ± 14.8] years, 54.6% active smokers). EUS-PD was performed following failed retrograde intervention in all patients. In 21 out of 33 patients (63.6%), minor papilla rendez-vous was used. Clinical success, defined as resolution of pain/symptoms, was achieved in 81.0% vs. 58.3% in the major papilla group (p = 0.230). The overall incidence of AE was similar in both groups (9 [42.9%] vs. 4 [33.3%] events, p = 0.719), with a comparable distribution in severe (p = 0.364), moderate (p = 0.538) and mild AE (p = 0.107). The recurrent pancreatitis rate was similar (28.6% vs. 25.0%, p = 1.000).

Conclusions For patients with symptomatic chronic pancreatitis, EUS-PD using minor papilla rendez-vous attained similar results when compared to major papilla rendez-vous. These data suggest that in cases where a standard rendez-vous is not possible, pancreatic duct drainage through the minor papilla can be considered as equally effective.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP251 Same-session endoscopic diagnosis and symptoms' palliation in pancreatobiliary malignancies: clinical impact of Rapid-on-Site Evaluation

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DOI 10.1055/s-0043-1765255

Aims Besides increasing adequacy, Rapid-on-Site Evaluation (ROSE) during Endoscopic Ultrasound (EUS) or Endoscopic Retrograde Cholangiopancreatography (ERCP) may have an impact on choices and timing of subsequent therapeutic procedures, yet unexplored.

Methods Retrospective evaluation of a prospectively maintained database of an academic centre with availability of ROSE and hybrid EUS-ERCP suites. All consecutive patients referred for pathological confirmation of suspected malignancy and Jaundice or Gastric Outlet Obstruction (GOO) between Jan-2020 and Sep-2022 were included.

Results Of 541 patients with underlying malignancy, 323 (60%) required same-session diagnosis (male: 55%; age 70[62-77]; pancreatic cancer = 77%). ROSE adequacy was 96%. Amongst 302 patients with Jaundice, ERCP cannulation was successful in 83.7%, but final drainage completed in 97% thanks to 37 EUS-CholedochoDuodenostomies and 5 EUS-HepaticoGastrostomies. Amongst 21 patients with GOO, EUS-GastroEnterostomy was performed in 15 and duodenal stenting in 6. All 53 therapeutic EUS procedures occurred after adequate ROSE. Plastic stenting was significantly more frequent after inadequate ROSE (10/11[90.9%] versus 14/240[5.8%], $p < 0.0001$). Median hospital stay for diagnosis and palliation was 3[2-7] days and time to chemotherapy 33[24-47] days.

Conclusions Nearly two-thirds of oncological candidates to endoscopic symptoms palliation requires contemporary pathological diagnosis. An adequate ROSE allows same-session state-of-the-art therapeutics standardly restricted to pathologically confirmed malignancies, potentially leading to shorter hospitalization and time to chemotherapy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP252 EUS-guided biliary drainage with FC-SEMS and LAMS in distal malignant biliary obstruction after ERCP failure: retrospective analysis of 7-years' experience in a Sicilian referral tertiary-care center for biliopancreatic disease

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DOI 10.1055/s-0043-1765256

Aims EUS-BD with FC-SEMS and ECE-LAMS is a mini-invasive approach for jaundice palliation in distal malignant biliary obstruction (D-MBO) not amenable to ERCP, with good efficacy and not exiguous adverse events (AEs).

Sex, M/F	25/36
Etiology (n - %)	pancreatic cancer (48/61), duodenal carcinoma (1/61), cholangiocarcinoma (10/61), ampullary neoplasia (2/61).
Causes of ERCP failure (n - %):	duodenal obstruction (29/61 – 47.5%), presence of in-situ duodenal stent (11/61 – 18%), neoplastic infiltration of papilla (15/61 – 24.50%), technically infeasible even advanced technique (4/61 – 6.5%), impossible deep biliary cannulation for a too tight biliary stenosis (2/61 – 3.5%).
Type of EUS-BD (n):	55/61 EUS-BD: 8 CDS with FC-SEMS, 46 CDS with Hot-Axios, 1 CDS with Hot-Spaxus 6/61 EUS-GBD with Hot-Axios as a rescue position
LAMS size (n - %)	6x8 mm (6/53 – 11.3%); 8x8 mm (33/53 – 62.2%); 10x10 mm (11/53 – 20.7%); 15x10 mm (2/53 – 3.9%), Hot-Spaxus 8 mm (1/53 – 1.9%).
FC-SEMS size (n - %)	10x60 mm (8/8 – 100%) Niti-S Taewong
CBD diameter: median (IQR)	15 (13-16.5)
Use of guidewire for LAMS (n - %)	15/53 – 28.3% (12 with CBD diameter \leq 15 mm and 3 CBD diameter $>$ 15 mm for scope instability and LAMS delivery catheter malfunction).
Technical success (n - %)	Cumulative: 88.5% (54/61 patients) LAMS: 86.8% (46/53 patients) FC-SEMS: 100% (8/8 patients)
Intra-procedural AEs for LAMS (n - %)	7/53 – 13.2% first flange maldeployment 2/53 – 3.9% self-limiting bleeding
RT for maldeployment with FC-SEMS placement (n)	Over-the-wire endoscopic fashion (5/7), trans-papillary percutaneous-transhepatic-endoscopic rendez-vous (1/7), trans-papillary laparoscopic-endoscopic rendez-vous (1/7)
Efficacy RT (n - %):	7/7 – 100%
Clinical success (n - %)	61/61 – 100%
Follow-up, days: median (IQR)	160 (102-205)
Bilirubin pre, mg/dl: median (IQR)	14 (10-15.5)
Bilirubin post, mg/dl: median (IQR)	2 (1-3)

► Table 1

Methods From January 2015 to December 2021, we retrospectively enrolled all the EUS-BD for biliary decompression in unresectable D-MBO and failed ERCP. FC-SEMS was released in a multistep approach and LAMS in a “free-hand”, “single-step” and “exchange free” technique. Primary study were technical success, AEs rate and intra-operative rescue therapy (RT).

Results 61 EUS-BD were enrolled: 8 choledcho-duodenostomy (CDS) with FC-SEMS, 46 CDS with Hot-Axios, 1 CDS with Hot-Spaxus and 6 cholecysto-gastrostomy with Hot-Axios (Table). Technical success was 100% (8/8 patients) with FC-SEMS and 86.8% (46/53 patients) with LAMS. In the LAMS group, technical failure was 13.2% (7/53 patients) with 7-cases Hot-Axios maldeployment during EUS-CDS that were treated with RT by an over-the-wire FC-SEMS, released endoscopically in 5/7 cases, using the percutaneous-transhepatic-endoscopic-rendezvous in 1/7 case and laparoscopic-endoscopic-rendezvous in the last case. RT efficacy was 100% (7/7). Final clinical success was 100% (► Table 1).

Conclusions EUS-BD is an effective modality treatment for jaundice palliation after ERCP failure with good clinical outcome as reported in our long retrospective analysis. Small-fit-size LAMS and pre-loaded guidewire should be preferred by the endoscopists that are required to be highly skilled in EUS-ERCP-stenting and to work in tertiary-care centres with multidisciplinary team.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP253 Predictors of failure of endoscopic ultrasound guided antegrade biliary stent placement: experience from a tertiary care cancer center

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DOI 10.1055/s-0043-1765257

Aims Endoscopic Ultrasound antegrade stenting (EUS-AG) is an option in biliary obstruction after failed ERCP¹. We aimed to assess the predictors of EUS-AG technical failure

Methods Retrospective review of prospectively maintained endoscopy database at a tertiary care oncology center was done for patients undergoing EUS-AG between January 2021 and September 2022. Demographics details, details of underlying malignancy, stage, presence of cholangitis and its severity, baseline biochemical investigations and reason for EUS-AG were noted. Size of pre-stenotic segment of biliary tree on endoscopic ultrasound, site of puncture, level of obstruction on cholangiogram and accessory used for tract dilatation were recorded. Primary outcome was technical success defined by successful stent placement across the papilla. Secondary outcomes were factors associated with technical failure [1].

Results Seventy-four patients underwent EUS-AG during the study period. Technical success was achieved in 86.5% (64/74) patients. There was no association between age, site of puncture, level of obstruction, instrument used for tract dilatation or presence of cholangitis and technical failure of EUS-AG. Patients with technical failure had a higher level of bilirubin (mean 25.7 + 15.2 mg% vs 15.5 + 9.33 mg%) and significantly dilated pre-stenotic segment on EUS (mean 21 + 4.7 mm vs 17.2 + 4.2 mm) as compared to those without, on univariate and multivariate analysis. Complications were noted in 6 (8.1%) patients (► Table 1).

Conclusions Patients having higher level of bilirubin ($>$ 25 mg%) and higher dilatation of pre-stenotic segment ($>$ 21 mm) were associated with technical failure of EUS-AG.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Sundaram S, Mane K, Patil P et al. Endoscopic Ultrasound-Guided Antegrade Stent Placement in Patients with Failed ERCP as a Modality of Preoperative and Palliative Biliary Drainage [published online ahead of print, 2022 Aug 10]. Dig Dis Sci 2022. doi:10.1007/s10620-022-07655-w.

	Technical success	Technical Failure	Univariate analysis	Multivariate analysis
Age	54.36±12.67 years	55.40±7.9 years	0.731	
Presence of cholangitis				
Yes	15	3	0.653	0.397
No	49	7		
Mean Baseline Bilirubin	15.54±9.33 mg%	25.75±15.27 mg%	0.005	0.021
Level of block				
Proximal	28	2	0.155	0.809
Distal	36	8		
Site of puncture				
Segment II	33	4	0.496	0.469
Segment III	31	6		
Tract dilated with				
5.5 Fr ERCP cannula	19	4	0.512	0.944
6 Fr cystotome	45	6		
Mean diameter of pre-stenotic segment	17.2±4.2	21±4.7 mm	0.014	0.037

► **Table 1** Comparative analysis of predictors of technical failure of EUS AG.

OP254 Endoscopic ultrasound guided hepaticogastrostomy versus percutaneous transhepatic biliary drainage for malignant hilar obstruction: an international multicenter comparative study

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DOI 10.1055/s-0043-1765258

Aims Dedicated comparison between the conventional percutaneous transhepatic biliary drainage (PTBD) and the recent endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) for the complex disease anatomy of malignant hilar obstruction (MHO) is lacking and hence this study was planned.

Methods Patients who had undergone EUS-HGS or PTBD for MHO from the records of 5 tertiary care academic centres were included. Primary outcome was clinical success defined as improvement of symptoms of cholangitis and/or effective biliary drainage (EBD) during the index procedure without the need for additional intervention. Other outcome parameters assessed included technical success, adverse events, re-intervention rates and hospital stay.

Results A total of 287 patients (mean age 59.15 ± 11.9 years; male 159 [55.4%]) of MHO were identified, of which 97 underwent EUS-HGS and 190 PTBD. While technical success was similar, EUS-HGS demonstrated higher clinical success (82.5% vs 68.6%, p = 0.012) and EBD (87.2% vs 56.3%, p = 0.0001) compared to PTBD. Overall adverse events, both immediate (p = 0.007) and late (p = 0.0001) were higher in the PTBD cohort. The PTBD cohort had higher need for re-intervention (p = 0.0001) with prolonged hospital stay (median 18

vs 7.5 days, p = 0.0001). On multivariable logistic regression analysis, use of EUS-HGS (aOR = 2.0, p = 0.043) had higher clinical success even after adjusting for grade of block and presence of cholangitis. (► **Table 1**).

Conclusions EUS-HGS is an effective and safer alternative to PTBD for MHO with higher clinical success, better adverse event profile and lower need for re-interventions.

Comparison of outcome parameters between EUS-guided hepaticogastrostomy and PTBD for malignant hilar obstruction

Conflicts of interest Authors do not have any conflict of interest to disclose.

Parameters	EUS-HGS (n=97)	PTBD (n=190)	p value
Clinical success	80 (82.5%)	129 (68.6%)	0.012
Effective biliary drainage (EBD)	75 (87.2%)	98 (56.3%)	0.0001
Late adverse events	13 (13.4%)	85 (44.7%)	0.0001
Re-intervention rates	14 (14.4%)	70 (36.8%)	0.0001

Abbreviations: EUS endoscopic ultrasound; PTBD percutaneous transhepatic biliary drainage; HGS hepaticogastrostomy

► **Table 1**

OP255 Effectiveness and safety of same-session vs separate session EUS-FNA and ERCP in suspected pancreatic malignancy – a single-center experience

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Aims Endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) and endoscopic retrograde cholangiopancreatography (ERCP) represent complementary procedures in the management of pancreatic tumors and can be performed during the same session.

Methods We included consecutive patients referred for diagnostic work-up of a suspected pancreatic malignancy who required concomitant endotherapy for biliary obstruction and compared same-session EUS-ERCP to procedures performed in separate sessions in terms of technical success and procedure-related complications.

Results 92 patients underwent EUS-FNA and biliary drainage either in the same session (n = 58, 63%) or in separate sessions (n = 34, 37%) over a 36-month period. Malignancy was confirmed by EUS-FNA in 59 cases (64.1%) with no difference between the two groups. Successful stenting was achieved in 82.6% of cases, the remaining cases requiring endoscopic reintervention by ERCP or alternative biliary drainage. There was no significant difference between the two groups regarding procedure-related complication rates and re-intervention rates. There was a trend for shorter mean hospitalization length for same-session procedures (5.16 vs 6.47 days) although this did not reach statistical significance (p = 0.157).

Conclusions Same-session EUS-FNA and ERCP results in similar diagnostic and therapeutic yield without increasing procedure-related complications. Although prospective studies, including cost-efficacy analyses, are needed before definitive recommendations can be made, we support the combined approach for a more expediting patient management without compromising diagnostic accuracy or safety.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP256 Aberrant p53 expression is the strongest predictor for neoplastic progression in patients with Barrett's esophagus

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DOI 10.1055/s-0043-1765260

Aims Evaluate the value of aberrant p53 expression compared to confirmed low grade dysplasia (LGD) in predicting neoplastic progression in patients with Barretts Esophagus (BE).

Methods Prospective cohort of 1031 BE patients (73 % males, median age 61 years). P53 expression was determined by immunohistochemistry staining in biopsies from 655 (64 %) patients; overexpression and loss of expression were considered aberrant. Neoplastic progression was defined as high-grade dysplasia (HGD) or esophageal adenocarcinoma (EAC). Cox regression modelling was used to determine neoplastic progression risk.

Results During a median follow-up of 6.2 (IQR 3.2-11.4) years, 73/1031 (7 %) patients developed HGD/EAC. Neoplastic progression was found in 23/756 (3 %) non-dysplastic BE (NDBE) patients, 27/176 (15 %) patients with a single LGD diagnosis, and 23/99 (23 %) patients with confirmed LGD. P53 expression was aberrant in 129/655 (20 %) patients, which was strongly associated with an increased risk of neoplastic progression after adjusting for age, gender, segment length, oesophagitis, and grade of dysplasia (HR 13.5, 95 % CI 7.1-25.8). In NDBE patients, the absolute neoplastic progression risk increased from 2 % with normal p53 expression to 50 % with aberrant p53 expression. In patients with LGD once, the progression risk increased from 8 % to 37 % with aberrant p53 expression. In patients with confirmed LGD, the progression risk increased from 6 % to 47 % with aberrant p53 expression.

Conclusions Aberrant p53 expression is a strong predictor for progression in BE patients, which is independent of grade of dysplasia. Aberrant P53 expression may be better than (confirmed) LGD to identify patients who need close surveillance or could benefit from ablation therapy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP257 Efficacy and safety of Hybrid Argon Plasma Coagulation technique in patients with Barrett's esophagus-related dysplasia: a multicenter italian prospective study initial results

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Aims Preliminary data from a prospective, single-arm, multicenter observational study to evaluate the initial treatment success of the Hybrid-APC (H-APC) technique, which combines argon plasma coagulation (APC) with a previous saline injection for ablation therapy of neoplastic Barrett's esophagus (BE).

Methods We prospectively collected data from 24 patients with BE (mean C of 0.64 SD 0.91 and M of 2.28 SD 1,15) who underwent H-APC therapy in 4 Italian hospitals. None of them had previous ablative therapy. Max 5 sessions to reach complete eradication of visible metaplasia and max 50 % of the circumference treatment for each session were allowed. After 7 days from each session

patients received a phone call to assess pain (0-10, 0 = no pain, 10 = worst pain) and dysphagia (1-5, 1 = No dysphagia 5 = unable to swallow anything)

Results 43 % of the patients were treated with endoscopic resection for visible lesion (50 % PT1a; 50 % HGD), while 57 % started directly with ablation (81 % LGD; 19 % HGD). CE-D and CE-IM were 100 % and 100 %, respectively after a mean of 1.5 ablation sessions. 67 % of patients achieved primary outcome with just one treatment with a mean duration of 26 minutes SD 12.22. One case of temporary dysphagia, which did not require any treatment (4 %) was observed without any other major adverse events and good tolerability profile: 93 % of patients did not change their daily activities after treatment with a median pain score of 1,35 SD 2,00 and dysphagia score of 1,4 SD 0,74

Conclusions H-APC appears to have high efficacy, safety, and tolerability profile, with a limited number of treatment sessions required to achieve initial CE-IM.

Conflicts of interest Medtronic consultant Laborie consultant 3DMatrix consultant Apollo Endosurgery consultant ERBE consultant Fujifilm consultant

OP258 Endoscopic eradication therapy with multifocal cryoballoon ablation for Barrett's esophagus related neoplasia: preliminary results from a prospective European multicenter study

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Aims Focal cryoballoon ablation (FCBA) is a relatively new ablation modality for the treatment of Barrett's esophagus (BE) related neoplasia. This prospective, European multicenter study (Euro-Coldplay, NTR NL7253) aimed to evaluate the efficacy and safety of FCBA for the treatment of limited BE.

Methods In eight European Barrett referral centers, patients with C ≤ 2M ≤ 5 BE were eligible for inclusion. FCBA was performed by experienced and trained endoscopists at 3 month intervals until complete endoscopic eradication of BE (max. 5 sessions). During every session, the esophagogastric junction was treated circumferentially followed by all visible BE using side-by-side ablations with a dose of 8 seconds per ablation. Outcomes included complete eradication of intestinal metaplasia (CE-IM) and dysplasia (CE-D), and adverse event rate.

Results 107 patients (91 males; mean age 65) with a median BE of COM2 were included. Currently, 84/107 (79 %) patients have finished the treatment phase of which the results are reported hereafter. 57/84 (68 %) patients underwent endoscopic resection at entry followed by a median of 2 (IQR 2-2) FCBA treatments. CE-D was achieved in 95 % (80/84) and CE-IM in 93 % (78/84), per intention-to-treat analysis. Per-protocol analysis, CE-D and CE-IM were achieved in 100 % (80/80) and 98 % (78/80), respectively. Stricture was the most common adverse event in 13/84 (15 %) patients, which resolved after median 2 (IQR 1-4) dilations.

Conclusions In expert hands, endoscopic eradication therapy with FCBA seems to be highly effective with an acceptable safety profile for patients with limited BE. Long-term follow-up is warranted to evaluate the durability of the treatment response.

Conflicts of interest CF has received speaker's fee and reimbursement of study-related travel costs from Pentax Medical. AO has received reimbursement of study-related travel costs from Pentax Medical. JB is a consultant for Medtronic, Cook Medical, and Boston Scientific, and has received research funding from Pentax Medical, C2 Therapeutics, Medtronic, Aqua Medical, Olympus Endos-

copy, and Fuji-film. RP is a consultant for MicroTech, and has received speaker's fee from Medtronic. RB is a consultant for Pentax Medical, Medtronic, and Erbe Medical, and has received research funding and speaker's fees from Pentax Medical, Medtronic, and Erbe Medical. TB is consultant for Medtronic, Erbe Medical, Microtech Endoscopy, Olympus Endoscopy, and Boston Scientific. BW has received research funding from Pentax Medical, C2 Therapeutics, and Aqua Medical. The remaining authors declare to have no disclosures relevant to this manuscript.

OP259 Increased risk of esophageal squamous cell carcinoma in patients with squamous dysplasia: a nationwide cohort study in the Netherlands

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DOI 10.1055/s-0043-1765263

Aims To assess the risk of esophageal squamous cell carcinoma (ESCC) in patients with distinct grades of squamous dysplasia in a Western country.

Methods This nationwide cohort study included all patients with esophageal squamous dysplasia, diagnosed between 1991 and 2020 in the Dutch nationwide histopathology registry (PALGA). Squamous dysplasia was divided in mild-to-moderate dysplasia (mild, low-grade, moderate dysplasia) and higher-grade dysplasia (high-grade, severe dysplasia, carcinoma in situ). The primary endpoint was the diagnosis of *prevalent* (≤ 6 months) and *incident* (> 6 months after squamous dysplasia) ESCC, registered in PALGA and the Netherlands Cancer Registry.

Results 936 patients were included with esophageal squamous dysplasia (mild-to-moderate $n = 460$, higher-grade dysplasia $n = 476$). 57% of the patients with mild-to-moderate dysplasia received endoscopic re-assessment after 11 weeks (IQR 5-29), revealing mild-to-moderate dysplasia (20%), higher-grade dysplasia (11%), and ESCC (10%). ESCC was diagnosed in 80 (17.4%) patients with mild-to-moderate dysplasia (53 *prevalent* ESCC, 27 *incident* ESCC) and in 239 (50.0%) patients with higher-grade dysplasia (201 *prevalent* ESCC, 37 *incident* ESCC). After excluding prevalent ESCC, the progression incidence towards ESCC was 4.3 (95% CI 4.3-4.4) and 14.4 (95% CI 14.4-14.6) ESCC per 100 person-years in patients with mild-to-moderate and higher-grade dysplasia, respectively.

Conclusions All patients with squamous dysplasia, including those with mild-to-moderate dysplasia, have a considerable risk of ESCC. Endoscopic surveillance of the esophageal mucosa is recommended for patients with mild-to-moderate dysplasia in Western countries.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP260 Endoscopic screening for second primary tumors in the upper gastrointestinal tract in Western patients with head and neck cancer

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Aims To report on the prevalence and outcomes of endoscopic screening for second primary tumors (SPTs) in the upper gastrointestinal (GI) tract in patients with head and neck squamous cell carcinoma (HNSCC) in a Western country.

Methods We performed a prospective screening study in patients with HNSCC in a Western country. Patients with HNSCC in the oropharynx, hypopharynx,

or other sub-locations with alcohol abuse diagnosed between January 2017 and July 2021 were included. The primary outcome was the proportion of SPTs, defined as the presence of high-grade dysplasia (HGD), esophageal squamous cell carcinoma, or any other cancer in the upper GI tract.

Results We included 202 patients (81% male, mean age 65 years) and performed 251 screening endoscopies of the upper GI tract. HNSCC was located in the oropharynx (32%), hypopharynx (27%), larynx (22%), and oral cavity (19%). Endoscopic screening was performed within 6 months ($n = 85$), 6 months to 1 year ($n = 21$), 1 to 2 years ($n = 84$), and 2 to 5 years ($n = 61$) after HNSCC diagnosis. 12 SPTs in 11 patients (5%) were detected. Most SPTs were detected in early stages (91%; 3 HGD, 5 T1a, 1 T1b, 2 T2 and 1 T4) and could be treated curatively with endoscopic resection (83%). Most SPTs were located in the esophagus (92%) and were of squamous origin (83%). No SPTs were detected with routine follow-up imaging for HNSCC prior to endoscopic screening.

Conclusions SPTs in the esophagus or stomach were detected in 5% of patients with HNSCC. Endoscopic screening for SPTs should be considered in a selection of HNSCC patients, based on highest risk of SPTs and an acceptable life expectancy based on HNSCC prognosis and comorbidities.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP261 Double-blind multicenter randomized clinical trial comparing the efficacy of glucagon vs placebo in the resolution of alimentary esophageal impaction

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DOI 10.1055/s-0043-1765265

Aims To assess the efficacy of intravenous glucagon on alimentary esophageal impaction.

Methods Double-blind multicenter clinical trial randomizing patients to receive 1 mg of iv glucagon or placebo. Participants subsequently underwent a mandatory gastroscopy to confirm the presence of impaction. Procedure length, technical details and adverse events were recorded. A centralized, blind telephone follow-up 7 days after the procedure was performed.

Results Between June 2020 and November 2022, 160 patients were screened. After excluding 36 subjects, 59 were randomized to the glucagon group (GG) and 65 to placebo (PG). Baseline characteristics, type and location of the foreign body were evenly distributed across both groups. A foreign body was identified in 44/59 (74.6%) patients in the GG and in 53/65 (81.5%) in the PG (difference: -0.07%, CI 95% -0.25-0.08; $p = 0.34$). No differences were found in overall procedure length (7 [IQR 4-12] minutes in the GG vs 6 [IQR 4-10] in the PG; $p = 0.41$) or in the time needed to remove the foreign body (5 [IQR 2-9.5] minutes in GG and 3 [IQR 2-6] in the PG; $p = 0.08$). Regarding adverse events, pain or dysphagia and its intensity, as well as any other potential AE did not present any differences across both groups.

Conclusions The administration of intravenous glucagon prior to endoscopy did not reduce the incidence of impacted foreign bodies at endoscopy nor did facilitate subsequent endoscopy foreign body removal. Intravenous glucagon is of no benefit in patients with suspected esophageal impaction.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Focusing on quality in upper GI endoscopy

22/04/2023, 13:00 – 14:00

Liffey Meeting Room 3

OP262 Variation in post endoscopy upper gastrointestinal cancer among endoscopy providers in England and associated factors: a population based study

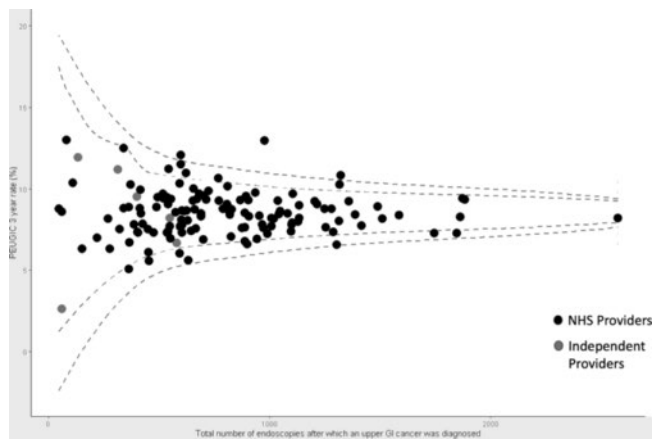
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DOI 10.1055/s-0043-1765266

Aims To quantify the post endoscopy upper gastrointestinal cancer (PEUGIC) rate in England and examine variation among endoscopy providers in country and associated factors.

Methods Using linked national cancer and endoscopy coding databases, patients diagnosed with UGI cancer between 2009 and 2018 were studied. Patients with an endoscopy recorded 6-36 months before cancer diagnosis categorised as PEUGIC. Multivariable regression analysis examined factors associated with PEUGIC. Funnel plots with control limits representing two and three standard deviations from mean were produced to assess variations between providers.



► Fig. 1

Results 98,801 patients studied with an overall PEUGIC rate of 8.5%. PEUGIC rate was higher for cancers diagnosed at stage I compared to stage IV (18.1 vs 5.5% $p < 0.001$). PEUGIC rates varied from 5.1% to 13.0% among endoscopy providers (► Fig. 1). Factors associated with PEUGIC included: female (Odds Ratio 1.29 (95% CI 1.23-1.36)); younger age (age quintile ≤ 60 , 2.04 (1.88-2.17)); increasing comorbidities (Charlson score > 4 , 5.06 (4.45-5.76)); diagnosis route (emergency presentation 2.37 (2.19-2.56)); previous diagnosis of oesophageal ulcer (3.13 (2.95-3.32)), Barrett's oesophagus (3.06 (2.86-3.26)), oesophageal stricture (1.32 (1.23-1.41)), gastric ulcer (1.52 (1.42-1.63)) and gastric atrophy (2.27 (1.88-2.73)); and squamous cell histology (1.52 (1.41-1.63)). Providers which failed national endoscopy accreditation had higher PEUGIC rates (1.10 (1.01-1.19)).

Conclusions There is over twofold variation in PEUGIC rates among endoscopy providers in England suggesting important differences in endoscopy quality among providers.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP263 Optimal timing of simethicone administration prior to upper endoscopy: a multicenter single-blinded randomized controlled trial

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DOI 10.1055/s-0043-1765267

Aims Simethicone has shown to be useful as premedication for upper endoscopy because of its antifoaming effects. Timing of administration may influence its effect on mucosal visibility.

Methods In this multicenter, randomized, endoscopist-blinded study, patients who were scheduled for upper endoscopy were randomized to receive 40mg simethicone on the following time points prior to the procedure: 20-30 minutes (early group), 0-10 minutes (late group) or 20mg simethicone on both time points (split-dose group). Images were taken from nine predefined locations in the esophagus, stomach and duodenum before endoscopic flushing. Each image was scored on mucosal visibility by three independent endoscopists on a 4-point scale (lower scores indicating better visibility), with adequate mucosal visibility defined as a score ≤ 2 . Primary outcome was the percentage of patients with adequate Total Mucosal Visibility (TMV), reached if all median subscores for each location were ≤ 2 .

Results A total of 386 patients were included (early group: 132; late group: 128; split-dose group: 126). Percentages of adequate TMV were 55%, 42% and 61% in the early, late and split-dose group, respectively ($p < 0.01$). Adequate TMV was significantly higher in the split-dose group compared to the late group ($p < 0.01$), but not compared to the early group ($p = 0.29$). Differences between groups were largest in the stomach, where percentages of adequate mucosal visibility were higher in the early (68% vs 53%, $p = 0.03$) and split-dose group (69% vs 53%, $p = 0.02$) compared to the late group.

Conclusions Mucosal visibility can be optimized by early simethicone administration, either as a single administration or in a split-dose regime.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP264 Prospective validation of a cleanliness scoring system for the upper digestive tract – the visual study

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DOI 10.1055/s-0043-1765268

Aims No widely accepted cleanliness score has been validated for esophago-gastroduodenoscopy (EGD) so far. The aim of our study was to assess the relationship between the presence of UGI lesions and a recently created polprep upper-gastrointestinal cleanliness scale (PUCS)¹.

Methods A prospective study was conducted at 5 centers. Patients who underwent a complete diagnostic EGD were included. The degree of UGI tract cleanliness was assessed using the PUCS, each segment (esophagus, stomach and duodenum) was scored 0–3 (0 = inadequate, 1 = poor, 2 = good, 3 = excellent) [1].

Results Of 995 patients enrolled in the study, 2985 segments were evaluated: score 3 – 2154, score 2 – 757 and score 1 – 74 segments respectively. The overall clinically significant condition detection rate (CSCDR) was 21.9% – 21.6%, 23.8% and 13.5% CSCDR rates for scores 3, 2 and 1 respectively ($p=0.043$ for score 1 versus 2; $p=0.22$ for score 2 versus 3). Similarly, gastric lesion detection rate was 25.8%, 23.6% and 10.7% for scores 3, 2 and 1 respectively ($p=0.027$ for score 1 versus 2; $p=0.45$ for score 2 versus 3). Finally, of 27 cases of UGI neoplasia diagnosed in the study, 17 were in areas scored as 3, 10 in those with a score of 2 but none in areas scored as 1.

Conclusions Significantly higher number of UGI clinically significant conditions and gastric lesions were detected in areas of good cleanliness as assessed by PUCS (score 2). There were no significant differences between good and excellent PUCS (scores 2 and 3). The comparison of UGI neoplastic lesion detection warrants further investigation.

Conflicts of interest Tomasz Romańczyk: Contact: Gilead, Pfizer, Theravance, Celgene, Takeda, BMS, Janssen, Celltrion, Abbvie, Ferring, Morphic Training Grants: Ferring, Biocodex Prateek Sharma: Consultant: Bausch, Boston Scientific Corporation, CDx Labs, Covidien LP, Exact Sciences, Fujifilm Medical Systems USA, Inc., Lucid, Lumendi, Medtronic, Phathom, Olympus, Takeda, Samsung Bioepis Grant / Contract: Cosmo Pharmaceuticals, Covidien, Docbot, ERBE USA Inc., Fujifilm Holdings America Corporation, Ironwood Pharmaceuticals, Inc., Medtronic USA, Inc., Olympus Michał F. Kamiński Consultant: Olympus, Microtech, ERBE lecturer: Fujifilm, Medtronic, Boston Scientific, Ipsen, Norgine Advisory board: ALFAsigma

[1] Romańczyk M, Ostrowski B, Kozłowska-Petriczko K et al. Scoring system assessing mucosal visibility of upper gastrointestinal tract: The POLPREP scale. *J Gastroenterol Hepatol* 2022; 37: 164–168

OP265 Usefulness of near-focus magnification with narrow-band imaging in the prediction of Helicobacter pylori infection: a prospective trial

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DOI 10.1055/s-0043-1765269

Aims Although magnifying endoscopy with narrow-band imaging (NBI) is an effective method to predict *Helicobacter pylori* (*H. pylori*)-infected stomach, it is often time consuming and requiring considerable experience and training. Therefore, we investigated the performance of near focus (NF)-NBI, a novel simplified and modest magnifying endoscopy, for predicting *H. pylori* infection compared with white light (WL) endoscopy.

Methods A total of 276 consecutive patients who underwent esophagogastroduodenoscopy were prospectively enrolled into the study. In NF-NBI endoscopy, we classified gastric mucosal patterns into four categories according to pit patterns, subepithelial capillary network (SECN), collecting venules (CV), and vascular density. Only type 1 pattern (small and round pits with regular SECN and visible CVs) was diagnosed as non-*H. pylori* infection, others as *H. pylori* infection. *H. pylori* status based on WL and NF-NBI images was judged by three endoscopists. Interobserver agreement was assessed based on κ value.

Results In the enrolled subjects, *H. pylori* infection rate was 53.6%. Mean age was 56.4 ± 14.6 years old, the rates of atrophy and intestinal metaplasia were 50.4% and 34.1%, respectively. Interobserver agreement was moderate in both groups. The sensitivity, specificity, positive predictive values, and negative predictive value were 68.2%, 91.4%, 71.3%, and 71.3% for conventional WL endoscopy and 92.6%, 78.1%, 93.5%, and 90.1% for NF-NBI endoscopy, respectively.

Conclusions NF-NBI endoscopy may be more useful for predicting *H. pylori* infection than conventional WL endoscopy (NCT03973242).

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP266 Are we doing too many Gastroscopies? A UK National Endoscopy Database Analysis

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DOI 10.1055/s-0043-1765270

Aims Determine the indication, frequency, and diagnostic yield of oesophago-gastroduodenoscopies (OGDs) performed in the UK; helping optimise capacity and inform future guidelines.

Methods Cross-sectional analysis of OGDs conducted between 01/03/2019–29/02/2020 and uploaded to the UK National Endoscopy Database (which captures data from >90% UK endoscopy units). Procedures without a recorded diagnosis and those on patients aged <18 were excluded. Proportion of OGDs finding each diagnosis (normal/minor pathology, major pathology, Barrett's Oesophagus (BO), cancer) was calculated by indication. Diagnostic yield from symptomatic and surveillance OGDs further analysed by patient age.

Results 638,484 OGDs were analysed: 66% were symptomatic, 13% therapeutic/emergency, 12% surveillance, 8% potential upper GI bleeds, 1% abnormal prior investigation. 81% reported only normal findings or minor pathology, 7.6% BO, 5.6% other major pathology, 5.2% ulcer, and 1.8% cancer. 30% of symptomatic OGDs were performed in patients <50, when compared to those performed on patients >50, these were more likely to report normal/minor pathology (95% vs 88%, $p<0.01$), with low cancer yield (0.1% vs 1.4%, $p<0.01$). 24,894 (4%) OGDs were performed for BO surveillance; 19% of which did not report BO and 9% performed on patients over 80. 20% of OGDs performed as gastric ulcer follow-up were on patients <50, with only 0.2% reporting cancer (▶ Table 1).

Conclusions Yield of major pathology in symptomatic young patients was low and justification for surveillance was unclear for some groups. Findings suggest changes to referral and surveillance recommendations could help address capacity challenges for endoscopy services

Conflicts of interest Authors do not have any conflict of interest to disclose.

Indication	Normal/Minor Pathology only	Major Pathology	Barrett's Oesophagus	Cancer
Symptomatic	89.9%	5.3%	4.1%	1.0%
Surveillance	50.0%	13.7%	31.2%	0.3%
Therapeutic/Emergency	56.0%	21.5%	4.1%	6.2%
Potential Upper GI Bleed	65.8%	29.7%	4.1%	1.8%

▶ Table 1 Proportion of OGDs reporting each diagnosis, by most frequent indications.

OP267 Performance of linked color imaging compared to conventional white light imaging in endoscopic diagnosis of Helicobacter pylori infection: A systematic review and meta-analysis

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DOI 10.1055/s-0043-1765271

Aims Recognizing *Helicobacter pylori* (*H. Pylori*) infection during endoscopy is important because it can lead to confirmatory testing. Linked color imaging (LCI) is one of the image enhancement techniques that can improve the detection of gastrointestinal lesions. The purpose of this systematic review and meta-analysis was to evaluate the diagnostic performance of LCI compared to conventional white light imaging (WLI) in endoscopic diagnosis of *H. pylori* infection.

Methods We conducted a comprehensive literature search in PubMed, Embase, and the Cochrane Library. All studies evaluating the diagnostic performance of LCI or WLI in endoscopic diagnosis of *H. pylori* were considered eligible. Studies on magnifying endoscopy, chromoendoscopy, and artificial intelligence were excluded.

Results Thirty-four studies were included in the meta-analysis, of which 33 studies reported the performance of WLI and 7 studies reported the performance of LCI in diagnosing *H. pylori* infection. Pooled sensitivity and specificity of WLI in the diagnosis of *H. pylori* infection was 0.465 (95% CI, 0.455–0.475) and 0.848 (95% CI, 0.841–0.855), respectively. Pooled sensitivity and specificity of LCI in the diagnosis of *H. pylori* was 0.813 (95% CI, 0.784–0.840) and 0.845 (95% CI, 0.825–0.864), respectively. The diagnostic odds ratio of WLI and LCI was 14.765 (95% CI, 8.311–26.231) and 24.287 (95% CI, 12.877–45.806), respectively. The area under the summary receiver operating characteristics curves (AUC) of WLI and LCI was 0.863 and 0.900, respectively.

Conclusions LCI had higher sensitivity in endoscopic diagnosis of *H. pylori* infection than standard WLI.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Characterization of polyps and cancer during colonoscopy

22/04/2023, 13:00 – 14:00

Liffey Meeting Room 1

OP268 A Novel CADx Algorithm for Characterisation and Sizing of Colorectal Polyps Meets PIVI 1 and PIVI 2 Threshold in Both Video-Based and Real-Time Assessment

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DOI 10.1055/s-0043-1765272

Aims There is increasing evidence for the use of 'resect and discard' for colorectal polyps but it has not been widely adopted due to the challenges of accurate optical diagnosis and sizing of polyps. Computer aided diagnosis (CADx) has promising potential for improving this but there is still no data on real-time sizing and characterisation together.

Methods A dedicated colon CADx system (NEC Japan) was developed to categorise polyps by histology and size. In phase 1 the system was tested on a customised video-based platform using prospectively collected videos. Phase 2 tested real-time performance. Ground truth in both phases was expert endoscopist assessment and histology.

Results In video based analysis, 292 polyp videos were assessed using the CADx system. In real-time analysis, 116 polyps were assessed. Performance is shown in Table 1. Video-based AI sizing demonstrated sensitivity, specificity, accuracy and NPV for non-diminutive size of 93.40%, 79.03%, 93.40% and 95.45% respectively. Real-time concordance for sizing between endoscopist and AI was 84.61% [1].

On subgroup analysis, the real-time NPV for diminutive rectosigmoid polyps for neoplastic diagnosis was 93.3%. There was 97.2% concordance between surveillance intervals (BSG guidelines) based on histology versus AI diagnosis for diminutive polyps and histology for non-diminutive (► Table 1).

Conclusions This is the first study demonstrating AI based polyp sizing and characterisation in real-time. The system meets PIVI 1 and 2 threshold suggesting we are close to implementing 'resect and discard' or 'diagnose and leave strategies' with further prospective evidence.

Performance of CADx for polyp characterisation (neoplastic diagnosis) in video based and real-time studies

Conflicts of interest Professor Bhandari has received research grants or is the advisory board for Fujifilm, Boston, Olympus, Pentax, 3-D matrix, NEC (Japan), Medtronic.

[1] Rees C et al. Narrow band imaging optical diagnosis of small colorectal polyps in routine clinical practice: the Detect Inspect Characterise Resect and Discard 2 (DISCARD 2) study. *Gut* 2017; 66: 887–895

	Video based CADx (n=292)		Real-time CADx (n=116)	
	WLI	IE	WLI	IE
Sensitivity (%)	86.14	91.76	89.20	90.50
Specificity (%)	85.56	78.75	82.70	94.10
Accuracy (%)	85.96	87.79	87.10	92.10
NPV (%)	73.33	80.77	86.00	88.90

► Table 1

OP269 In vivo Concordance between two Artificial Intelligence Systems for Leaving in Situ Colorectal Polyps

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DOI 10.1055/s-0043-1765273

Aims Optical diagnosis by Artificial Intelligence (CADx) may prompt cost-saving strategies for colorectal neoplasia. Training different CADx systems with different datasets may result in excessive variability of CADx accuracy, jeopardizing implementation of such strategies.

Methods Two CADx systems (A: CAD-EYE, Fujifilm; B: GI-Genius, Medtronic) were simultaneously used in the same colonoscopies. For each polyp the CADx-output of both systems (in white and blue lights for CADx-B and CADx-A respectively) was compared with the histology. Intra-polyp concordance for the Negative Predictive Value (NPV) of adenomatous histology for ≤ 5 mm rectosigmoid lesions was measured, as agreement between CADx- and histology-based post-polypectomy surveillance intervals according to European and American guidelines.

Results A total of 543 polyps was removed, of which 325 were ≤ 5 mm rectosigmoid histologically-verified lesions. Optical diagnosis was feasible in 325/325 (100%) and 319/325 (98.8%) for CADx A and B, and the NPV for ≤ 5 mm rectosigmoid lesions was 97.0% and 97.7%, respectively. Leave-in-situ strategy would save 269/319 (84.3%) and 260/319 (81.5%) polypectomies with CADx-A and CADx-B respectively. Sensitivity for adenomatous histology for 5 mm polyps proximal to the rectosigmoid was 88.5% and 96.6%, respectively. Agree-

ment between CADx- and histology- based surveillance intervals was 98.3 % for CADx-A and CADx-B with European guidelines, and 84.7 % and 89.2 % with American guidelines.

Conclusions When adopting two different CADx systems, the high degree of concordance in optical diagnosis excluded any variability for implementation of cost-saving strategies in screening colonoscopy, both of the systems matching the cut-off required for Leave-In-Situ strategy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP270 The effect of image quality on the performance of computer-aided diagnosis systems for colorectal polyps

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DOI 10.1055/s-0043-1765274

Aims Computer-aided diagnosis systems (CADx) based on artificial intelligence show promising results for the optical diagnosis of colorectal polyps (CRPs). Image quality may be a limiting factor for image-based CADx systems. We investigated the influence of image quality on the performance of a CADx for the optical diagnosis of colorectal polyps.

Methods A CADx based on deep neural networks was trained using a prospective endoscopic dataset (n = 2029 CRP images) collected in three Dutch hospitals. High-definition white light images were used for testing. The CADx characterized CRPs into benign (hyperplastic polyps) and premalignant (tubular adenomas) with histopathology as gold standard. Quality distortion was applied on the test set by generating blur, representing out-of-focus images, using a Gaussian kernel with standard deviation $\sigma \in \{1, 3, \dots, 31\}$. Higher σ -values indicate more blur. Contrast, representing poor illuminated images, was generated by blending the CRP image with a gray image (blending factor $l \in \{1.0, 0.9, \dots, 0\}$). Lower l -values indicate less contrast.

Results Performances of the CADx tested without quality distortions were 90.9 % sensitivity, 57.9 % specificity, 64.7 % negative predictive value (NPV), and 83.5 % accuracy. Generating minimal blur ($\sigma = 3$) resulted in a vast decline in sensitivity (45.5 %), NPV (29.4 %), and accuracy (52.9 %). For contrast, performances remained stable up to a substantial blending factor of $l = 0.4$ (sensitivity 77.2 %, NPV 51.6 %, accuracy 78.8 %). Specificity remained stable (► **Table 1**).

Conclusions The CADx performance was susceptible to blur, but surprisingly resilient to contrast. Optimal endoscopic imaging with focused images is mandatory for optimal functioning of the CADx. Future studies should consider noise and compression as possible quality distortions.

Conflicts of interest QvdZ was supported by Fujifilm to attend scientific meetings. FvdS received research support from Olympus, outside the submitted work. AM was supported by a health care efficiency grant from ZonMw, an unrestricted research grant from Will Pharma S.A., a restricted educational grant from Ferring B.V., a research grant from Pentax Europa, research funding from Allegan and Grünenthal, and gave scientific advice to Bayer, Kyowa Kirin, and Takeda, outside the submitted work. ES received research support and speakers' fees from Fujifilm Inc., outside the submitted work. PdW, FvdS, AM, and ES report a joined research grant from the Dutch Cancer Society for the submitted work. TS, AT, ND, and RMS declare no conflicts of interests.

Performance (%)	Blur $\sigma = 3$	Blur $\sigma = 7$	Contrast $l = 0.4$	Contrast $l = 0.3$
Sensitivity	45.5	16.7	77.2	66.7
Specificity	78.9	89.5	84.2	89.5
NPV	29.4	23.6	51.6	43.6
Accuracy	52.9	32.9	78.8	71.8

CADx: computer-aided diagnosis system; NPV: negative predictive value.

► **Table 1** Performance of the CADx for different distortion levels of blur and contrast.

OP271 Comparison between Interval and sporadic colon cancer in terms of Clinicopathologic and Molecular features

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DOI 10.1055/s-0043-1765275

Aims Interval colon cancer occurs due to either limitations of colonoscopy or rapidly developing new tumors, possibly reflecting molecular and environmental differences in tumorigenesis. This study aimed to compare the clinicopathologic and molecular features of interval colon cancer with those of sporadic colon cancer in Asia.

Methods This prospective, multicenter, cross-sectional study was conducted from May 2017 to December 2021 at six university hospitals in South Korea. We compared the clinicopathologic and molecular biological characteristics, including CpG island methylator phenotype (CIMP), KRAS, BRAF, and microsatellite instability (MSI), between patients with interval and sporadic colon cancers [1–3].

Results We compared and analyzed 28 patients with interval colon cancer and 72 patients with sporadic cancer. In molecular biological analysis, CIMP was 5.1 % positive for sporadic cancer and 17.9 % positive for interval colon cancer, indicating an approximately 13 % greater frequency in interval colon cancer ($p = .036$). KRAS mutation was observed in 36.7 % of patients with sporadic cancers and 17.9 % of those with interval colon, which was about 18 % higher in sporadic cancer, but there was no statistically significant difference ($p = .066$). There was no difference between MSI and BRAF genotype between the sporadic and interval cancer groups.

Conclusions Unlike the findings of western studies, there was no clinical difference between sporadic and interval colon cancer. In molecular biological comparison, the CIMP positivity rate was significantly higher in patients with interval colon cancer.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Cooper GS, Xu F, Barnholtz Sloan JS et al. Prevalence and predictors of interval colorectal cancers in medicare beneficiaries. *Cancer*. 2012; 118 (12): 3044–3052

[2] Arain MA, Sawhney M, Sheikh S et al. CIMP status of interval colon cancers: another piece to the puzzle. *Am J Gastroenterol* 2010; 105 (5): 1189–1195

[3] Lee YM, Huh KC. Clinical and Biological Features of Interval Colorectal Cancer. *Clin Endosc* 2017; 50 (3): 254–260

OP272 Incidence of colorectal cancer and precursor lesions in asymptomatic young adults

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DOI 10.1055/s-0043-1765276

Aims Determine the prevalence and trends of precursor lesions and CRC in average-risk individuals under 50.

Methods Prevalence of adenomas, advanced adenomas (AA), as well as incidence of CRC were assessed within a large screening program. Patients were divided into steps of 5-years age groups and the prevalence for each group, as well as the number needed to screen (NNS) was assessed.

Results 29.6170 screening colonoscopies within the Austrian-quality-assurance-program between 2008&2018 were included. 11103 (3,7%) patients were below 50. 11,6% (n = 1.166; NNS = 9) of patients under 50 and 21,88% (n = 62.384; NNS = 5) over 50 had adenomas. The NNS and prevalence of adenomas between 45-49 and 50-54 year-old-individuals was 18,4%(NNS = 5) vs. 21,29%(NNS = 5) among men and 12,0%(NNS = 8) vs. 13,0%(NNS = 8) among women. 3,35% (n = 340; NNS = 30) below and 6,07% (n = 17.386; NNS = 16) above 50 had at least one AA. Prevalence of adenomas increased from 12,7% in 2008 to 17,5% in 2018 within those under 50 and from 21,8% to 28,2% within those above. Prevalence of AA changed from 3,56% to 5,5% in individuals under and from 7,1% to 5,5% over the age of 50. CRC-incidence among men under 50 changed from 9,11 in 1988 to 10,2 in 2018. Among <50-year-old women from 9,7 in 1988 to 7,7 in 2018. Within those above 50, incidence changed from 168 to 97 among women and 217 to 143 among men.

Conclusions The NNS for Adenomas were comparable between those aged 45-49 and 50-54. Prevalence of adenomas were increasing among all age-groups, while AA were increasing within those under the age of 50 and decreasing above (► Fig. 1).

Conflicts of interest Authors do not have any conflict of interest to disclose.

Prevalences of Adenomas and Advanced Adenomas				
Age group	sex	Prevalence Adenomas (NNS)	Prevalence AA (NNS)	Prevalence serrated Lesions (NNS)
40-44	both	10,9 (9)	3,9 (26)	1,5 (66)
	m	14 (7)	5,5 (18)	1,7 (59)
	f	8,1 (12)	2,3 (43)	1,4 (71)
45-49	both	13,6 (7)	4,5 (22)	1,9 (53)
	m	17,1 (6)	5,0 (20)	1,8 (56)
	f	10,2 (10)	4,0 (25)	2,1 (48)
50-54	both	16,1 (6)	4,7 (21)	1,8 (56)
	m	20,2 (5)	5,8 (17)	1,8 (56)
	f	12 (8)	3,6 (28)	1,7 (59)
55-59	both	20,1 (5)	6,1 (16)	1,9 (53)
	m	25,6 (4)	7,6 (13)	1,9 (53)
	f	14,9 (7)	4,7 (21)	2,0 (50)

► Fig. 1

OP273 Distal location is an independent risk factor of recurrence in early rectal cancer

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DOI 10.1055/s-0043-1765277

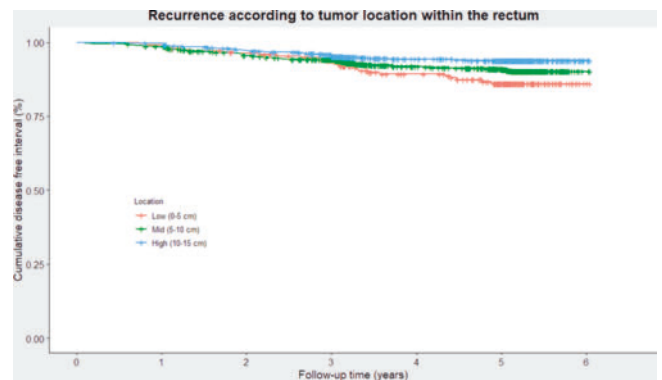
Aims To accurately assess the risk of lymph node metastasis (LNM) and recurrence in early rectal cancer (ERC) is crucial when deciding treatment strategies. However, previous studies have focused on histopathological risk-factors and the importance of tumour-height is elusive. The aim of this study was to investigate height within the rectum as an independent predictor of LNM and recurrence in ERC.

Methods Retrospective multicenter national cohort study on prospectively collected data on all patients with ERC (T1 and T2), undergoing surgical resection, between 2006 and 2021. Tumour-height was categorized as low, mid, and high when located 0-5 cm, 5-10 cm and 10-16 cm from the anal verge, respectively.

Results The incidence of LNM in the 2424 included patients was 18.2%, 17.3% and 21.6% in low, mid and high ERC, respectively. High tumor-location was a significant predictor of LNM in multivariate logistic regression (OR 1.50, CI 1.08-2.10, p-value 0.016). Recurrence was detected in 130 (7.6%) out of 1705 patients available for recurrence analysis (median follow-up 59.4 months). Recurrence occurred in 11.4%, 8.3% and 5.6% of patients with low, mid, and high ERC, respectively. Low tumor-location was a significant risk factor of recurrence in multivariate Cox regression analysis (HR 2.05, CI 1.24-3.36, p-value 0.005) (► Fig. 1).

Conclusions This study shows that low tumor-location is an independent risk factor of recurrence in ERC. Tumour-height should therefore be taken into consideration in the management of ERC.

Conflicts of interest Authors do not have any conflict of interest to disclose.



► Fig. 1

Update in EUS guided gallbladder drainage

22/04/2023, 13:00 – 14:00

Ecocem

OP274 Proactive role of direct peroral cholecystoscopy following endoscopic ultrasound-guided gallbladder drainage with lumen-apposing metal stents – Do we really need permanently indwelling stents?

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DOI 10.1055/s-0043-1765278

Aims EUS-GBD with LAMS is by convention reserved for non-surgical candidates with acute cholecystitis. Stents are permanently indwelling, despite they are not designed that way. It may lead to various short- and long-term adverse

events. A proactive approach with direct peroral cholecystoscopy (DPOCS) and complete stone clearance may allow removal of LAMS and avoid the need for permanent EUS-GBD.

Methods Since 2016, we have introduced DPOCS for EUS-GBD patients who are not candidates for cholecystectomy and have life expectancy longer than 1 year. DPOCS is performed 6 weeks after EUS-GBD, combined with cholangiogram to confirm the stone clearance. If needed, electrohydraulic lithotripsy (EHL) is performed for complete stone clearance. Once achieved, LAMS is removed. All consecutive cases undergoing DPOCS were analyzed in details.

Results 175 consecutive cases of DPOCS following EUS-GBD with LAMS were included, with median follow-up of 777 days (IQR 507.5) [191-1826]. DPOCS in 6 weeks after EUS-GBD confirmed complete stone clearance in 76.6% of cases. In 23.4% of cases, additional lithotripsy by means of electrohydraulic lithotripsy (EHL) was performed. In 13.7% of EHL cases, more than one session was required (Table). Mean number of DPOCS sessions was 1.16 ± 0.43 . No adverse events related to follow-up DPOCS were observed. All LAMS were removed following complete stone clearance confirmation. The recurrence of acute cholecystitis was observed in 5 (2.9%) of cases after LAMS removal (Table 1).

Conclusions Proactive approach in EUS-GBD with timely removal of LAMS seems to be safe and feasible. Recurrence rate of acute cholecystitis is low.

Conflicts of interest M.I.TechOmega Medical ImagingAmbuBoston Scientific

DPOCS session #	1		2		3	
# of EHL sessions required	0		1		3	
number of patients	134 (76.6%)		17 (9.7%)		20 (11.4%)	
					4 (2.3%)	

► Table 1

OP275 Multicentric retrospective study of EUS-guided gallbladder drainage with LAMS : the GRAPHE register

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DOI 10.1055/s-0043-1765279

Aims EUS-guided gallbladder drainage has become a validated alternative treatment to cholecystitis in patients not requiring surgery. This French multicenter observatory carried out within the GRAPHE lists the cases of gallbladder drainage carried out with the placement of an HOT-AXIOS device (Boston Scientific) under endoscopic ultrasound (EUS) from 2016 to 2022.

Methods 150 patients (90F/60M) requiring gallbladder drainage are included. The average age is 77 years old (48-99). The indication is either cholecystitis (119) retained as inoperable due to its severity and comorbidities, or jaundice (31) without better alternative biliary drainage (duodenal stenosis and common bile duct insufficiently dilated). Cholecystitis is mainly of neoplastic origin (83), if not lithiasic (20) or prosthetic (16), 52 (35%) with ascites.

Results Technical success, defined by the successful placement of the transvesicular stent, is 98% of cases (147/150). Clinical success is defined by a resolution of symptoms and is obtained in 95% (140/147). 5 early complications occurred due to malposition of the stent. 4 late complications were reported with 2 cholangitis and 2 recurrences of cholecystitis. These results are superior to those of percutaneous drainage with fewer complications. The presence of

ascites and portal hypertension are not contraindications. The low recurrence rate (2%) raises the question of expanding the indications in the future [1-3].

Conclusions EUS-guided gallbladder drainage is an effective and safe method. This large European multicenter study reinforces the current data in the literature. The question of extending the indications is now to be studied.

Conflicts of interest Boston Scientific

[1] Mori Y et al. J Hepatobiliary Pancreat. Sci 2018; 25 (1): 87-95

[2] Tyberg A et al. J Clin Gastroenterol 2018; 52 (1): 79-84

[3] Teoh AYB et al. Gut 2020; 69 (6): 1085-1091

OP276 Does previous percutaneous cholecystostomy (PC) affect outcomes of EUS-guided gallbladder drainage (EUS-GBD)?

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DOI 10.1055/s-0043-1765280

Aims EUS-GBD has better long-term outcomes than PC. In current practice, PC is still more commonly performed. Preliminary data suggest that PC internalization by EUS-GBD is feasible. Limited data raise concerns about the reproducibility of this staged approach. Primary aim: to determine technical success, clinical success and adverse events (AEs) of EUS-GBD in patients with previous PC. Secondary aim: to compare baseline features and clinical outcomes between patients who underwent EUS-GBD of naïve GBs (A) vs. previous PC (B) [1].

	Group A: No PC (n=50)	Group B: Prior PC (n=13)	p value
Age, mean (SD)	84.58 (9.26)	82.34 (14.88)	p=0.51
Charlson Index, mean (SD)	3.02 (2.52)	2.15 (1.63)	p=0.25
Biliary disease, n(%)			
- Cholecystitis	42 (84%)	13 (100%)	p=0.47
- Cholangitis	24 (48%)	8 (61.5%)	
- Neoplasia	14 (28%)	1 (7.7%)	
Outcomes, n(%)			
- Technical success	49 (98%)	13 (100%)	p=0.35
- Clinical success	47 (94%)	12 (92.3%)	p=0.88
- Adverse events	7 (14%)	0 (0%)	p=1

► Table 1

Methods 63 consecutive patients (57% female; 84.6 ± 9.3 years) unfit for cholecystectomy who underwent EUS-GBD between Jan 1-Dec 31, 2021 at a tertiary center were retrieved from a prospective LAMS database and reviewed under IRB approval. 10/15 mm LAMS were placed freehand under EUS from duodenum/antrum. Revision was only on demand when AEs occurred. Technical success (adequate LAMS placement), clinical success (resolution of symptoms and laboratory abnormalities) and AEs were compared across Groups A and B.

Results Table 1. Overall technical success: 62 patients (98.4%); clinical success: 59 (93.7%); AEs 7 (11.1%): 4 bleeding (2 moderate/2 mild), 2 disease exacerbation (congestive heart failure, chronic obstructive pulmonary disease), 1 perforation. Thirteen patients in Group B had prior PC in the same (n=8) or in

a previous (n = 5) hospital admission. No significant differences in technical success, clinical success, AEs or mortality were found across Groups (p = 0.532).

Conclusions EUS-GBD appears safe and effective in patients with previous PC. Our findings warrant prospective confirmation, so that staged EUS-internalization in unfit GB disease patients initially undergoing PC might become a mainstream clinical strategy (► **Table 1**).

Table 1. Comparison between patients with or without previous PC

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Teoh AYB, Kitano M, Itoi T et al Endosonography-guided gallbladder drainage versus percutaneous cholecystostomy in very high-risk surgical patients with acute cholecystitis: an international randomised multicentre controlled superiority trial (DRAC 1). *Gut* 2020; 69: 1085–1091

OP277 Elective Endoscopic GallBladder Treatment (EEGBT) in high surgical risk patients with benign diseases: a large retrospective study

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DOI 10.1055/s-0043-1765281

Aims EUS-guided gallbladder drainage (EUS-GBD) is superior to the percutaneous route for patients at high surgical risk with acute cholecystitis [1, 2], but no data is available outside the acute setting [3, 4]. Our aim was to evaluate safety and effectiveness of elective endoscopic gallbladder treatment (EEGBT) in patients at high surgical risk with benign gallbladder diseases.

Methods We retrospectively analyzed consecutive cases of EEGBT performed with EC-LAMS in 9 tertiary care centers over 24-months, in patients indicated for cholecystectomy with benign gallbladder diseases at high surgical risk. Study outcomes were adverse event(AE) rates, technical and clinical success rate and need for additional intracholecystic procedures.

Results Overall, 44 patients were included in the study. Mean age was 76.4 ± 12.3 (years, SD), male/female ratio 21/23, Charlson Comorbidity Index ≥ 5 in 68% of patients. The most frequent indication to EEGBT was gallstone related biliary cholic (43.2%). Technical and clinical success were both obtained in 100% of cases. EUS-guided LAMS implantation was achieved more frequently from the duodenum (72.7%), and the Hot-Axios was the preferred utilized stent (77.3%). AEs were observed in 3/44 patients (6.8%). No EEGBT-related deaths were observed. Intracholecystic lithotripsy was required in 6 patients (13.9%). Mean hospital stay was 5 days (SD ± 12).

Conclusions EEGBT has high technical and clinical success rates and a high safety profile. Prospective studies to standardize procedural protocol are needed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Nass KJ, Zwager LW, Fockens P et al. Novel classification for adverse events in GI endoscopy: the AGREE classification. *Gastrointest Endosc* 2022; 95: 1078–1085

[2] Gagliardi M, Rizzatti G, Larghi A et al. Elective endoscopic gallbladder treatment in patient with recurrent gallbladder colic and high surgical risk. *Endoscopy*. 2021. doi:10.1055/a-1625-3902.

[3] Rimbaş M, Crinò SF, Rizzatti G, La Greca A, Sganga G, Larghi A. EUS-guided gallbladder drainage: Where will we go next? *Gastrointest Endosc* 2022; 94: 419–422

[4] Teoh AYB, Kitano M, Itoi T et al. Endosonography-guided gallbladder drainage versus percutaneous cholecystostomy in very high-risk surgical patients with acute cholecystitis: an international randomised multicentre controlled superiority trial (DRAC 1). *Gut* 2020; 69: 1085–1091

OP278 Performance and outcome of laparoscopic cholecystectomy after endoscopic ultrasound-guided gallbladder drainage with lumen-apposing metal stents – expanding indications of interventional endoscopic ultrasound

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DOI 10.1055/s-0043-1765282

Aims EUS-GBD with LAMS is by convention limited to patients with acute cholecystitis who are not candidates for surgery. The concept is explored as bridging towards cholecystectomy following resolution of inflammation.

Methods 81 consecutive cases of cholecystectomy after EUS-GBD were evaluated in a retrospective manner, with the minimum requirement of 6-months follow-up. Procedural details analyzed included EUS-GBD puncture site, type of LAMS, length of procedure, timing of removal before surgery, adverse events, surgery time, length of hospital stay, surgical management of fistula in between GI tract and gallbladder, etc.

Results EUS-GBD was in most of cases (68%) created transduodenally. All cases were technically and clinically successful. Endoscopic drainage was associated only with 2.5% of mild adverse events. Median length of EUS-GBD was 99 days (IQR 50) [42-511]. Median interval in between LAMS removal and cholecystectomy was 4 days (IQR 1) [0-35]. Interval laparoscopic cholecystectomy was feasible in 81 cases (100%). In 2 of them, conversion to open cholecystectomy was necessary (2.5%). Median operation time was 44 minutes. (IQR18) [25-123]. Previously present fistula tract after EUS-GBD was in most of cases spontaneously closed. Median follow-up was 752 days (IQR 389) [235-2587]. 3 adverse events (3.7%) related to surgery were observed.

Conclusions EUS-GBD seems to be a feasible and safe alternative to percutaneous drainage as a way of bridging to interval cholecystectomy. EUS-GBD should probably not be limited only to those patients who are not candidates for surgery.

Conflicts of interest M.I.TechAmbuOmega Medical ImagingBoston Scientific

OP279 Long-term results of EUS-guided gallbladder drainage (EUS-GBD) in nonsurgical patients with acute cholecystitis

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DOI 10.1055/s-0043-1765283

Aims To study the long-term safety and efficacy of EUS-guided gallbladder drainage with Lumen-apposing metal stent (LAMS) in non-surgical patients with acute cholecystitis

Methods A retrospective review was made from a prospective maintained data base.

Results We included 44 non-surgical patients from our center with acute cholecystitis and EUS-GBD with 2-year follow-up or until death. Technical success: 100%, clinical success:98.1%. Median follow-up: 607 days (127-1088). 32 patients died during follow-up:30-day mortality 11.1%, 1-year mortality 37% and 2-year mortality 46.3%. Eleven patients had a total of 20 complications (37%); 25.9% after the first year, and 33% after 2 years. Complications: 9 biliary events

(16.5%) in 6 patients after a median of 232 days (137-694): 6 cholangitis, 1 choledocholithiasis, 1 biliary colic, 1 hepatic abscess. The severity of biliary events was mild (22.2%), moderate (44.2%) and severe (33.3%). Treatment was endoscopic (78%), conservative (11%) and radiology (11%).

9 Patients had 11 complications related to the stent after a median of 116 (19-331) days: 3 recurrence of cholecystitis, 4 migrations, 2 buried stents, 2 obstructions to gastric emptying. The severity of stent-related complications was mild in 27.3%, moderate in 18.2% and severe in 9% and treatment was endoscopic in 81.8% and conservative in 18.2%.

Stent-related complications were significantly associated with the location of the drainage: 35.7% in the stomach, and 10% from the duodenum (p: 0.041).

Conclusions After an EUS-GBD most complications occur in the first year, with no significant increase in the second year. Stent-related complications are associated with drainage from the stomach.

Conflicts of interest Authors do not have any conflict of interest to disclose.

WEO Joint Session: Optimizing screening and surveillance in high-risk CRC population

20/04/2023, 10:00 – 11:00

Liffey Hall 1

OP280 Impact of the COVID-19 pandemic on colorectal surveillance in Lynch syndrome – a nationwide study

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DOI 10.1055/s-0043-1765284

Aims The COVID-19 pandemic triggered substantial disruptions to health-care, including endoscopy practice. We aimed to quantify the impact of two years COVID-19 on nationwide endoscopic surveillance in Lynch syndrome.

Methods Using the nationwide database of the Netherlands Foundation for Detection of Hereditary Tumours, patterns in endoscopy practice and neoplasia detection in subjects with Lynch syndrome during the COVID-19 pandemic (27-2-2020 to 1-1-2022) were compared with an equal period pre-pandemic (24-4-2018 to 27-2-2020). For 81 centres registered in the database, surveillance sigmoidoscopies/colonoscopies and pathology reports were assessed.

	Pre-pandemic (24 April 2018 to 27 February 2020)	COVID-19 pandemic (27 February 2020 to 1 January 2022)	Relative change during COVID-19 pandemic
Total number of endoscopies	1230	1047	-15%
Number of endoscopies with neoplasia	416	330	-11%
Detection rates¹			
Neoplasia detection rate	33.8%	35.3%	+0.5%
Colorectal cancer detection rate	1.3%	0.9%	-0.4%
Advanced neoplasia ² detection rate	5.7%	5.1%	-0.6%
Total number of detected colorectal neoplasia	715	608	-15%
Most advanced colorectal neoplasia per endoscopy³			
Colorectal cancer	16	9	-44%
Adenoma	283	252	-11%
Advanced adenoma ⁴	54	44	-19%
Non-advanced adenoma	219	206	-6%
Unknown type of adenoma	10	2	-80%
Serrated polyp	91	80	-12%
Sessile serrated adenoma	2	4	+100%
Traditional serrated adenoma	1	4	+300%
Sessile serrated polyp without dysplasia	21	15	-29%
Hyperplastic polyp	67	57	-15%
Interval between colorectal endoscopy in study period and previous colorectal endoscopy⁵ (months, IQR)	24 months (14 – 27)	24 months (15 – 27)	–

1. No difference was observed between pre-pandemic and COVID-19 (p-value 0.89 neoplasia detection rate, 0.38 colorectal cancer detection rate, 0.26 advanced neoplasia detection rate, 0.238 interval).
2. Colorectal cancer and advanced adenomas.
3. In all 81 pre-pandemic and all 81 COVID-19 pandemic type of polyp was unknown, as the polyp was left to the pathology report was unavailable.
4. Advanced adenomas were 12 polyps in total, but 16 dysplastic histology or showed high-grade dysplasia.

► Fig. 1

Results Pre-pandemic n = 1230 surveillance endoscopies were performed whereas n = 1047 during COVID-19 (relative reduction 15%). The periods did not differ in terms of (advanced) neoplasia detection rate. However, during COVID-19 relative reductions in detected neoplasia were 44% (CRC), 19% (advanced adenomas), 6% (non-advanced adenomas) and 12% (serrated polyps). Neoplasia characteristics (location, stage, dysplasia-rate, size and villous his-

tology) and median surveillance interval (24 months) was comparable between both periods. During COVID-19 subjects were more likely to undergo surveillance with increasing age and when having a longer surveillance history of ≥ 8 colorectal endoscopies (p-value 0.012 and < 0.001).

Conclusions Two years of COVID-19 in the Netherlands profoundly impacted colorectal surveillance in Lynch syndrome, especially detection of advanced neoplasia. The long-term effects on morbidity, mortality and quality of life require further evaluation (► Fig. 1).

Reduction in surveillance sigmoidoscopies/colonoscopies and colorectal neoplasia detection in individuals with Lynch syndrome during the COVID-19 pandemic

Conflicts of interest EvL and EP have nothing to declare. NdB has served as a speaker for AbbVie and MSD and has served as a consultant and principal investigator for TEVA Pharma BV and Takeda. He has received a research grant (unrestricted) from Dr. Falk, TEVA Pharma BV, Dutch Digestive Foundation (MLDS) and Takeda; all outside the submitted work. MvL is medical director of StOET (unpaid function). DR has received a research grant (unrestricted) from AbbVie, outside the submitted work. He has served as a member of the Data Safety Monitoring Board of Vivoryon Therapeutics.

WEO Joint Session: Which resection techniques for which polyp?

20/04/2023, 11:30 – 12:30

Liffey Hall 1

OP281 ESD for early rectal cancer registered in the German ESD registry

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DOI 10.1055/s-0043-1765285

Aims Endoscopic submucosal dissection (ESD) is an established procedure to remove early rectal neoplasia. A curative resection is defined by the following criteria: R0, L0, V0, G1/2, submucosal invasion depth ≤ 1000 µm. The limit of ≤ 1000 µm has already been reviewed controversially in other studies as data supporting the 1000µm margin is weak. We examined the importance of this criterion in relation to the curative resection rate.

Methods The German ESD registry is a prospective uncontrolled multicenter study. Between 2017 and 2020, 20 centers included 661 rectal ESDs. The results were evaluated in terms of the proportion of submucosal invasive rectal carcinomas and the curative resection rate (Criteria: R0, L0, V0, G1/2, submucosal invasion depth ≤ 1000 µm).

Results Overall, we included 661 procedures. Histopathology showed submucosal invasive rectal carcinomas in 71 procedures (10,7%). En bloc resection rate and R0 resection rate was 93% (66/71) and 75% (53/71) respectively. Curative resection rate was 35% (25/71) using the 1000µm limit. After excluding deep submucosal invasion as a risk factor the curative resection rate was 62% (44/71).

Conclusions In the western world ESD achieves excellent en bloc resection and R0 resection rates. After excluding deep submucosal invasion as a risk factor the rate for non-curative resection dropped from 65% to 38%.

ePosters

Conflicts of interest Authors do not have any conflict of interest to disclose.

ePoster

eP001 Feasibility and safety of a newly developed Two-in-one covered and uncovered metal stent for inoperable malignant distal biliary obstruction

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DOI 10.1055/s-0043-1765286

Aims Endoscopic placement of a self-expandable metal stent is the principal method for palliation of inoperable malignant distal biliary obstruction. In the current study, we aimed to evaluate the efficacy and safety of a newly developed double stent which is made of a combination of inner silicone-covered stent and outer bare metal stent (Two-in-one stent) in patients with inoperable malignant distal biliary obstruction.

Methods From May 2016 to December 2019, 89 patients with inoperable malignant distal biliary obstruction were prospectively enrolled in this study.

Results Pancreatic cancer was the primary cause of malignant biliary stricture (65.1%). Inner-covered stent dysfunction was encountered in 24 patients (26.9%). The median cumulative inner stent patency was 361 days. The 3-, 6-, and 12-month patency rates of the inner-covered stent were 90.1%, 59.8%, and 44.9% respectively. Two-in-one stent dysfunction was encountered in 5 patients (5.6%). The median cumulative Two-in-one stent patency was statistically not reached. The 3-, 6-, and 12-month stent patency rates of Two-in-one stent were 100%, 88.6%, and 88.6% respectively. No stent migration was noted in this study. Pancreatitis and cholecystitis were encountered in 5.6% and 5.6% respectively.

Conclusions Newly developed Two-in-one stent are effective and safe for durable biliary drainage in patients with inoperable distal malignant biliary obstruction.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP002V EUS Guided Coiling and Glue Injection of Large Duodenal Varices: Playing with Fire

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DOI 10.1055/s-0043-1765287

Abstract Text Ectopic varices are uncommon and accounts for 5% of variceal bleeding with very high mortality (40%). Duodenum is commonest site for ectopic varices. There are no guidelines to treat ectopic varices and usually treated with endoscopic banding or sclerotherapy. Rebleeding rate after endotherapy is very high (20%) and may necessitate TIPS or BRTO. In this video, we have demonstrated feasibility and safety of endoscopic ultrasound (EUS) guided embolization of duodenal varices in a 42 year male who was presented with massive upper GI bleeding from large ectopic duodenal (3rd part) varix.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP003 A second FIT after a first weak positive one as a useful strategy to reduce colonoscopy load in CRC screening

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DOI 10.1055/s-0043-1765288

Aims The aim is to explore whether in those patients with a first FIT with a low positive determination ($\leq 35 \mu\text{g}/\text{Hb}/\text{g}$), a negative second FIT ($\leq 20 \mu\text{g}/\text{Hb}/\text{g}$)

is associated with a low probability of CRC or those lesions that require endoscopic follow-up, according to ESGE 2020.

Methods Consecutive patients referred for colonoscopy in the CRC screening program were included. Patients were asked to perform a second FIT prior to the colonoscopy using the same test as the first FIT. We analyzed positive and negative predictive values (PPV and NPV), sensitivity (Se) and specificity (Sp) [1–2].

Results 612 patients were included. In 259 (42.3%) colonoscopy was normal. 27 cases of CRC (4.4%) and 162 (26.5%) of adenomas that require follow-up were diagnosed. In 415 (67.8%), the second FIT were negative. Considering patients with a low positive first FIT (163 patients), the second was negative in 126 (77.3%). Diagnostic accuracy for all patients and for patients with a first low positive FIT is summarized in Table 1. With a low positive first FIT ($\leq 35 \mu\text{g}/\text{Hb}/\text{g}$) and a negative second test, the probability of significant pathology (adjusted by sex and age) was 79% lower than in the other possible results in first FIT (high positive result, $> 35 \mu\text{g}/\text{Hb}/\text{g}$) and second FIT (positive result) (OR 0.21, 95% CI, 0.12–0.39).

Conclusions In our CRC screening cohort, nearly 80% with a low positive ($\leq 35 \mu\text{g}/\text{Hb}/\text{g}$) first FIT had a negative second FIT, with a 90% NPV for CRC and lesions that require follow-up. This strategy allows to reduce more than 20% of normal colonoscopies.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Van Roon AH et al. Diagnostic yield improves with collection of 2 samples in fecal immunochemical test screening without affecting attendance. *Clinical Gastroenterology and Hepatology* 2011; 9 (4): 333–9

[2] Hassan C et al. Post-polypectomy colonoscopy surveillance: European Society of Gastrointestinal Endoscopy (ESGE) Guideline – Update 2020. *Endoscopy*. 2020; 52 (8): 687–700

eP004 Technical bench test and clinical trial of newly developed 0.025-inch guidewire for selective biliary cannulation

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DOI 10.1055/s-0043-1765289

Aims A clinical efficacy study of 0.025-inch guidewires (GWs) according to mechanical property analysis has not been reported yet. This study was designed to evaluate the clinical efficacy of a newly developed 0.025-inch GW for biliary access according to the basic mechanical property.

Methods Commercially available 0.025-inch GWs were *in vitro* tested based on parameters of the mechanical property. Patients with naïve papilla requiring ERCP were randomly assigned to an experimental 0.025-inch newly developed GW or a control 0.025-inch GW group. Technical success of wire-guided cannulation (WGC), difficult biliary cannulation (DBC), and adverse event rates were measured in this multicenter randomized trial.

Results The technical success rate of primary WGC was 79.1% (151 of 191) in the experimental group and 70.8% (131 of 185) in the control group (95% two-sided confidence interval: 8.25%; $p < 0.001$; for a noninferiority margin of

15%). However, the chi-square test showed a statistical difference (81.7% vs. 68.1%; $p=0.002$). Median biliary cannulation time was shorter in the experimental group (53 seconds vs. 77 seconds; $p=0.047$). The rate of DBC was more frequent in the control group (34.6% vs. 50.3% $p=0.002$). Multivariate analysis revealed that the control group was one of contributing factors for DBC.

Conclusions WGC using a newly developed GW with superior physical performance GW in a bench test showed similar efficacy and the rate of DBC was significantly lower in experimental GW.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP005 Impact of the COVID – 19 Pandemic on Endoscopic Ultrasound and Radiology Liver Cytopathology Caseload and Diagnostic Accuracy

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DOI 10.1055/s-0043-1765290

Aims In January 2020, the CDC confirmed the first US case of COVID-19 impacting availability of cytopathology services and rapid on-site evaluation (ROSE). Centers reported 76% reduction in lab volume and 150% increase of "suspicious" specimens. At a single US academic center, we sought to determine the impact of the pandemic on our endoscopic ultrasound (EUS) and radiology liver cytopathology specimen volume and diagnostic accuracy.

Methods From 09/2017 to 05/2022, 1013 EUS and radiology liver (focal lesion, parenchymal liver) cytopathology electronic records were identified using a Natural Language Processing search. Diagnostic accuracy was defined as true positive plus true negative/ total number of records.

vs 47.1%; $p=0.11$) or radiology specimens (76% vs 74.8%; $p=0.72$). The "negative for malignancy" designation did not change for EUS (26.4% vs 37.3%; $p=0.18$) or radiology specimens (15.6% vs 17.6%; $p=0.47$). The "suspicious for malignancy" designation did not change for EUS or radiology specimens 0% vs 3.9%; $p=0.1274$ and 0.5% vs 1.3%; $p=0.35$, respectively. There was no difference in the diagnostic accuracy of EUS or radiology specimens during the pandemic period: 93.4% vs 88.2%; $p=0.5242$ or 95.4% vs 94.5%; $p=0.59$, respectively (► **Table 1**, ► **Fig. 1**).

Conclusions Although the pandemic changed our EUS work environment including a significant reduction in procedural volume, availability of cytotechnology team, and ROSE, there was no difference in the diagnostic accuracy of either EUS or radiology acquired liver cytopathology specimens.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP006 Diagnostic Accuracy and Safety of Endoscopic Ultrasound-Guided End-Cutting Fine-Needle Biopsy (FNB) Needles For Tissue Sampling of Abdominal and Mediastinal Lymphadenopathies: A Prospective Multicentre Series

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DOI 10.1055/s-0043-1765291

Aims The role of the newer EUS-fine needle biopsy (FNB) needles in lymphadenopathies (LA) is still underevaluation. We aimed to evaluate the diagnostic accuracy and the adverse event rate of EUS-FNB indigesting LA.

Methods From June 2015 to 2022, all patients referred to 4 institutions for EUS-FNB of mediastinal and abdominal LA were enrolled. 22G Franseen tip or 25G Sharkcore needles were used. The gold standard for positive results was surgery or imaging and clinical evolution over a follow-up of at least one year [1–18].

Results A total of 100 consecutive patients were enrolled, consisting of those with a new diagnosis of LA (40%), presence of LA with a previous history of neoplasia (51%), or suspected lymphoproliferative disease (9%). EUS-FNB was technically feasible in all LA patients with 2 to 3 passes (mean 2.62 ± 0.93). The overall EUS-FNB sensitivity, positive predictive value (PPV), specificity, negative predictive value (NPV), and accuracy were 96.20%, 100%, 100%, 87.50%, and 97.00%, respectively. Histological analysis was feasible in 89% of cases. Cytological evaluation was performed in 67% of specimens. There was no statistical difference between the accuracy of the 22G or 25G needle ($p=0.63$). A sub-analysis on lymphoproliferative disease revealed a sensitivity and accuracy of 89.29% and 90.0%. No complications were recorded.

Conclusions EUS-FNB with new end-cutting needles is a valuable and safe method to diagnose LA. The high quality of histological cores and the good amount of tissue allowed a complete immunohistochemical analysis of metastatic LA and precise subtyping of the lymphomas.

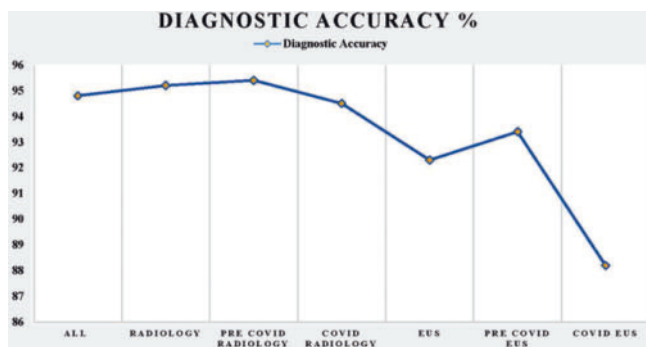
Conflicts of interest Carrara: Consulting fees for Olympus. Repici: Consulting fees for Fuji, Olympus, and Medtronic.

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	Total Caseload n=1013	Radiology Control n=271	Pre Pandemic Radiology n=238	Pandemic Radiology n=238	EUS Control n=142	Pre Pandemic EUS n=105	Pandemic EUS n=105
Positive for malignancy	740 (73.1%)	408 (15.1%)	461 (19.3%)	379 (16.0%)	81 (57%)	57 (53.3%)	24 (22.9%)
Negative for malignancy	26 (2.6%)	28 (10.3%)	25 (10.5%)	5 (2.1%)	7 (5%)	6 (5.7%)	1 (1%)
Colorectal	6 (0.6%)	6 (2.2%)	5 (2.1%)	5 (2.1%)	2 (1.4%)	2 (1.9%)	2 (1.9%)
Pancreas	39 (3.8%)	39 (14.4%)	34 (14.3%)	31 (13.0%)	0 (0%)	4 (3.8%)	2 (1.9%)
Respiratory for malignancy	184 (18.2%)	141 (52.0%)	149 (62.6%)	142 (59.7%)	42 (29.6%)	28 (26.7%)	14 (13.3%)
Non-malignant	0 (0%)	0 (0%)	2 (0.8%)	1 (0.4%)	0 (0%)	2 (1.9%)	1 (1%)

► **Table 1** Endoscopic Ultrasound and Radiology Liver Cytopathology Interpretation Pre and During the Pandemic Period.



► **Fig. 1** Diagnostic Accuracy of Endoscopic Ultrasound and Radiology Liver Cytopathology Interpretation Pre and During the Pandemic Period.

Results Overall, our cytopathology lab saw a 60% decrease in EUS and radiology acquired liver cytopathology specimens. Compared to the pre-Pandemic period, "positive for malignancy" designation did not change for EUS (62.3%

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eP007V Successful Case of Vacuum-Stent Treatment for Anastomotic Leakage After Ivor Lewis Esophagectomy

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DOI 10.1055/s-0043-1765292

Abstract Text Anastomotic leakage after esophagectomy is associated with severe morbidity. Recently, a vacuum-stent was introduced as novel treatment option, combining the benefits of endoscopic vacuum therapy and an intraluminal stent.

A 65-year-old male underwent an Ivor Lewis esophagectomy. 11 days post-surgery, the patient developed anastomotic leakage on the intrathoracic anastomosis with a large mediastinal cavity. Successful closure of the leak was achieved in 2 weeks with only vacuum-stent treatment. After 3 months follow-up, the patient had normal intake and there were no signs of stenosis.

Conflicts of interest R.E. Pouw is consultant for MicroTech Europe and Medtronic bv., received speaker fee from Pentax and is on the advisory board for EsoCap AG.

eP008V Endoscopic intermuscular dissection of a rectal GIST: a breakthrough in the management of subepithelial lesions

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DOI 10.1055/s-0043-1765293

Abstract Text Endoscopic resection of rectal GIST is rarely reported. An incidental rectal subepithelial lesion was detected in a 75-year-old woman. Endoscopic ultrasound revealed a 13mm homogeneous hypoechoic mass in the lateral wall of the distal rectum, originating from the muscularis mucosa. During endoscopic submucosal dissection (ESD), it became clear that the lesion originated from the superficial layer of the muscularis propria. Hence, the resection strategy was changed to endoscopic intermuscular dissection (EID) in order to allow the extension of the dissection to the inner circular muscle layer. En bloc resection of a low-risk gastrointestinal stromal tumor (GIST) was achieved. The recently described EID is a safe and effective treatment option in rectal GIST [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Kim SJ, Jung Y, Hong R et al. Successful Endoscopic Resection of a Rectal Gastrointestinal Stromal Tumor Larger Than 5 cm. *The Korean journal of gastroenterology* 2021; 78: 235–239

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eP009 Global incidence and prevalence of eosinophilic esophagitis

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DOI 10.1055/s-0043-1765294

Aims This study aimed to describe global, regional, and national trends in the incidence and prevalence of EoE from 1976 to 2021, and analyze their associations with geographic, demographic, and social factors through a systematic review.

Methods We searched the PubMed/MEDLINE, Embase, CINAHL, Google Scholar, and Cochrane databases from their inception dates to November 30, 2021 for studies that reported the incidence or prevalence of EoE in the general population. We calculated the global incidence and prevalence of EoE using pooled estimates with 95% confidence intervals (CI) and performed subgroup analysis based on age, sex, race, geographical area, World Bank income group, and diagnostic criteria of EoE. To assess the validity of the evidence, an assessment of the risk of bias, Egger's test, funnel plot, and 95% prediction interval were performed.

Results A total of 42 studies met the eligibility criteria, including over 343 million participants and 150,241 patients with EoE from 14 countries. The global pooled incidence and prevalence of EoE were 5.71 cases per 100,000 inhabitants and 30.79 cases per 100,000 inhabitants, respectively. The pooled prevalence of EoE was higher in high-income countries, males, adults, White ethnicity, and North America. The pooled incidence and prevalence of EoE gradually increased from 1976 to 2021.

Conclusions The incidence and prevalence of EoE have increased substantially and varies widely by region and World Bank income group. Furthermore, there may be an underdiagnosis and undertreatment of EoE in low- or middle-income countries. Therefore, these results suggest the need for a global health policy to address the burden of EoE.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP010 Combined gastric and colorectal cancer screening may be cost effective in Europe with the implementation of AI

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DOI 10.1055/s-0043-1765295

Aims Screening for gastric neoplasia (GN) is not recommended in low-intermediate incidence countries. Artificial Intelligence (AI) might increase the cost-effectiveness of screening strategies. We aimed to assess the cost-effectiveness of AI for GN detection in settings with different gastric cancer incidence and different accuracies of AI systems.

Methods Cost-effectiveness analysis comparing different screening strategies (no screening vs single esophagogastroduodenoscopy (EGD) at 50 years vs stand-alone EGD every 5/10 years vs EGD every 5/10 years combined with screening colonoscopy in Netherlands, Italy and Portugal, according to different AI accuracy. A Markov model was constructed with transition probabilities derived from literature review. Primary outcome was the incremental cost-effectiveness ratio (ICER) of the different strategies vs no screening. Deterministic and probabilistic sensitivity analyses were conducted.

Results Without the use of AI, one single endoscopy at 50 years (Netherlands, Italy, Portugal), endoscopy associated with colonoscopy every 10 years (Italy and Portugal) and endoscopy associated with colonoscopy every 5 years (Portugal) are cost-effective when compared with no screening. If AI increases the accuracy of endoscopy by at least 1% when compared with WLE accuracy (89%), combined screening every 5 years also becomes cost-effective in Italy and if AI accuracy reaches at least 96% accuracy combined screening every 10 years is also cost-effective in the Netherlands.

Conclusions Combined screening through EGD/colonoscopy can be cost-effective in European countries. Implementation of AI at reasonable costs may improve cost-effectiveness of GC screening.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP011 Safety and efficacy of EUS-guided radiofrequency ablation of pancreatic tumors: largest mono-center study

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DOI 10.1055/s-0043-1765296

Aims Pancreatic radiofrequency under EUS (EUS-RFA) is an innovative technique but evaluated in limited series. The objectives were to evaluate the safety, the long-term efficacy, and identify predictive factors for outcomes.

Methods Single-center retrospective study conducted on patients treated by EUS-RFA from 2015 to 2022 for pancreatic tumors. Treatment consisted of \geq sessions of EUS-RFA with dedicated refrigerated needle (STARmed, Taewoong, Korea), after prophylactic measures. The safety was assessed using the AGREE classification, and patients were followed at least 2 years.

Results 107 EUS-RFA were performed, on 89 patients (median age 67 years). Lesions were IPMNs (38.2%) mucinous cystadenoma (7.9%), neuroendocrine tumors (34.8%), pancreatic metastasis (6.7%), adenocarcinomas (12.4%). Eleven patients (10.3% of procedures) had perioperative adverse events, mainly acute pancreatitis or febrile abdominal pain \leq AGREE grade IIIa (4.7% grade IIIa), all with favorable outcome after conservative treatment. The absence of NSAIDs and prophylactic antibiotics were risk factors for complications (OR = 22.6 CI [1.8-281], $p < 0.01$). At 6 months, 1 year and at last follow-up, the response rate was 83.7%, 82.1% and 79.5% for IPMNs and cystadenomas, and 75.7%, 79.3% and 81.6% for NETs and 44.4% for pancreatic metastases, respectively. The efficacy for adenocarcinomas were about analgesia, with a response rate at 90%. A significant response at 6 months for NETs and IPMNs was predictive for final response.

Conclusions EUS-RFA for precancerous pancreatic lesions or primary or secondary malignant lesions seems to be an alternative of choice with good long-term effectiveness.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP012 Evaluation of the drainage of unresectable hilar biliary strictures applying an original two-stage strategy combining retrograde approach as first line, completed if required by EUS-guided hepaticogastrostomy (HG) as second line

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DOI 10.1055/s-0043-1765297

Aims Drainage of unresectable malignant hilar stenosis (MHS) is challenging with a risk of incomplete drainage by ERCP. The aim was to evaluate clinical, technical success rates and safety of sequential biliary drainage (SBD) strategy combining first an ERCP with stent placement in the right liver, followed in case of insufficiency, by EUS-guided HG

Methods Monocentric retrospective study conducted on patients having undergone SBD strategy, in one or two steps, for unresectable hilar biliary stenosis, between 2008 and 2022.

Clinical efficacy rate was defined as complete regression of jaundice. The number of reoperations required, the time to initiation of chemotherapy, and the overall survival of patients after drainage was recorded.

Results 24 patients underwent MHS drainage applying SBD (16 men, average age 76 years). The type of strictures was type II in 20.8% of patients, type IIIa in 20.8%, type IIIb in 25% and type IV in 33.4%. 60% of the patients required an additional EUS-HG for insufficient drainage after ERCP, mostly (78.5%) being classified type IIIb and IV. Technical and clinical success rates were 100% and 95.8%, respectively. The complication rate was 12.6%, only one requiring revision surgery. The median time for resuming chemotherapy was 5 weeks, with a mean life expectancy of 12.6 months after SBD. Endoscopic stent desobstruction was necessary in 20.8% of patients.

Conclusions SBD strategy demonstrated high technical (100%) and clinical (95.8%) success rates, with low complication rate, making this therapeutic strategy viable and interesting for the drainage of MHS.

Conflicts of interest Pr Gonzalez and Barthet Consultant for Boston scientific

eP013 Endoscopic ultrasound-guided gastroenteroanastomosis (EUS-GEA): may the jejunal irrigation drain-assisted technique increase the diffusion of endoscopic gastrointestinal anastomoses?

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DOI 10.1055/s-0043-1765298

Aims EUS-guided GEA is an expanding technique. The ESGE recommendations limit it to malignant obstructions, due to severity of potential adverse events (AEs). We present in a comparative study the contribution of a technique assisted by jejunal irrigation drain (AID) upon the pioneer direct approach (DA). The aim was to compare the safety and the efficacy.

Methods Bicentric retrospective comparative study in experts' centers. All consecutive patients undergoing EUS-guided GEA within two periods, either applying GEA-DA (initial experience) and then using GEA-AID from May 2021 or 2022. Procedures were performed with therapeutic echoendoscopes, and GEA were completed using lumen apposing stents (LAMS, HotAxios, Boston scientific).

Results 57 patients were included with mean age of 66.8 years (42.1% female), 34 is the GEA-DA and 24 in the GEA-AID groups. The indications were benign in 18 cases (31.5%) (chronic pancreatitis, Crohn's disease, peptic or caustic duodenal stenosis, gastroparesis). The average follow-up was 13.5 months. LAMS 20 mm stents were used in 49 patients (85.9%). Complications were observed in 9 cases (15.7%) but significantly higher in the GEA-DA group (21.8%) compared to the GEA-AID group (8%) (p = 0.02). They were essentially stent misdeployments (8 cases) and hemorrhage (1 case); only one patient underwent surgery, the others having benefited from the "stent-in stent" salvage technique. The technical and clinical success rates were comparable: 90.6% vs 96% and 87.5% vs 96%, respectively.

Conclusions The new technique of EUS-guided GEA-AID offers excellent functional results (>90%) with a significantly reduced morbidity at 8%, allowing a safe dissemination.

Conflicts of interest Pr Barthet and Gonzalez consultant for Boston scientific

eP014 Comparison of two types of guidewires for malignant hilar biliary obstruction by endoscopic retrograde cholangiopancreatography: a randomized controlled trial

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DOI 10.1055/s-0043-1765299

Aims There is insufficient information on the optimal guidewire for managing malignant hilar biliary obstruction (MHBO). Therefore, a newly designed 0.025-inch guidewire was compared with the conventional 0.035-inch guidewire for selective cannulation of both intrahepatic ducts (IHDs) in patients with MHBO (► Fig. 1).

Methods Patients were randomly enrolled into the curved type newly designed 0.025-inch guidewire group (0.025 group) or curved type conventional 0.035-inch guidewire group (0.035 group). The primary outcome was the selective cannulation rate of IHD. If the assigned guidewire failed to pass the stricture within 5 minutes, the crossover usage of the guidewire was done. If the crossover guidewire failed to cross the stricture within the next 5 minutes, it was judged as failed selective cannulation of both IHDs [1–12].

	0.025 group, n=47	0.035 group, n=43	p-value
1 st GW cannulate to IHD (S)	39/2 ± 47.9	41.7 ± 58.8	0.821
2 nd GW cannulate to IHD (S)	138.2 ± 182.5	171.6 ± 189.7	0.452
2 nd GW cannulate to IHD without failed cases (S)	104.8 ± 103.8	132.6 ± 122.1	0.306
1 st GW cannulate to IHD Rt. Ant/Rt. Post/LL. IHD	23(48.9)/5(10.6)/19(40.4)	21(48.8)/4(9.3)/18(41.9)	0.940
2 nd GW cannulate to IHD Rt. Ant/Rt. Post/LL. IHD	13(27.6)/2(4.3)/14(29.8)	13(30.2)/4(9.3)/16(37.2)	0.404
guidewire cross-over (1st / 2nd)	0(0) / 4 (8.5)	1 (2.3) / 10 (23.3)	0.039*
guidewire stricture passage	77/81 (95.1)	65/76 (85.5)	0.043*
guidewire stricture passage with crossover cases	87/92 (94.6)	65/80 (81.3)	0.006*
complete drainage rate	43/47 (91.5)	32/43 (74.4)	0.030*

► Fig. 1

Results Ninety patients were enrolled (0.025 group, n = 47; 0.035 group, n = 43). Four patients (8.5%) in the 0.025 group failed to cannulate the IHD and changed to the conventional 0.035-inch guidewire as a second attempt; all four failed to cross the stricture with the 0.035-inch guidewire. Eleven patients (25.6%) in the 0.035 group failed to achieve selective cannulation of IHD and changed to the 0.025-inch guidewire; ten (10/11, 90.9%) crossed the stricture with the newly designed 0.025-inch guidewire. selective cannulation rate of IHD was significantly higher in the 0.025 group (95.1% vs. 85.5%, P = 0.043).

Conclusions The 0.025 group has a higher success rate of selective cannulation of both IHDs in MHBO than the 0.035 group.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP015 Feasibility, efficacy and tolerance of gastro-duodenal placement of small bowel capsule endoscopy devices : a retrospective multicentric European study in 630 adult patients

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DOI 10.1055/s-0043-1765300

Aims It is sometimes necessary to perform an upper gastrointestinal endoscopy for gastroduodenal placement (GDP) of small bowel (SB) capsule endoscopy (CE) devices. The aim of our study was to describe feasibility and clinical outcomes of the technique in adult patients.

Methods We conducted a multicentric, European, retrospective study. Inclusion criteria were age above 18 years old, SBCE-GDP, between September 2002 and May 2022. Primary outcome was occurrence of adverse events (AE) [1]. Secondary outcomes included technical success, SB completion, SB transit time (SBTT) and diagnostic yield (DY, P1 + P2 findings).

Results 29 centers participated. 630 adult patients were included (mean age 62.5 years old, 55.8% women). Main indication for SBCE was suspected SB bleeding (70.4%). GDP was mostly due to impossibility or failure to oral ingestion (41.8%). AE occurred for 94 patients (20.5%), being severe in 3 patients. No death occurred. Technical success rate was 95.5%. After technical success, SB completion rate was 83.7%, being significantly higher when CE was delivered in the duodenum (85.9%) than in the stomach (62.8%, $p < 0.0001$). Median SBTT was 267 min (IQR [200 ; 364]). DY was 60.3%.

Conclusions This large-scale study demonstrates good tolerance profile and high technical success rate of SBCE-GDP. SBTT seems longer than when CE is orally ingested (220-250 minutes, according to largest series in the literature),

most likely related to patient sedation. However, completion rate (86.6%) after SBCE-GDP seems similar to that after oral ingestion (83.0% in largest series) whereas DY seems higher (but probably for better selected patients) [2, 3].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Nass KJ et al. Novel classification for adverse events in GI endoscopy. *Gastrointest Endosc* 2022; 95 (6): 1078–1085

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eP016 Endoscopic sedation in IBD patients: a propensity score-matched retrospective study

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DOI 10.1055/s-0043-1765301

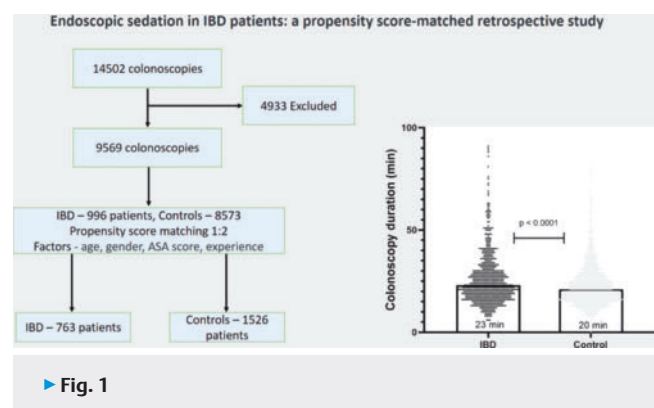
Aims Colonoscopy is essential for colorectal cancer screening and the management of inflammatory bowel disease (IBD). Sedation can be fundamental, reducing peri-procedural discomfort and improving examination quality. We aimed to compare dosing of sedative medications and the duration of procedure for IBD patients compared to non-IBD controls.

Methods This propensity score-matched retrospective study took place at a high-volume gastroenterology department between June 2020-September 2021. Colonoscopy data of patients with IBD was collected, compared to a 1:2 propensity-scored matched cohort of non-IBD patients. Patients with polypsis, past abdominal surgery, known or suspected malignancy, and incomplete colonoscopies were excluded (► Fig. 1).

Results A total of 14502 patients including 996 patients with IBD underwent colonoscopy and 4933 patients were excluded. Propensity score matching used four characteristics – patient age, gender, American Society of anesthesiologists score, and endoscopists' experience, including 2289 patients in the final analysis (763 IBD, 1526 control). The groups were similar in administered Propofol doses [IBD- median 100 mg, interquartile ratio (IQR) 70-150 vs control, 100 mg, IQR 80-150, $p = 0.2$]. Total procedure time was significantly longer in the IBD group (23 median minutes, IQR 18-30 vs 20 minutes, IQR 16-27, $p < 0.0001$). There were no differences in terminal ileum intubation rates between the groups (51% in IBD vs 49.5% in control, $p = 0.5$).

Conclusions In this retrospective analysis, colonoscopies of patients with IBD were significantly longer despite comparable terminal intubation rates; IBD patients did not require more intensive sedation than controls.

Conflicts of interest Authors do not have any conflict of interest to disclose.



► Fig. 1

eP017 Usefulness and educational effect of a virtual scale endoscope in measuring colorectal polyp size

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DOI 10.1055/s-0043-1765302

Aims A virtual scale endoscope (VSE) is a newly introduced endoscope in which a virtual scale displayed on the screen helps endoscopists to measure colorectal polyp size (CPS) during colonoscopy. This study aimed to determine the usefulness of the VSE for CPS measurement and the educational effect of using VSE images to improve the accuracy of CPS estimation.

Methods This study comprised 42 colorectal polyps in 26 patients at Hiroshima University Hospital from August to October, 2021. In Study 1, we compared CPS measured using a VSE before endoscopic resection with CPS measured on resected specimens and evaluated the agreement between the two methods via Bland–Altman analysis. In Study 2, 14 endoscopists (5 beginners, 5 intermediates and 4 experts) took a pre-test to answer the size of 42 polyps. After the pre-test, we lectured them on CPS by using VSE images. One month later, they took a post-test to compare the accuracy of CPS before and after the lecture.

Results Study 1: Bland–Altman analysis showed no fixed or proportional errors. The mean bias \pm 95 % limits of agreement (\pm 1.96 SD) of the measurement error was -0.05 ± 0.21 mm, indicating that the agreement between the two measurement methods was sufficient. Study 2: The accuracy of CPS measurement was significantly higher in beginners (59.5 % vs. 26.7 %, $P < 0.01$) and intermediates (65.2 % vs. 44.3 %, $P < 0.05$) in the post-test vs. the pre-test. In a multivariate analysis with logistic regression, two polyp features (near view and large size) were significantly associated with low (< 50 %) accuracy, even in the post-test.

Conclusions The VSE accurately measures CPS before resection, and its images are a useful teaching tool for beginner and intermediate endoscopists.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP018 Is salvage hybrid ESD effective when ESD is difficult to continue?

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DOI 10.1055/s-0043-1765303

Aims When submucosal dissection is difficult to complete during endoscopic submucosal dissection (ESD), the lesion could be resected by final snaring (salvage hybrid ESD; SH-ESD). This study aimed to evaluate the risk factors for incomplete resection and the validity of SH-ESD.

Methods Overall, 1,039 colorectal lesions that underwent ESD at Hiroshima University Hospital from January 2015 to December 2020 were analyzed; these included, 924 lesions wherein conventional ESD was attempted thoroughly (C-ESD group, including 9 lesions with ESD discontinued) and 115 lesions wherein SH-ESD was performed owing to difficulties (SH-ESD group). We analyzed the characteristics of incomplete resection cases by SH-ESD and ESD discontinuation, and evaluated the associated risk factors by multivariate analysis. For lesions with remaining undissected submucosa diameter < 20 mm, we compared outcomes between the two groups using propensity score matching for tumor size, gross type, location, submucosal fibrosis, scope operability, and intraoperative perforation as covariates.

Results Multivariate analysis revealed that procedure time > 80 min and remaining undissected submucosa diameter ≥ 20 mm were significant risk factors for incomplete resection by SH-ESD and ESD discontinuation. Propensity score matching analysis revealed no significant difference in en bloc resection rate between groups (94 % vs. 87 %, $p = 0.0914$), although procedure time was sig-

nificantly shorter in SH-ESD than in C-ESD group (71.1 min vs. 89.5 min, $p = 0.0053$).

Conclusions SH-ESD may be an alternative when continuing conventional ESD is difficult, if the remaining undissected submucosa diameter is < 20 mm.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP019 Outcomes of repeat endoscopic retrograde cholangiopancreatography after initial failed biliary cannulation

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DOI 10.1055/s-0043-1765304

Aims To determine the success of repeat endoscopic retrograde cholangiopancreatography (ERCP) after initial biliary cannulation failure and the associated factors.

Methods Data of patients who had repeated ERCP due to failed cannulation between 2012 and 2020 were collected retrospectively, extracted from a prospective database at a tertiary hospital.

Results We identified 438 repeated ERCP, 47 were repeated because of unsuccessful cannulation of the bile duct. These 47 ERCP were performed on 41 patients. In 6 ERCP was repeated a third time. Out of these 47 repeated ERCP, biliary cannulation was achieved in 37 cases (78.72 %).

On the second ERCP, the rate of cannulation was 70 % (21 patients), without considering 11 patients (26,83 %) undergoing intraoperative rendezvous. In 15 patients (36.58 %) a precut technique was performed. A sub-analysis of precut techniques reveals that when a transpancreatic sphincterotomy was performed, cannulation was more successful ($p 0,014$). On the third ERCP, cannulation was attained in 5 patients (83.33 %) (► Fig. 1).

We do not find statistically significant differences in the cannulation rate according to age, sex, anatomy of the papilla, time to repeat the procedure or the repetition by either the same endoscopist or a different one [1–22].

We observed 7 complications (14,89 %), including pancreatitis, bleeding and cholangitis. Complications were more frequent among patients who failed biliary cannulation ($p 0,031$).

Conclusions The repetition of the ERCP after the failure of initial biliary cannulation appears to be safe and effective. Intraoperative ERCP may be a good alternative in patients scheduled for elective cholecystectomy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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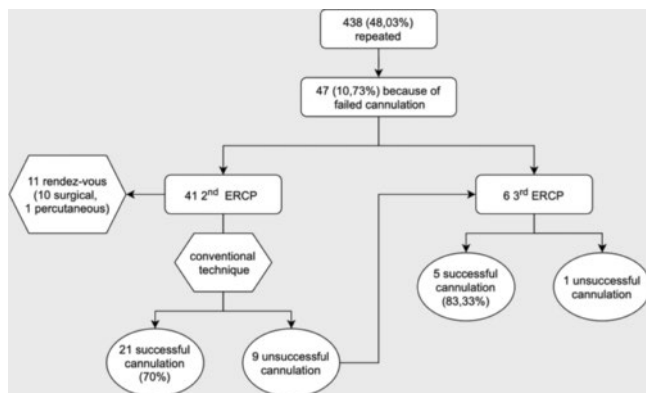
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► Fig. 1

eP020V EUS guided thrombin injection as alternative to angiographic coil embolization

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DOI 10.1055/s-0043-1765305

Abstract Text Management or prevention of bleeding of pseudoaneurysm in pancreatitis or highly vascularized tumors can be challenging. Gold-Standard therapy is DSA with coil embolization. However in some cases this is not possible due to technical reasons such as inaccessible vascular region, small caliber or short neck of the pseudoaneurysm. We show two cases where the role of EUS guided thrombin injection was crucial to avoid surgery. EUS guided thrombin injection is a feasible and save alternative to coil embolisation in bleedings of pseudoaneurysma and highly vascularised tumors.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP021 The use of quantitative contrast-enhanced endoscopic ultrasound in the evaluation of pancreatic neuroendocrine tumors: can we move from quality to quantity? A proof-of-concept study

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DOI 10.1055/s-0043-1765306

Aims Contrast-enhanced EUS (CE-EUS) is a helpful tool for the diagnosis of pancreatic focal lesions, as pancreatic cancer (PC) and pancreatic neuroendocrine tumor (pNEN). Contrast enhancement is usually assessed qualitatively by the endosonographer. Dedicated software has been developed to obtain an unbiased quantitative assessment using perfusion parameters. We evaluated quantitatively the enhancement of pNENs and PC at CE-EUS.

Methods Seventy-three patients (51 PC and 22 pNEN cytologically diagnosed), who underwent CE-EUS in our hospital were consecutively included. Quantitative analysis of tumor vascularization was performed with a commercially available software (Vuebox, Bracco). Time-intensity-curve (TIC) was created and several parameters were evaluated including the average contrast signal intensity (MeanLin), peak enhancement (PE), time to peak (TTP), mean transit time (mTT), Wash-in Area Under the Curve (WiAUC), Wash-in Perfusion Index (WiPI), Wash-out Area Under the Curve (WoAUC). Univariate and multivariate analyses with patient- and tumor-level variables were conducted

Results Univariate analysis showed that several TIC parameters could significantly distinguish pNENs from PCs (sensitivity/specificity WiAUC 81.8/75.5%, PE 72.7/92.2%, WiPI 72.7/92.2%). At univariate analysis mTT was associated with the diameter of the pNEN ($p < 0.001$). Even if not statistically significant, a trend for an association between TIC and pNEN aggressiveness was observed

Conclusions Quantitative enhancement evaluation in CE-EUS for pNEN could accurately predict the diagnosis of pNEN respect to PC

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP022 The prediction of in-hospital mortality and the impact of colonoscopy in patients with acute lower gastrointestinal bleeding: an Italian multi-center study (ALIBY study)

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DOI 10.1055/s-0043-1765307

Aims Acute lower gastrointestinal bleeding (LGIB) is a frequent condition associated with significant health care burden. Our aim was: i) to develop a new score to predict in-hospital mortality of patients with LGIB, and ii) to evaluate

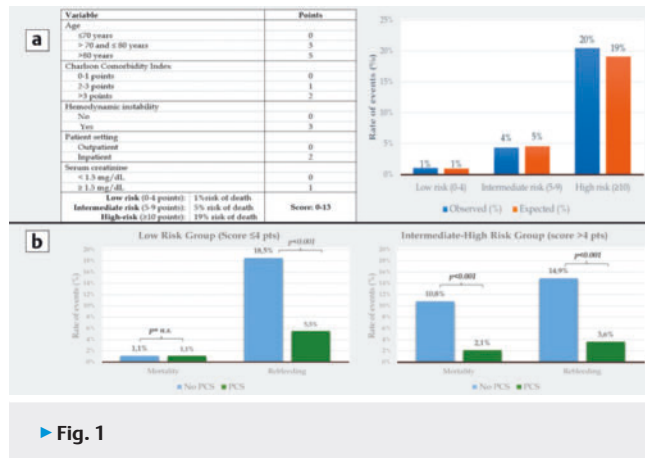
the impact of colonoscopy and its timing on mortality and rebleeding rates according to the LGIB severity (► Fig. 1).

Methods Adult patients presenting with LGIB were consecutively enrolled in 15 high-volume centers. Logistic regression analyses were applied to identify independent variables associated with in-hospital mortality and evaluate the impact of colonoscopy on clinical outcomes.

Results Among the 1198 patients enrolled, 41 (3%) patients died and 105 (9%) rebled during the follow-up. We identified five independent predictors of in-hospital mortality: age, Charlson Comorbidity Index, inpatient provenience, hemodynamic instability at presentation and serum creatinine levels; the model showed excellent discrimination (AUROC: 0.807, 95 %-IC: 0.745-0.869). We build a risk score based on these variables that could accurately stratify for the risk of mortality as low (1%, 0-4 points), intermediate (5%, 5-9 points), and high (20%, 10-13 points). In the low-risk group, performing colonoscopy reduced the risk of rebleeding (6% vs 18%, $p < 0.001$) but had no impact on mortality (1.1% vs 1.1%). In the intermediate-to-high risk group (>4 points), colonoscopy was associated with both reduced mortality (11% vs 21%, $p < 0.001$) and rebleeding (15% vs 4%, $p < 0.001$) rates.

Conclusions We developed a new and simple risk score to predict the risk of in-hospital mortality among patients with LGIB. The score identifies the more severe and fragile patients that could benefit most from performing a colonoscopy during the admission in terms of survival.

Conflicts of interest Authors do not have any conflict of interest to disclose.



► Fig. 1

eP023 Asymmetric Franseen type needles: a promising alternative for the EUS-guided tissue acquisition for the assessment of gastrointestinal lesions

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 DOI 10.1055/s-0043-1765308

Aims EUS-FNB tissue sampling is nowadays considered crucial for the management of pancreatic and subepithelial solid lesions (SSLs). According to the recently published data, Franseen symmetric and Fork-tip needles are considered the best-performing ones. In our center, we have newly introduced a new Franseen multiblade asymmetric three-prong tip needle (EUS-FNB Micro-Tech Trident), with a dominant prong designed to facilitate tissue penetration. In this study, we evaluate the diagnostic accuracy and sample adequacy of this new device.

Methods We collected retrospectively all patients who underwent EUS-FNB for pancreatic lesions and SSLs from January to June 2022 with a 22G needle with the slow-pull technique. Diagnostic accuracy was the primary outcome; secondary outcomes were sample adequacy defined by the Macroscopic On-

site Evaluation (MOSE) and the number of adverse events. The final diagnosis was determined by surgery or clinical follow-up of at least three months.

Results 46 lesions (of which 70% pancreatic) were sampled with an average size of 30 mm (SD = 14mm). Sampling was performed with 2 or 3 passes, according to the macroscopic evaluation. Diagnostic accuracy was 95% (44 confirmed histological diagnosis). Sample adequacy reached approximately 98%; only 2 samples were inconclusive. No major adverse events were detected; 2 patients complained of abdominal discomfort after the procedure.

Conclusions Among the newest generation of EUS-FNB needles, Franseen asymmetric type needles seem to ensure better performances compared with standard Franseen or Fork-tip ones, in terms of diagnostic accuracy and sample adequacy. Due to the limited number of patients additional data are needed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP024V EUS-guided radiofrequency ablation in primary hyperaldosteronism

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 DOI 10.1055/s-0043-1765309

Abstract Text Primary aldosteronism (PA) is the most common cause of secondary hypertension. We describe a novel treatment of left-sided unilateral PA caused by an aldosterone-producing adenoma with EUS-guided radiofrequency ablation (EUS-RFA) as an alternative to adrenalectomy.

A 27-year-old male was diagnosed with PA with lateralization to the left side. On EUS, a 7x4 mm iso-echogenic lesion in the left adrenal gland was identified. Biopsies an unusually high concentration of aldosterone synthase. The tumor was ablated with EUS-RFA. The blood pressure remained normal for six weeks after discharge without any antihypertensive drugs.

Conflicts of interest Pham KDC is a consultant for Ambu, Taewoong, Olympus

eP025 Prevalence and analysis of musculoskeletal injuries (MSI) presented by the staff of an Endoscopy Unit

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 DOI 10.1055/s-0043-1765310

Aims Personnel in an endoscopy unit have to maintain a static standing position for a long time, perform repetitive physical maneuvers, move heavy weights and carry loads. Our aim was to find out the prevalence of MSI in this work environment and their associations (► Table 1).

Methods Cross-sectional study carried out on the personnel of the Endoscopy Unit of the Alvaro Cunqueiro Hospital (Vigo) using the extended Nordic Kuorinka questionnaire. High endoscopic activity was defined if more than 110 working hours per month at endoscopy unit in the previous 6 months. Advanced endoscopy comprises ERCP, UES, enteroscopy and DSE techniques.

Results 46 subjects participated and responded the questionnaire (Table 1). The prevalence of MSI in the previous 7 days and 12 months by anatomical area and staff category is shown in Table 2. Women had more MSI in the upper back, hips/thighs, shoulders and neck ($p = 0.003$). Elbows injuries were associated with advanced endoscopy ($p = 0.03$). Endoscopists had fewer MSI in the low back, hips/ thighs, shoulders and elbows than all the other categories ($p = 0.003$). Three endoscopists (15.8%), eight nurses (57.1%), nine technicians (90%) and two orderlies (66.7%) required sick leaves due to MSI, Ten of these (45%) were caused by work activity. Older age was associated with a higher likelihood of musculoskeletal sick leave (49.6 ± 8.5 versus 43 ± 11.6 years $p = 0.035$) [1-2].

Conclusions MSI are frequent in our endoscopy staff. There was an association of MSI location with gender, job category and advanced endoscopy. Sick leave due to MSI was associated with older age.

Conflicts of interest Authors do not have any conflict of interest to disclose.
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MSI IN THE PREVIOUS 7 DAYS	Endoscopists 19	Nurses 14	Technicians 10	Orderlies 3
Neck	15.8% (3)	28.6% (4)	30% (3)	33.3% (1)
Shoulders	15.8% (3)	14.3% (2)	30% (3)	33.3% (1)
Elbows	5.3% (1)	---	30% (3)	-----
Wrist-Hands	21.1% (4)	14.3% (2)	10% (1)	33.3% (1)
Upper back	15.8% (3)	28.6% (4)	-----	33.3% (1)
Low back	15.8% (3)	28.6% (4)	10% (1)	33.3% (1)
Hips-Thighs	10.5% (2)	21.4% (3)	20% (2)	-----
Knees/ Ankles	5.3% (1)/0	14.3% (2)/ 7.1% (1)	10% (1)/ 10% (1)	66.7% (2) / 0

► Fig. 1

eP026 High efficacy and good safety profile of the endoscopic sleeve gastropasty at 6 and 12 months

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DOI 10.1055/s-0043-1765311

Aims Endoscopic suturing systems are evolving incisionless devices for the treatment of obesity. We analysed efficacy and safety in 98 single-center subjects elected to endoscopic sleeve gastropasty (ESG) with the Apollo Overstitch System (AOS) along with nutritional counseling.

Methods Prospective assessment of total body weight loss percentage (TBWL%), and BMI decrease in 98 overweight/obese patients elected to ESG at 3, 6 and 12 months. All patients signed the informed consent and received antibiotic prophylaxis, CO₂ insufflation, and general anesthesia, using the Apollo overstitch system Gen-2 attached to a dual channel gastroscope. The Z-shape described by Graus was the most used suture pattern, with 4-6 sutures with 6-12 stitches in every suture.

Results 98 patients (86F) completed 6-months of f-up; 44 completed 12 months. Age: 42.6 yo; BMI 35.78 kg/m². Most (96.9%) discharged in <24 hours. TBWL% at 1, 3, 6, 12 m = 8.6%, 15.2%, 18.6%, and 23.2%. No significant differences were found among obesity classes. Efficacy rate at 6 (87.7%) and 12(86%) months accomplished > 10% of TBWL. BMI decrease: 6.6(6 months) and 8.3 (12 months) kg/m². There were 5 adverse events (5.1%): 3 gastric hemorrhages (1 intraoperative; 1 <24 h, both managed endoscopically; and 1 delayed requiring blood); and 2 mild esophageal hematomas produced by the overtube [1].

Conclusions 1. ESG showed remarkable efficacy with a TBWL of 18.6 and 23.2%, at 6 and 12 months; around 90% of the patients achieved at least a 10% of TBWL

2. Adverse events rate was low, being bleeding the most frequent complication

Conflicts of interest Consultant for Apollo Endosurgery, with proctorship and preceptorship activities

[1] Graus Morales J, Crespo Pérez L, Marques A et al. modified endoscopic gastropasty for the treatment of obesity. *Surgical Endoscopy* 2018; 32: 3936–3942

eP027 Real-world effectiveness and safety of 1L polyethylene glycol (PEG) plus ascorbic acid (ASC) bowel preparation in patients with inflammatory bowel disease (IBD)

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DOI 10.1055/s-0043-1765312

Aims To evaluate the effectiveness and safety of 1L PEG + ASC bowel preparation in patients with IBD in real-world setting (► Fig. 1).

Methods This subgroup analysis of an observational, multicentre, retrospective included outpatients with IBD who received 1L PEG + ASC before undergoing colonoscopy in 12 centres in Spain and Portugal. Colon cleansing quality was evaluated using the Boston Bowel Preparation Scale (BBPS). Overall adequate cleansing success was defined as a total BBPS score ≥ 6 and all segmental scores ≥ 2. High-quality cleansing was defined as a total BBPS ≥ 8 and BBPS = 3 in the right colon. Cecal intubation rate, polyp detection rate, adenoma detection rate were assessed. Safety was assessed from recorded adverse events (AEs) [1].

Results 203 patients with IBD were included in 6 centers, 53.2% were female and 83.3% were <65 years old. Main indication for colonoscopy was follow-up (86.7%) and surveillance for CRC (5.9%). Preparation was either as a same-day dose (59.6%) or a split-dose (40.4%) regimen. Colonoscopy was completed in 97.0% of patients. Main reasons for incomplete colonoscopy (3.0%), were poor preparation (2.0%) and technical difficulties (0.5%). Overall adequate cleansing success was achieved in 87.2% and high-quality cleansing in 65.5% of patients. Adequate and high-quality cleansing in the right colon were achieved in 89.2% and 58.6% of patients (Table 1). The incidence of AEs was 7.9% with 92.1% of patients not reporting any AEs. Main AEs were nausea (4.9%), vomiting (3.0%), and dizziness (1.0%).

Conclusions Adequate bowel preparation is essential for IBD assessment and for surveillance for CRC. 1L PEG + ASC is effective and safe in patients with IBD in the real-world setting.

Conflicts of interest Fatma Akriche and Carmen Turbi Disla are employees of Norgine

[1] Esteban López-Jamar J.M, Rodríguez Muñoz S, Gorjao R et al. Real-World effectiveness and safety of the 1L polyethylene glycol plus ascorbic acid bowel preparation for colonoscopy in the largest to date retrospective, multi-centre, observational study. *United European Gastroenterology. Journal* 2022; Vol 10 (S8): S25–26

PARAMETER	IBD patients (n=203)
Mean BBPS score total colon (SD)	7.7 (1.7)
Mean BBPS score right colon (SD)	2.5 (0.7)
Mean BBPS score left colon (SD)	2.6 (0.6)
Mean BBPS score transverse colon (SD)	2.6 (0.6)
OVERALL COLON	
Adequate bowel cleansing (BBPS ≥6), n (%)	177 (87.2)
High-quality cleansing (BBPS ≥8), n (%)	133 (65.5)
RIGHT COLON	
Adequate bowel cleansing (BBPS ≥2), n (%)	181 (89.2)
High-quality cleansing (BBPS =3), n (%)	119 (58.6)
Cecal intubation rate, n (%)	183 (98.9)
Polyp detection rate in overall colon, n (%)	45 (22.2)
Adenoma detection rate in overall colon, n (%)	27 (26.7)
n*	101

*Number of patients for whom the histological information was available; BBPS, Boston Bowel Preparation Scale; SD, standard deviation

► Table 1 Colonoscopy outcomes in IBD patients.

eP028 Barrett's Oesophagus yield from OGDs in the UK: Analysis using automatically uploaded reports from the National Endoscopy Database (NED)

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DOI 10.1055/s-0043-1765313

Aims We aimed to calculate the positive predictive value (PPV) of Barrett's oesophagus (BO) at different patient ages and gender, for common upper gastrointestinal symptoms.

Methods Cross-sectional analysis of OGDs conducted between 01/03/2019 and 29/02/2020 and uploaded to the UK National Endoscopy Database (NED). OGDs performed within the out-patient setting to investigate patient symptoms were analysed, other procedure indications (e.g. surveillance, screening, therapeutic) were excluded, alongside those performed on patients aged <18. Mixed regression models were used, incorporating random (endoscopist) and fixed (symptoms, patient age, patient gender) effects upon the dependent variable (endoscopic diagnosis of BO). Adjusted PPVs (with 95%CI) were calculated using post-estimation commands (► Table 1).

Symptom	18-39	40-49	50-59	60-69	70-79	80-99
Reflux/Heartburn	2.0%	3.4%	5.6%	6.8%	7.8%	8.1%
Anaemia	1.4%	2.3%	3.8%	4.7%	5.4%	5.7%
Dysphagia	1.3%	2.1%	3.5%	4.4%	5.0%	5.2%
Weight loss	1.2%	2.0%	3.3%	4.1%	4.7%	4.9%
Nausea/Vomiting	1.1%	1.9%	3.2%	4.0%	4.6%	4.8%
Dyspepsia	1.1%	1.9%	3.1%	3.9%	4.5%	4.7%
Overall	1.4%	2.4%	4.0%	4.9%	5.6%	5.8%

► Table 1

Results 382,370 OGDs were analysed, with 15,736 (4.1%) reporting BO. The overall PPV was higher in males than females, 5.9% (95% CI 5.7-6.1) vs 2.6% (95% CI 2.5-2.7).

BO was most likely to be diagnosed in patients suffering reflux symptoms (5.6% (95% CI 5.4-5.9)), with overall PPV under 4% for all other symptoms analysed. Incidence of BO increased with patient age, but even in those over 70 with reflux symptoms only reached 8%.

Conclusions Younger and female patients can be reassured that the incidence of BO is low. Patients with reflux symptoms had a higher incidence of BO, with incidence from all other upper GI symptoms broadly similar. Even in patients aged over 70 with reflux BO incidence peaked at just 8%.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP029 Lower GI Endoscopy Indications and Diagnoses in the UK: BSG/JAG analysis using data from the National Endoscopy Database (NED)

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DOI 10.1055/s-0043-1765314

Aims We aimed calculate the frequency and diagnostic yield of Lower GI (LGI) endoscopy in the UK by indication; helping optimise utilisation of endoscopy capacity (► Table 1).

Methods Cross-sectional analysis of colonoscopies and flexible sigmoidoscopies (FS) conducted 01/03/2019-29/02/2020 and uploaded to the National Endoscopy Database (NED). Endoscopies without a recorded diagnosis and those performed on patients aged <18 were excluded. Endoscopies were grouped by indication: symptomatic, screening, surveillance (mainly polyp and post-colorectal cancer (CRC) surveillance). Endoscopic diagnosis (polyps, advanced polyps (10mm or larger), CRC) from each was then calculated

Results 847,055 endoscopies were analysed (Colonoscopy 532,808; FS 314,247). Most colonoscopy was performed to investigate patient symptoms (59%), with 22% surveillance and 11% screening; most FS was screening (41%) or symptomatic (37%). Yield of polyps and advanced polyps was highest in screening colonoscopy ($p < 0.01$); 3.4% of which reported CRC – it required 2.3 symptomatic or 5.5 surveillance colonoscopies to identify equivalent numbers. High proportions of symptomatic colonoscopy and FS were performed in patients under 50 (29% colonoscopy, 42% FS): most (75% colonoscopy, 84% FS) were reported as normal/diverticulosis. Although screening FS often identified polyps (24.8%) most were small; 0.5% identified advanced polyps and 0.1% CRC.

Conclusions Screening colonoscopy was more likely to report pathology, especially CRC. Its expansion could be facilitated by reducing endoscopy volumes for low yield indications: young symptomatic patients and low-risk surveillance.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Frequency	Polyp(s)	Advanced Polyp(s)	Colorectal Cancer
Symptomatic	286,006	29.0%	3.2%	1.5%
Surveillance	87,085	52.9%	9.8%	0.6%
Screening	54,971	68.9%	21.8%	3.4%

► Table 1 Volume and diagnostic yield (Polyps, Advanced Polyps, Colorectal Cancer) of colonoscopy by indication.

eP030 Expansion of interventional endoscopy and shorter hospital stays: a nationwide study of gastrointestinal endoscopy from 2008 to 2018

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DOI 10.1055/s-0043-1765315

Aims Precise evaluation of the evolution of GI endoscopy is necessary to identify long-term trends and to help anticipate training, infrastructure and personnel needs. The main objective of this study was to evaluate the evolution of digestive endoscopy in France.

Methods This retrospective study consisted of a cross-sectional analysis repeated each year from 2008 to 2018 using data from the French national health database related to hospital stays and used for pricing. All hospital stays presenting at least one of the 119 GI endoscopy procedures were extracted.

Results This study showed an increase in hospital stays including a GI endoscopy procedure of 18.4%, from 1.86 in 2008 to 2.20 millions in 2018. There was a 19.6% increase in lower GI endoscopy (1.58 to 1.32 millions stays), with

a 39.3% increase in removal of colonic lesions and in particular a 247% increase in endoscopic mucosal resection. EUS and pancreaticobiliary and duodenal endoscopy have seen the most significant increases, 63% (from 60,500 to 98,700) and 70.2% (from 44,500 to 68,900) respectively. In addition, a significant increase of 13.4% (from 67.8% to 76.9%) in outpatient endoscopy was observed, as well as a decrease of nearly one day in the average length of stay.

Conclusions This study shows the good dynamics of digestive endoscopy in France with a sustained increase over 11 years of hospital stays of patients undergoing a GI endoscopy and, in particular, the progression of pancreaticobiliary interventional endoscopy and endoscopic resection of colonic lesions, while hospital stays continue to shorten and outpatient endoscopy is taking on an increasingly important role.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP031 High diagnostic yield of small bowel capsule endoscopy in patients with obscure gastrointestinal bleeding who are receiving antithrombotic agents

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DOI 10.1055/s-0043-1765316

Aims Small bowel capsule endoscopy (SBCE) is the examination of choice for patients with obscure gastrointestinal bleeding.

Methods Retrospective analysis of data collected prospectively from all patients who were subjected to SBCE in our department from 1/3/2003 to 30/6/2022. Among the patients who underwent the test to investigate obscure gastrointestinal bleeding, those receiving antithrombotic treatment were sought and the diagnostic yield of the capsule was recorded. The diagnostic yield was defined as the detection of positive findings that could explain the cause of the patient's bleeding, i.e., the indication for which he underwent the SBCE.

Results Eight thousand four hundred and one patients (men/women: 4360/4041, mean age \pm SD: 52.6 \pm 27.3 years) were subjected to SBCE during the recording period. Of these patients, 4512 were subjected to the test for the investigation of obscure gastrointestinal bleeding and the diagnostic yield of SBCE was 53.7%, with the most common finding being angiodysplasias (n = 1509, 33.4%). Of the 4512 patients in the study, 1316 (29.1%) were treated with anticoagulants or antiplatelet drugs and in this subgroup of patients the diagnostic yield of SBCE was 71.1% again with the most common finding being angiodysplasias (n = 783, 59.4%).

Conclusions Small bowel capsule endoscopy is clinically useful for patients with obscure gastrointestinal bleeding, especially for those who are being treated with antithrombotic agents.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP032 The Accuracy Of Snare Tip Soft Coagulation Applied To The Margin Of Post Endoscopic Mucosal Resection Defects Correlates with Endoscopist Polypectomy Experience And Procedural Difficulty

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DOI 10.1055/s-0043-1765317

Aims No objective metric exists for the quality of endoscope tip manipulation (tip-control). We validated an existing tip-control score *in-vivo*, using post endoscopic mucosal resection (EMR) snare tip soft coagulation (STSC) of the defect margin.

Methods A timed-score was used to record correct (touching margin) and incorrect (any other) applications (hits) of STSC to the defect margin after EMR. 2 blinded raters scored sequential videos of STSC performed by consenting endoscopists. Accuracy and correct hits/s (speed) were determined. Results were stratified by polypectomy complexity (SMSA[+] score), difficulty of STSC (movement artefact) and experience of the endoscopist (expert vs fellow).

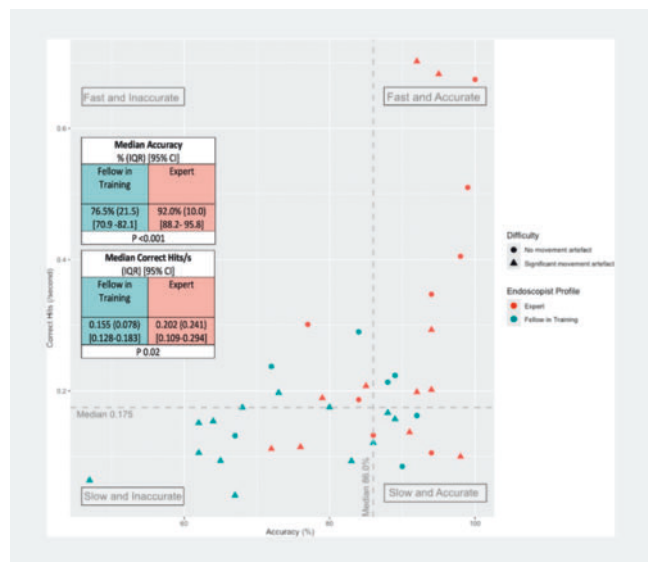


Fig. 1 Scatter plot of participant median tip-control accuracy versus median correct hits per second. The dotted lines represent the median of all participants for tip-control accuracy (x-axis) and on target hits per second (y-axis).

Results 39 procedures performed by 10 endoscopists (3 experts, 7 fellows) were rated. 12 polyps were SMSA 2&3, 3 SMSA 4, and 24 SMSA +. 24 (61.5%) STSC procedures were categorized as difficult. Median accuracy was 86.0% and correct hits/second was 0.18. Movement artefact decreased both overall accuracy (P = .06) and speed (P = .05). Increasing SMSA score decreased overall accuracy (SMSA 4 vs SMSA +, P = .04), but not speed (P = .61). Fellows were less accurate (P < .001) and slower (P = .02) than experts. Movement artefact impacted the performance of fellows (accuracy P = .04, speed P = .07) but not experts (P = .28 and P = .48) (► Fig. 1).

Conclusions Endoscopist tip-control accuracy and speed were inversely related to trainee status, polypectomy difficulty and degree of movement artefact. These data could be used to benchmark endoscopists with respect to SMSA scores and track progress over time.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP033V Endoscopic treatment of anastomotic stenosis in a patient with pancreas divisum and marsupialization for gastro-duodenal duplication

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DOI 10.1055/s-0043-1765318

Abstract Text A 28 years-old-woman underwent surgical marsupialization at 3 months for gastro-duodenal duplication. She was asymptomatic until a few months ago, when she had two episodes of acute pancreatitis. In MRI pancreas divisum was discovered. In endoscopic view a stenotic anastomosis was found. The surgical solution was duodeno-cephalo-pancreatotomy. Consequently, a first 10x10 mm LAMS and a second one 20x10 mm were applied to dilate the anastomosis. One month later, the cystic cavity was reduced and the duct of Santorini was visible in extraductal ultrasound view. LAMS was removed due to the patient's clinical well-being. Ten months later, the anastomosis was wide. The patient is now asymptomatic.

Conflicts of interest Claudio Giovanni De Angelis is a consultant for Boston Scientific, Olympus and Medi-Globe

eP034V Complete endoscopic removal of right hepatolithiasis after left hepatectomy

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DOI 10.1055/s-0043-1765319

Abstract Text Bile duct stricture formation is the most common late complication of bile duct resection and reconstruction and patients who develop post-operative biliary strictures are susceptible to the formation of lithiasis. Complete stone removal and correction of associated stricture is mandatory, either by percutaneous transhepatic cholangioscopy, peroral cholangioscopy, partial hepatectomy or hepatic transplant. We present the case of a 58 year old male with past medical history of a left extended hepatectomy with right hepaticocholedocostomy 3 years before due a Klatskin tumour type IIIa who developed extensive right hepatolithiasis, which was completely resolved with ERCP and cholangioscopy [1–5].

Conflicts of interest Authors do not have any conflict of interest to disclose.
 [1] Lammert F, Acalovschi M, Ercolani G et al. EASL Clinical Practice Guidelines on the prevention, diagnosis and treatment of gallstones. *J Hepatol* 2016; 65 (1): 146–181
 [2] Lammert F, Acalovschi M, Ercolani G et al. EASL Clinical Practice Guidelines on the prevention, diagnosis and treatment of gallstones. *J Hepatol* 2016; 65 (1): 146–181
 [3] Hakuta R, Kogure H, Isayama H et al. Electrohydraulic lithotripsy of large bile duct stones under direct cholangioscopy with a double-balloon endoscope. *Endoscopy*. 2015; 47: E519–E520
 [4] Lammert F, Acalovschi M, Ercolani G et al. EASL Clinical Practice Guidelines on the prevention, diagnosis and treatment of gallstones. *J Hepatol* 2016; 65 (1): 146–181
 [5] Lammert F, Acalovschi M, Ercolani G et al. EASL Clinical Practice Guidelines on the prevention, diagnosis and treatment of gallstones. *J Hepatol* 2016; 65 (1): 146–181

eP035 Ergonomic intervention through a physical training programme in a digestive endoscopy unit: The SONIA project

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DOI 10.1055/s-0043-1765320

Aims Staff of endoscopy units share occupational risks predisposing to musculoskeletal injuries (MSI) that cause disability and decrease productivity. It is advisable to assess risk factors for MSI and to adopt solutions. Our objective was to evaluate results of a pre-work training programme (► **Table 1**).

Methods Endoscopy staff was invited to participate in a 12-week programme: 2 theoretical classes followed by 34 training sessions (10-minutes sessions 3 times a week) guided by a physiotherapist. They previously answered the extended Nordic-Kuorinka questionnaire (eNKQ). After 12 weeks, MSI were assessed by VAS scale [1–2].

Results 46 workers responded the eNKQ, 32 were evaluated, as they had a high endoscopic activity (> 110 hours/month for more than 6 months). Medium age was 48.3 years and 87.7% were women. The prevalence of MSI was higher in neck and shoulders (> 70%). Endoscopists had fewer low back pain than other categories (p = 0.01). 90% of staff assisted to the programme regularly; adherence rates 39.6% endoscopists, 73.2% nurses, 80.1% technicians and 46% orderlies (p = 0.03). At the end of the programme the severity of joint pain was mostly low to medium (Table). The level of satisfaction with the programme was 71.4%. The staff considered that it improved their stress level (76%), mood (81%) and working relationship (100%). All participants considered the implementation of these programmes to be adequate.

Conclusions This training programme showed high participation and satisfaction rates and mostly low-medium intensities of joint pain. Participants felt that it improved their stress, mood and working relationship.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Shergill AK., Mc, Quaid KR. Ergonomic endoscopy: An oxymoron or realistic goal. *Gastrointestinal Endosc* 2019; 90 (6): 966–970

[2] Harvin G. Review of musculoskeletal injuries and prevention in the endoscopy practitioner. *J Clin Gastroenterol* 2014; 48 (7): 590–594

Pain intensity	Low (0-3)	Medium (4-7)	High (8-10)
Neck	70.8%	16.7%	12.5%
Shoulders	75%	20.8%	4.2%
Elbows	87.5%	12.5%	0
Wrist-Hands	83.3%	12.5%	4.2%
Upper back	83.3%	8.3%	8.3%
Lower back	79.2%	12.5%	8.3%
Hips-Thighs	91.6%	4.2%	4.2%
Knees/ Ankles	87.5% / 87.5%	8.3% / 0	4.2% / 12.5%

► **Table 1**

eP036 MUTATION PATTERNS RELATED TO ENDOSCOPIC FINDINGS FOR FAMILIAL ADENOMATOUS POLYPOSIS. Importance of genetic approach based on a descriptive study

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DOI 10.1055/s-0043-1765321

Aims Familial adenomatous polyposis (FAP) is an autosomal dominant inherited disease. Its phenotype is related to the position of the germline mutation within the APC gene; however, the involvement of the type of mutation in the phenotype is unknown. We aimed to analyze mutation patterns and extracolonic manifestations in colectomized patients with FAP.

Methods Observational and descriptive study in a referral center. We collected demographic and clinical data, endoscopic findings, extraintestinal manifestations and genetic analysis. Mutation patterns were classified as splicing mutations (almost complete length proteins) or yields truncated proteins: frameshift, nonsense, and large rearrangement (LR) mutations (► **Table 1**).

Results Genetic analysis was available in 44 out of the 46 patients (96%). Most of the patients (82%, 36/44) produced truncated proteins. Mutation patterns were: frameshift (55%, 24/44), nonsense mutation (25%, 11/44), LR (2.3%, 1/44), and splicing mutations (15.9%, 7/44). One patient showed negative result (1/44).

Most frequent endoscopic findings were fundic polyposis (54.3%, 25/46) and ampullary tumors (34.7%, 16/46). Gastric invasive neoplasia was found in one patient and extracolonic (EC) manifestations in 13 patients (28%). Fundic poly-

posis frequency was similar in all mutation patterns. Ampullary tumors looked more frequent in nonsense pattern (45 %, 5/11). EC manifestations (osteoma, thyroid and desmoid tumors) seem to be less frequent in patients with splicing mutations (Table 1).

Conclusions Mutation pattern is related to endoscopic findings in patients with FAP. A better knowledge of the APC gene could help to define more precisely the endoscopic and clinical follow-up.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Fundic polyposis	Ampullary	Gastric cancer	Extracolonic manifestation
Frameshift (n=24)	15 (62,5%)	7 (29%)	1 (4,1%)	4 (16%)
Nonsense (n=11)	5 (45,45%)	5 (45,5%)	0	8 (72%)
Splicing (n=7)	4 (57%)	2 (28%)	0	1 (14%)
Large R. (n=1)	0	1 (100%)	0	0

Table 1. Positive mutation pattern (n=43)

► **Table 1** Positive mutation pattern (n=43).

eP037V Multi-step treatments of recurrent colorectal anastomosis

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DOI 10.1055/s-0043-1765322

Abstract Text In this video, we present a 69-year-old male with a history of sigmoid colon adenocarcinoma pN1c operated by laparoscopic sigmoidectomy that required Hartmann's intervention for anastomotic dehiscence, with subsequent reconstruction of the transit by termino-lateral anastomosis. In follow-up, the patient presented recurrent stenosis of the anastomosis, which requires multiple endoscopic treatments performed in sequential sessions. The treatment of severe and recurrent postoperative stenosis sometimes requires multiple endoscopic techniques to achieve an optimal response maintained over time.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP038 Relieving Anxiety Through Virtual Reality Prior to Endoscopic Procedures

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DOI 10.1055/s-0043-1765323

Aims Endoscopic procedures can cause anxiety, which can lead to more uncomfortable, difficult, and incomplete procedures, in addition to greater sedative medication use. We investigate whether exposing patients to virtual reality (VR) prior to endoscopic procedures can reduce their anxiety.

Methods Forty patients at Gangnam Severance Hospital were enrolled and divided into the VR group and the control group. Patients in the VR group were exposed to VR prior to their procedure to alleviate anxiety. The primary data outcomes were State-Trait Anxiety Inventory (STAI), pain score, satisfaction with sedation, and satisfaction with the procedure.

Results Defining a high anxiety STAI score as ≥ 45 in an STAI-state, the proportion of patients with high anxiety at baseline was 35 % and increased to 50 % prior to the procedure in the control group. However, in the VR group, the proportion of patients with high anxiety at baseline was 60 % and decreased to 50 % prior to the procedure. The proportion changes of patients with high anxiety in the STAI-state exhibited a significant difference between the control and

VR groups ($P = 0.007$). Additionally, satisfaction with sedation was significantly greater in the VR group compared to the control group ($P = 0.017$).

Conclusions VR exposure was found to relieve patients' anxiety prior to endoscopic procedures. VR, an inexpensive, easily available, and non-invasive method, also improved the satisfaction with sedation of endoscopic procedures.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP039 Metabolic syndrome is independent risk for colonic adenoma – Detection of colonic polyps in India (DoCPI)

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DOI 10.1055/s-0043-1765324

Aims There is limited data on prevalence and risk factors of colonic adenoma from Indian Subcontinent. In the current study, we aimed to evaluate the prevalence and risk factors of colonic adenoma in large prospective cohort.

Methods All consecutive adult patients undergoing diagnostic colonoscopy were enrolled for between October 2020 to July 2022. Patients with high risk of colonic adenoma were excluded. The multivariate analysis was performed to ascertain independent risk factors for colonic adenoma using logistic regression analysis (NCT04512729)

Results A total of 10320 patients (mean age 45.18 ± 14.82 years; 69 % males) were included in the study. In overall population 1152 (11.2 %) patients had at least one adenoma. In patients with age > 50 years, adenoma prevalence was 19.5 % (808/4144). On multivariate analysis for overall population, age (OR 1.05); upper socioeconomical class (OR 1.56), non-vegetarian diet (OR 2.04), alcohol (OR 1.41) and metabolic syndrome (OR 1.38) were independent risk factors for colonic adenoma. In patients with age > 50 years on multivariate analysis, age (OR 1.04), non-vegetarian (OR 2.82), alcohol (OR 1.59) and metabolic syndrome (OR 1.4) were independent risk factors for colonic adenoma. Table 1 showing independent predictors of adenoma with advanced pathology (► **Table 1**).

Conclusions The prevalence of colonic adenoma is 11.2 % in adults undergoing diagnostic colonoscopy and 19.5 % in patients with age more than 50 years. Increasing age, presence of metabolic syndrome, consumption of non-vegetarian diet and alcohol are independent risk factors of colonic adenoma in Indian patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Overall Population (n=10320)	Age >50 years (n= 4144)
Age	1.07 (1.063 – 1.076)	1.04 (1.03 – 1.051)
Upper socioeconomical status	1.708 (1.333 – 2.19)	Non-significant
Non vegetarian Diet	2.794 (2.07 – 3.771)	2.387 (1.812 – 3.145)
Alcohol	Non-significant	1.737 (1.42 – 2.124)
Metabolic Syndrome	1.345 (1.131 – 1.601)	1.372 (1.156 – 1.628)

► **Table 1** Independent predictors of adenoma with advanced pathology.

eP040 Is the biliary cannulation over pancreatic duct stent after transpancreatic septotomy the best measure to prevent post-ercp pancreatitis?

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DOI 10.1055/s-0043-1765325

Aims Biliary cannulation over pancreatic duct stent placed immediately after transpancreatic septotomy (TPS-bCoS) and before further therapeutic ERCP

maneuvers, could reduce the risk of PEP with a high biliary cannulation rate (BCR). AIM: To compare the PEP rate after TPS-bCoS with other biliary cannulation techniques in patients with naive papilla.

Methods Analysis of a multicenter prospective endoscopy database (2019-2022). Patients with naive papilla undergone first ERCP performed by expert endoscopists, were included. There were compared three biliary cannulation techniques: conventional cannulation with standard septotomy (CC), pre-cut (PC) (needle-Knife precut papillotomy or fistulotomy and transpancreatic sphincterotomy) and, pancreatic stenting and biliary cannulation over stent (TPS-bCoS). In the last one, transpancreatic precut was performed after the first unexpected guidewire insertion into PD.

Results 535 patients (mean age: 72 years-old, 48,8% women). Biliary cannulation techniques: 365 (68,2%) CC, 58 (10,8%) PC and 112 (21%) TPS-bCoS. Overall bCR: 97.5%. TPS-bCoS – BCR: 94%. The global PEP rate was 1.3%: 5/355 (1,4%) CC, 2/55 (3.5%) PC and 0/112 (0%) TPS-bCoS, $p=0.042$. Despite there were no differences in bleeding, cholangitis, perforation, a trend towards more complications in precut group, was observed. [1–5]

Conclusions Biliary cannulation over pancreatic stent placed immediately after transpancreatic septotomy when the guidewire is inserted unexpectedly into PD (TPS-bCoS) showed the lowest PEP rate with a high bCR. Therefore, TPS-bCoS was the safest advanced cannulation technique.

Conflicts of interest F. González-Huix was Boston´s consultant. Zaragoza was Boston´s speaker

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eP041 Analysis of Health-related Quality of Life (HLQOL) among Patients with Stomach Cancer Based on EuroQOL-5 Dimension: A Korean national population-based cross-sectional survey (KHNANES 2007-2020)

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DOI 10.1055/s-0043-1765326

Aims This study investigated the comparison with HLQoL of gastric cancer patients and the factors affecting HLQoL and provided relevant information for adequate support.

Methods This study enrolled 44,293 people who participated in the Korean National Health and Nutrition Examination Survey (KHNANES) IV-VI (2007-2020). Propensity score match (PSM) with neighbor method was applied at a ratio of 5:1 to compare non-gastric cancer (GC) and GC patients following variables. Questionnaire surveys based on the EuroQoL 5-Dimension (EQ-5D) were analyzed on GC survivors. Among them, EQ-5D index regarding age, sex, alcohol, smoking, diet, daily activity limitation, weight gain or loss, high-intensity physical activity, and medium-intensity physical activity was interpreted.

Results A total of 3600 responders (non-GC, 3000 vs. GC, 600) after PSM completed the questionnaire survey. Standard mean differences of propensity scoring matching variables are all less than 0.1. The EQ-5D index of GC patients

was lower than that of non-GC group (0.91 vs. 0.89, $P=0.0842$). By generalized mixed model, the results showed that the gastric cancer survivor group reduced the EQ-5D index by 0.01448 compared to the non-GC group ($p=0.0202$). In the multiple regression model for the gastric cancer survivor group, there were five factors affecting the quality of life: sex, age, income, self-perceived health status, and activity limitation. Activity limitation was the most influential factor (β , 0.089).

Conclusions In the GC patients group, exercise capacity and limitation of motion were related to lower HLOoL among other factors. Therefore, activity and exercise are needed to promote better QoL in gastric cancer survivors.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP042 Comparison of Embolic Agents for Varices During Transjugular Intrahepatic Portosystemic Shunt (TIPS) for Variceal Bleeding: Coil-only or Combined? : A Systematic Review and Meta-analysis

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DOI 10.1055/s-0043-1765327

Aims There are multiple embolic agents applied during variceal embolization, including coils, gel, vascular plugs and gelatin sponge. The efficacy and safety of coil versus combination therapy remains controversial. Therefore, we performed this systematic review and meta-analysis to compare the clinical outcomes of coil vs combined therapy (coil and other agents) for variceal embolization during transjugular intrahepatic portosystemic shunt (TIPS).

Methods We performed a literature search through October 2022 for all studies reporting the clinical outcomes of coil or combined embolization therapy (coil with any other embolic agents) for variceal embolization during TIPS. The outcomes of interest were variceal rebleeding, shunt dysfunction, encephalopathy and mortality. The pooled proportions of our data with the corresponding 95% confidence intervals were analyzed using the random-effects model (► **Table 1**).

Results A total of 14 studies were included. For coil only group, the pooled bleeding, shunt dysfunction, encephalopathy and mortality rates were 15%, 14.1%, 25.9% and 26.1% respectively (Table.2). For the combined group, the pooled bleeding, shunt dysfunction, encephalopathy and mortality rates were 13.4%, 26.7%, and 15.6%, respectively. The pooled mortality ($P=0.0039$) rate was statistically significant. The pooled bleeding, shunt dysfunction, and encephalopathy were similar between the two groups (Table.2)

Conclusions Our study shows that combination of coil with other embolic agents for variceal bleeding during TIPS reduced mortality. Both our study groups had comparable rates of bleeding, shunt dysfunction and encephalopathy. Additional randomized controlled trials comparing coil only vs. combined embolization therapy during TIPS are warranted to validate our findings.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Coiling			Combined			P value*
	N studies	N patients	% (95% CI)	N studies	N patients	% (95% CI)	
Bleeding	6	237	15% (9.1, 20.8)	9	337	13.4% (9.3, 17.6)	0.6681
Shunt dysfunction	3	143	% 14.1 (4.7, 23.6)	4	144	15.4% (4.1, 26.6)	0.9044
Encephalopathy	4	207	25.9% (14.8, 37)	8	284	26.7% (17.5, 35.9)	0.9285
Mortality	6	237	26.1% (19.3, 32.8)	6	239	15.6% (11, 20.1)	0.0039

*P value for comparison of coiling alone to mixed.

► **Table 1** Differences in complications between Coil-only and Combined agents.

eP043 A randomized, controlled trial (RCT), comparing the total enteroscopy rate and efficacy of the Novel Motorized Spiral Enteroscopy (NMSE) versus the Single Balloon Enteroscopy (SBE) – THE MOTOR TRIAL (NCT 05548140)

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DOI 10.1055/s-0043-1765328

Aims Novel Motorized Spiral Enteroscopy (NMSE) has been found to be safe and effective for small bowel evaluation [1]. We have aimed to compare NMSE with the standard of care, Single Balloon Enteroscopy (SBE).

Methods Patients with small bowel diseases, requiring enteroscopy were randomized into 2 groups either NMSE or SBE between September to November 2022 at a tertiary care centre. The primary objective was the total enteroscopy rate (TER). The secondary objectives were to compare the technical success, diagnostic yield, therapeutic success, and adverse events (► **Table 1**).

Results Among the 110 patients assessed for enteroscopy, 72 patients were randomized into 2 groups, NMSE (n=35) and SBE (n=37). After exclusions, NMSE (n=28) and SBE (n=27) were analyzed. The predominant indications were Obscure GI bleeding (48%), Unexplained abdominal pain with indeterminate imaging (31%) and chronic diarrhoea (20%). The TER was statistically significant [NMSE vs SBE, 71.4% vs 10.8% (ITT); 89.2% vs 14.8% (per-protocol), p<0.0001] with a significant difference in the total procedure time [NMSE vs SBE, (mean, min) – 58.17 vs 114.2 (ITT); 62.4 vs 126.2 (per-protocol), p<0.0001]. The diagnostic yield and therapeutic success were not statistically different, with no major adverse events. The major diagnostic findings were 'Inflammatory lesions' by both modalities.

Conclusions NMSE should be considered as a non-surgical gold standard procedure for deep small bowel evaluation due to high TER rate, short procedure time and no major adverse events.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Ramchandani M, Rughwani H, Reddy DN. Diagnostic yield and therapeutic impact of novel motorized spiral enteroscopy in small-bowel disorders: a single-center, real-world experience from a tertiary care hospital (with video). *Gastrointestinal Endoscopy* 2021; 93 (3): 616–26

Parameters	Intention to treat analysis (n=72)			Per-protocol analysis (n=55)		
	Type of Enteroscopy		p-value	Type of Enteroscopy		p-value
	NMSE (n=35)	SBE (n=37)		NMSE (n=28)	SBE (n=27)	
Predominant Indications						
• OGIB	17 (48.5%)	18 (48.6%)		15 (53.5%)	14 (51.8%)	
• Unexplained pain abdomen with indeterminate radiologic findings	11 (31.4%)	12 (32.4%)		8 (28.5%)	7 (25.9%)	
• Chronic diarrhoea	7 (20%)	7 (18.9%)		5 (17.8%)	6 (22.2%)	
Route of Enteroscopy			0.0001			0.0001
Unidirectional (A)	22 (62.8%)	15 (40.5%)		16 (57.1%)	1 (3.7%)	
Bidirectional (A+R)	13 (37.1%)	32 (86.4%)		12 (42.8%)	26 (96.2%)	
Technical success			1			1
a. Antegrade	33/35 (94.2%)	37/37 (100%)		27/28 (96.4%)	27/27 (100%)	
b. Retrograde	12/13 (92.3%)	29/32 (90.6%)		11/12 (91.6%)	25/26 (96.1%)	
Total Enteroscopy n (%)	25/35 (71.4%)	4/37 (10.8%)	0.0001	25/28 (89.2%)	4/27 (14.8%)	0.0001
Unidirectional (A)	16 (45.7%)	1 (2.7%)		16 (57.1%)	1 (3.7%)	
Bidirectional (A+R)	9 (25.7%)	3 (8.1%)		9 (32.1%)	3 (11.1%)	
Total procedure time mean (SD)	58.17 (21.5)	114.2 (33.5)	0.0001	62.4 (21.0)	126.2 (22.9)	0.0001
Diagnostic yield	28 (80%)	23 (62.1%)	0.096	21 (75%)	14 (51.8%)	0.074

► **Table 1** Procedure details and Outcomes.

eP044 A Comparative Analysis of Artificial Intelligence-based Digital Cholangioscopy and Probe-based Confocal Laser Endomicroscopy for Detecting Malignant Bile Duct Lesions: A single-centre retrospective study

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DOI 10.1055/s-0043-1765329

Aims To compare the diagnostic accuracy of a novel DSOC-AI model against DSOC-pCLE for identifying neoplasia in indeterminate biliary lesions using the Miami and Paris classifications.

Methods Included patients ≥ 18 years old who underwent DSOC-pCLE (06/14-11/21). Exclusion criteria: unavailable DSOC videos, biopsy, or impossibility for 12-month follow-up. For DSOC direct visualization and DSOC-AI, neovascularity constituted neoplasia; for DSOC-pCLE, a higher Miami malignancy criteria presence (rather than Paris inflammatory criteria). An offline DSOC-AI analysis (AIWorks-Cholangioscopy system) of pre-recorded videos was performed. Neoplasia gold standard was based on further clinical evolution/imaging/biopsy results in a 12-month follow-up. DSOC direct visualization, DSOC-pCLE, DSOC + pCLE-guided biopsy, and DSOC-AI model accuracy was calculated in terms of sensitivity, specificity, PPV, NPV, observed agreement, and AUC. Diagnostic accuracies comparison were defined through DeLong's test for two ROC curves. [1–11].

	N = 90
Age (years), mean ± SD	66.4 ± 13.7
18 – 39 years old, n (%)	3 (3.3)
40 – 64 years old	34 (37.8)
≥65 years old	53 (58.9)
Gender (female), n (%)	51 (56.7)
Main indication, n (%)	
Tumor suspicion	50 (55.6)
Bile duct obstruction	31 (34.4)
Indeterminate bile stricture	9 (10.0)
Lesion location, n (%)	
Proximal CBD	30 (33.3)
Middle CBD	26 (28.9)
Distal CBD	12 (13.3)
Hepatic hilum	11 (12.2)
Common hepatic duct	6 (6.7)
Intrahepatic duct	5 (5.6)
Lesion size (mm), median (IQR)	20 (14.3 – 25.0)
Previously performed ERCP, n (%)	25 (27.8)
Previous stent placement, n (%)	18 (20.0)
Stent placement duration (days), median (IQR)	60.0 (18.0 – 96.0)
Performed biopsy, n (%)	90 (100.0)
No. of biopsy samples taken, median (IQR)	4 (1 – 6)
Histopathological results, n (%)	
Cholangiocarcinoma	85 (94.4)
Tubulopapillary Adenoma	1 (1.1)
Chronic Inflammation	2 (2.2)
Primary Sclerosing Cholangitis	2 (2.2)

CBD: Common bile duct; ERCP: endoscopic retrograde cholangiopancreatography; IQR: interquartile range

► **Table 1** Baseline characteristics.

Results Ninety patients with a median age of 66.4 ± 13.7 years, 56.7% female. Tumour suspicion was the most common indication (55.6%) (► **Table 1**). DSOC-AI reached a 97.7% sensitivity, 75% specificity, 98.8% PPV, 60% NPV

and 96.7% observed agreement; DSOC-pCLE had a 94.2% sensitivity, a 100% specificity, 100% PPV, 44.4% NPV, and 94.4% observed agreement (► **Table 2**). AUC for DSOC-AI was 0.79; for DSOC direct visualization (0.74; $P = .763$), DSOC-pCLE (0.72; $P = .634$), and DSOC + pCLE-guided biopsy (0.83; $P = .809$).

Conclusions DSOC-AI demonstrated an offline diagnostic accuracy similar to DSOC-pCLE.

	Sensitivity	Specificity	PPV	NPV	OA
DSOC direct visualization	83/86; 96.51 (90.14 - 99.27)	3/4; 75 (19.41 - 99.37)	83/84; 98.81 (93.54 - 99.97)	3/ 6; 50 (11.81 - 88.19)	86/90; 95.56 (89.01 - 98.78)
DSOC-guided pCLE	81/86; 94.19 (86.95 - 98.09)	4/4; 100 (39.76 - 100)	81/81; 100 (95.55 - 100)	4/ 9; 44.44 (13.7 - 78.8)	85/90; 94.44 (87.51 - 98.17)
DSOC and pCLE-guided biopsy	84/86; 97.67 (91.85 - 99.72)	4/4; 100 (39.76 - 100)	84/84; 100 (95.7 - 100)	4/ 6; 66.67 (22.28 - 95.67)	88/90; 97.78 (92.2 - 99.73)
DSOC-based AI model	84/86; 97.67 (91.85 - 99.72)	3/4; 75 (19.41 - 99.37)	84/85; 98.82 (93.62 - 99.97)	3/ 5; 60 (14.66 - 94.73)	87/90; 96.67 (90.57 - 99.31)

PPV: Positive predictive value; NPV: negative predictive value; OA: observed agreement; pCLE: probe-based confocal laser endomicroscopy.

► **Table 2** Diagnostic performance of digital single-operator cholangioscopy (DSOC) visual impression, DSOC-guided probe-based confocal endomicroscopy (pCLE), DSOC and pCLE-guided biopsy, and DSOC-based Artificial Intelligence (AI) model [n/T; % (95% CI)].

Conflicts of interest Carlos Robles-Medranda is a key opinion leader and consultant for Pentax Medical, Boston Scientific, Steris, Medtronic, Motus, Micro-tech, G-Tech Medical Supply, CREO Medical, EndoSound, and Mdconsogroup. The other authors declare no conflicts of interest.

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eP045 Comparison of the safety and efficacy of ESD and EMR for non-ampullary duodenal tumors

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DOI 10.1055/s-0043-1765330

Aims To compare endoscopic submucosal dissection (ESD) and endoscopic mucosal resection (EMR) for non-ampullary duodenal tumors (NADTs), in terms of safety and efficacy.

Methods A retrospective analysis was performed of all cases of endoscopic resection of NADTs at our unit from 2020-2022. The primary endpoint was the presence of peri- or postoperative bleeding, perforation or postoperative infection. The secondary endpoint was the rate of curative resection, defined as R0 resection and the absence of negative prognostic factors.

Results 15 ESDs and 53 EMRs were performed during the study period. There were no significant differences in basic patient characteristics (age, sex, co-morbidities) or size of the lesions. The type of NADTs differed in the two groups, with more neuroendocrine tumors in the ESD group (33.3% vs. 3.8%, $p < 0.01$). Regarding the primary endpoint, ESD was associated with a higher risk for peri- and postoperative perforation (13.3% vs. 0%, $p < 0.01$, and 20.0% vs 0%, $p < 0.01$), and postoperative abscess (13.3% vs. 0%, $p < 0.01$). There were no differences in the rate of peri- or postoperative bleeding. All complications were treated conservatively, except one patient that was treated with surgery. There was no mortality in the study population. Regarding the secondary endpoint, ESD was associated with higher chance of curative resection (53.3% vs. 11.3%, $p < 0.01$).

Conclusions Duodenal ESD was associated with a higher risk for perforation and abscess formation. Most of these adverse events could be treated conservatively. ESD showed a higher rate of curative resection. This method might best be reserved for lesions with advanced features such as early cancer or subepithelial lesions. Further studies in this field are warranted.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP046 Multisegmented esophageal fully covered self-expandable metal stent for palliation of malignant dysphagia: a prospective, multicenter cohort study

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DOI 10.1055/s-0043-1765331

Aims A new multisegmented esophageal fully covered self-expandable metal stent (FCSEMS) was designed to reduce stent migration rates that are seen in up to 19% of patients. We aimed to evaluate safety and efficacy of the multisegmented FCSEMS.

Methods This multicenter prospective study aimed to include 30 patients undergoing palliative stent placement. The segments of the stent are independently mobile to improve stent adaptation to the anatomy and peristalsis aiming to reduce stent migration. Primary outcomes were safety defined as (serious) adverse events ((S)AEs) and efficacy defined as technically successful stent placement and dysphagia scores. Secondary outcomes included performance status, symptoms and survival. Patients were prospectively evaluated until 6 months, stent removal, second stent placement, or death.

Results The study was prematurely terminated due to safety concerns after including 23 patients (mean age 72 yrs (± 10.2); 78% male). Stent placement was technically successful in 19 patients (83%). At week two, dysphagia score

had improved in all patients with successful stent placement. Median survival was 44 days (IQR 12–87). SAEs occurred in 16 (70%) patients. Recurrent dysphagia was seen in 11 (48%) patients (stent occlusion (n = 4), stent migration (n = 5), insufficient stent expansion (n = 1), and tissue overgrowth (n = 1)). Stent-related mortality occurred in three patients (13%).

Conclusions Significant SAEs resulted in early termination of the study. The current multisegmented FCSEMS design needs further improvement before it can be used for palliation of malignant dysphagia. (Clinical trial registration number: NCT04415463)

Conflicts of interest PS has received research funding from Micro-Tech

eP047 Real-time use of artificial intelligence based decision support system improves polyp detection rate during colonoscopy, a prospective, randomized, controlled study

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DOI 10.1055/s-0043-1765332

Aims Recognition of polyps is essential in colonoscopies to prevent CRC formation. Currently it is mainly based only in experts' decisions. AI-based decision support systems (AI-DSS) were suggested to be helpful, but randomized, prospective, real-time results are still limited. In the present study we aimed to compare the effectiveness and accuracy of real-time AI-DSS and standard high-definition WLI in the detection of polyps during colonoscopies

Methods One thousand two hundred and fifty-nine outpatients were consecutively enrolled between July 2021 and May 2022. Patients were randomized before colonoscopy to age and sex matched groups for AI-DSS (Fujifilm CAD EYE) or standard WLI colonoscopy (Fujifilm 6000 and 7000 Eluxeo system with 720 and 760 colonoscopes). The number of polyp negative and positive results were compared as well as the number of discovered polyps.

Results There were 644 (M/F 319/325, mean age: 55 years) subjects in the AI-DSS and 615 (M/F 286/329 mean age: 54 years) in the standard WLI group. Significantly higher number of patients [190 (29.5%) vs. 148 (24.1%), p = 0.03] had at least one polyp in the AI-DSS group compared to the controls evaluated by WLI only. The mean number of polyps were also higher in AI-DSS group: 0.46 ± 0.89 (mean ± SD) vs. controls 0.38 ± 0.80, p = 0.04. No significant differences were depicted between the two groups as we compared the colonoscopy withdrawal times: 498.2 ± 215.7 sec. vs. 490.9 ± 215.1 sec., respectively.

Conclusions Real-time AI-DSS assisted colonoscopy seems to be an effective but not time-consuming tool during the daily clinical practice to improve the detection of colonic polyps. The acceptance of the software could be further increased with the reduction of false positive alarm rate.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP048 Quality Performance Indicators of Colonoscopy in Real-World Settings after Bowel Preparation with 1L Polyethylene Glycol Plus Ascorbate: Results From a Large Retrospective, Multicentre Study

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DOI 10.1055/s-0043-1765333

Aims To report the quality performance measures of colonoscopy after 1L polyethylene glycol plus ascorbic acid preparation (PEG + ASC) in the overall study population of a large observational study and subpopulations stratified by colonoscopy indication.

Methods This observational, multicentre, retrospective study was conducted between July 2019 and September 2021 in 12 centres in Spain and Portugal and included adult patients who had received 1L PEG + ASC before undergoing a colonoscopy.¹ Colon cleansing quality was evaluated using the Boston Bowel Preparation Scale (BBPS), with adequate bowel preparation defined as total BBPS score ≥ 6 and all segmental scores ≥ 2. Cecal intubation rate (CIR), withdrawal time (WT), polyp detection rate (PDR) and adenoma detection rate (ADR) were also evaluated. All parameters were evaluated in the overall population and in patients undergoing a screening, diagnostic or surveillance colonoscopy [1].

Results The overall population included 13,169 patients: 5,513 underwent a screening, 3,872 a diagnostic and 3,446 a surveillance colonoscopy. Colonoscopy was completed in 97.3% of patients in the overall population and in 97.1%, 96.9% and 97.9% of patients in the screening, diagnostic and surveillance subgroups, respectively. Adequate quality cleansing rates were 89.3% (overall population), 89.6% (screening), 89.3% (diagnostic) and 88.8% (surveillance) (Table). BBPS was ≥ 8 in > 50% patients in all groups (► Table 1).

Conclusions Colonoscopy quality performance measures with 1L PEG + ASC were consistent across all colonoscopy indications supporting its use for bowel preparation in daily clinical practice.

Conflicts of interest Sarbelio Rodríguez and Elena Pérez Arellano have received speaker's fee from Norgine. Fatma Akriche and Carmen Turbi Disla are employees of Norgine

[1] Esteban López-Jamar J.M, Rodríguez Muñoz S, Gorjao R et al. Real-World effectiveness and safety of the 1L polyethylene glycol plus ascorbic acid bowel preparation for colonoscopy in the largest to date retrospective, multi-centre, observational study. United European Gastroenterology. Journal 2022; Vol 10 (S8): S25–26

Parameter	Total patients N=13,169	Colonoscopy indication*		
		Screening n=5,513	Diagnostic n=3,872	Surveillance n=3,446
Completed colonoscopy, yes, n (%)	12,809 (97.3)	5,355 (97.1)	3,751 (96.9)	3,373 (97.9)
Total colon total BBPS score, n (%)				
≥ 6	11,757 (89.3)	4,937 (89.6)	3,459 (89.3)	3,061 (88.8)
≥ 8	6,977 (53.0)	2,813 (51.0)	2,166 (55.9)	1,791 (52.0)
Cecal intubation rate, n (%)	6,176 (97.6)	2,574 (97.2)	1,690 (97.0)	1,684 (98.9)
N [#]	6,325	2,648	1,743	1,703
Polyp detection rate, n (%)	6,478 (49.2)	2,956 (53.6)	1,383 (35.7)	1,945 (56.4)
Adenoma detection rate, n (%)	3,953 (42.5)	1,667 (41.4)	833 (35.5)	1,289 (47.6)
N [#]	9,310	4,023	2,346	2,706

*Colonoscopy reason was 'other' in 338 patients

[#]Number of patients for whom the information was available

BBPS, Boston Bowel Preparation Scale

► **Table 1** Colonoscopy outcomes in the overall population and the subpopulations stratified by colonoscopy indication.

eP049 Olmesartan-Induced Enteropathy: A single-center epidemiological study in comparison with all sartan categories

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DOI 10.1055/s-0043-1765334

Aims Olmesartan-associated enteropathy (OAE) has been described since a decade and only case reports and case series have been documented. According to published studies, in patients receiving olmesartan and present celiac-like symptoms, upper GI endoscopy with duodenal biopsy should be performed. Aim of our study was to present our experience in OAE.

Methods All patients (pts) under antihypertensive treatment with sartans, who hospitalized in our department between February and August 2022 due to gastrointestinal symptoms or anemia were included. They underwent upper and/or lower GI endoscopy and small bowel capsule endoscopy. Epidemiological, endoscopic and histologic data were analyzed.

Results Totally 141 pts (M/F: 76/65, mean age 72 years [43-95]) included. Olmesartan were receiving 87 (61.7%), valsartan 30 (21.3%), irbesartan 16 (11.3%) and losartan 8 (5.7%). Only 17 pts were suffering from chronic non-infectious diarrhea (average 54 days [15-90]), 44 from anemia, while 13 presented both diarrhea and anemia. Biopsy samples were taken by 49 pts. Endoscopic and histologic abnormalities indicative of celiac-like enteropathy (flattening of villi, scalloping of Kerckring folds) were reported in 2 pts (4.16%) under olmesartan treatment. Clinical improvement was observed 10 days after discontinuation of the drug. Anti-tissue transglutaminase antibodies were negative for all 49 pts. Pts who received other sartans, had no endoscopic or histologic findings of celiac-like enteropathy.

Conclusions Endoscopic and histological findings of the duodenum combined with history of olmesartan intake and a negative celiac test, strongly suggest OAE. This diagnosis is reinforced by the clinical improvement after drug withdrawal.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP050 Controversial role of pre-operative biliary drainage for obstructive jaundice in patients undergoing hepato-pancreato-biliary surgery

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DOI 10.1055/s-0043-1765335

Aims Pre-operative biliary drainage (PBD) in patients undergoing hepato-pancreato-biliary surgery (HPBS) has a controversial impact on post-operative infectious complications (POICs): we report the related experience at our tertiary level centre.

Methods We retrospectively reviewed patients who underwent HPBS from 2015 to 2022 including cases with available intraoperative bile samples. We compared patients who had PBD (group A, endoscopic stenting, plus group B, percutaneous stenting) to patients directly referred to surgery (group C), evaluating bile culture (BC) results, drug-sensitivity of isolated germs and the occurrence of POICs [1–2].

Results We included 42 patients: 24 (57%) underwent PBD, while 18 (43%) directly received surgical treatment. Group A + B and group C were comparable for age, gender and underlying pathology (table 1). Positive BC was found in 20/24 (83%) stented patients and in 2/18 (11%) directly operated patients ($p < 0.01$). In group A + B, most frequently detected germs were Enterococci (6/20, 30%), predominantly multi-drugs sensitive (MS, 5/6, 83%), and Gram -, predominantly E. Coli (4/20, 20%); we found multi-drugs resistant (MR) Klebsiella in two patients. All 3 cases of MR germs were reported in stented population ($p = 0.9$). POICs occurred in 8/24 (33%) cases in group A + B and in 8/18 (44%) cases in group C ($p = 0.53$); infected fluid collections were the most represented POICs (7/8 and 6/8 cases respectively; $p = 0.74$), which were all successfully treated with antibiotic therapy (► Table 1).

Conclusions In our cohort the rate of bile contamination was significantly higher in PBD group compared to directly operated patients, but we did not observe any related increase of POICs.

Conflicts of interest C.G. De Angelis is a consultant for Boston Scientific, Olympus and Medi-Globe

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	Group A (n = 19)	Group B (n = 5)	Group C (n = 18)	P value (group A+B vs group C)
Mean age, years \pm SD	67.4 \pm 9.2	69.4 \pm 9.8	71.7 \pm 9.8	0.43
Male, number (%)	15 (78.9%)	2 (40%)	7 (38.9%)	0.06
Mean total bilirubin prior to surgery, mg/dL \pm SD	3.3 \pm 3.2	5.9 \pm 6.2	8.3 \pm 7.3	0.16
Pancreatic cancer diagnosis, number (%)	10 (52.6%)	3 (60%)	11 (61.1%)	0.76

► Table 1 Outcomes following Hemospray use in the context of PB related GIB.

eP051 Risk Of Tumor Seeding In Percutaneous Endoscopic Gastrostomy (PEG) In Aerodigestive Tumors; A Single Centre Experience

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DOI 10.1055/s-0043-1765336

Aims The pull technique of percutaneous endoscopic gastrostomy (PEG) is considered to be risk factor for PEG site metastasis, which is associated with poor outcome. We are placing PEG tubes in aerodigestive cancers since 2008 via pull method. We aim to look for the incidence of PEG site metastasis in our population and to document nutritional benefits and 30 days mortality of PEG tube in aerodigestive cancers.

Methods This retrospective single centre study was performed at Shaukat Khanum Cancer Memorial and Research centre, Lahore, for the duration of 10 years (2009-2019). Total 1782 patient were included.

Results Six out of all the included patients had PEG site metastasis, making it 0.36%. The average time of development of stromal metastasis was eight months after insertion of PEG tube. Which is less when compared with literature, 0.56% with pull method. The overall BMI and albumin levels were remained stable and the values were statistically significant as well. Two patients had 30 days mortality, which was non PEG related [1–6].

Conclusions Pull technique is not a risk factor for peg site metastasis and there must other route, like haemalogical or lymphocytic spread. Prophylactic PEG tube is safe in oesophageal CA and is associated with maintaining the nutritional status.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP052V Underwater peroral esophageal myotomy to prevent insufflation related complications

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DOI 10.1055/s-0043-1765337

Abstract Text A 64-yo man was referred to us for type-I achalasia. Underwater (UW) POEM was planned to minimize insufflation related complications due to patient COPD. We used a single-channel Fujifilm gastroscope, a distal cap and a Hybridknife-T-type. All the steps were performed after filling the lumen with saline: anterior mucosal incision (endocut-I); submucosal tunnel (endocut-Q or precise-SECT); myotomy (endocut-Q). No adverse events were reported. UW POEM reduces insufflation related adverse events. Water induced magnification improves the distinction between layers and vessels identification. Main limit observed was saline induced reduction of cutting efficiency, requiring electrosurgical settings adjustments.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP053 Artificial intelligence for automated bowel preparation scoring

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DOI 10.1055/s-0043-1765338

Aims Although a reliable assessment of bowel cleanliness is important for qualified colonoscopy, current bowel preparation scoring systems are limited by inter-observer variability. This study aimed to investigate whether the deep learning algorithm could assess bowel preparation status objectively.

Methods A convolutional neural network was developed using retrospectively collected 1400 still images from 346 colonoscopies. Three experts reviewed and annotated the training images and videos based on Boston Bowel Preparation Scoring (BBPS) system (0-3). We validated the developed algorithm with 522 images from 219 colonoscopies and tested the performance of the algorithm with 369 images from 128 colonoscopies. In addition, we validated the algorithm using 113 10-sec video clips and tested the performance of the algorithm on 30 full colonoscopy videos.

Results In the still image test set, the algorithm achieved an accuracy of 78.7% for 4 classes of BBPS and an accuracy of 93.9% for the binary classification of BBPS (0-1: inadequate vs. 2-3: adequate). In the 10-sec video validation set, the algorithm demonstrated an accuracy of 74.3% for 4 classes of BBPS and an accuracy of 94.7% with 0.983 of the area under the receiver operating characteristic curve for binary classification of BBPS. In the withdrawal phase of full colonoscopies with 80 segments (25 right, 25 transverse, and 30 left colon), the overall accuracy was 91.3% and the sensitivity for inadequate bowel preparation was 86.7%.

Conclusions The algorithm assessment of bowel preparation based on BBPS showed good performance in the full withdrawal colonoscopies.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP054 Simplified Endoscopic Mucosal Assessment for Crohn's Disease (SEMA-CD): External Application and Prognostic Value Definition

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DOI 10.1055/s-0043-1765339

Aims In 2022, the Simplified Endoscopic Mucosal Assessment for Crohn's Disease (SEMA-CD) was created and internally validated, aiming to simplify endoscopic activity assessment in CD. This score was shown to be easier and faster to apply than previously used Simple Endoscopic Score for CD (SES-CD). In our investigation, we aimed to apply this score on a European population and to assess if its prognostic value was the same as SES-CD.

Methods Longitudinal study of consecutive CD patients undergoing ileocolonoscopy for assessment of endoscopic activity. Patients with previous ileocecal resection were excluded. CD endoscopic activity was classified according to both SES-CD and SEMA-CD. A minimum follow-up period of 12 months was required. Treatment escalation, hospitalization and bowel resection were assessed during the follow-up period.

Results The initial sample included 265 patients, with 61 being excluded for having previous ileocecal surgery. Final sample included 204 patients, 113 (54.9%) female, with a mean age of 43 ± 14 years. SEMA-CD had a nearly-perfect correlation with SES-CD ($r=0.998$; $p<0.001$). SEMA-CD performed similarly to SES-CD in predicting treatment escalation (AUC = 0.905 vs AUC = 0.908), bowel resection (AUC = 0.517 vs AUC = 0.516), and hospitalization (AUC = 0.605 vs AUC = 0.610) ($p>0.05$). Optimal SEMA-CD cut-off predicting treatment escalation during the subsequent year was a SEMA-CD ≥ 2 (sensitivity 88%; specificity 86%).

Conclusions In our sample, SEMA-CD perfectly correlated with SES-CD, having similar performances in predicting treatment escalation, surgery and hospitalization in CD patients. We first defined a SEMA-CD ≥ 2 as a possible guide to treatment escalation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP055 Home-made polyp-detector: Deep-learning based polyp detector using Android smartphones

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DOI 10.1055/s-0043-1765340

Aims I investigate whether detecting and classifying polyps using an ordinary smartphone is feasible. I also investigated which types of data are better suited for this kind of deep learning.

Methods The 'PolypsSet' public data downloaded from the Harvard dataverse was trained using Tensorflow lite and a library called Model Maker. Polyp images were trained using transfer learning based on the pre-trained 'EfficientDet lite2' model. The data were classified into two types: hyperplastic polyp and adenoma, and 28,000 original polyp data were used for learning [P1]. For comparison, we newly trained with 130 representative polyps selected from the original polyp data [P2]. Another data set was trained on images taken directly with a smartphone from the previous 130 images displayed on the monitor [P2']. The three trained tflite files, P1, P2, and P2', were transmitted to the Galaxy S9 android smartphone (Fig.1). One hundred pictures of polyps that had never been used for learning were used for the test. The test images displayed on the computer monitor were identified and classified in real-time through a smartphone, and the results were investigated [1–5].

Results Polyp detection rates of P1, P2, and P2' were 73.20%, 32.01%, and 40.21%, respectively. The correct classification rates were 56.01%, 16.50%, and 28.87%, respectively, with P1, P2, and P2'.

Conclusions Detecting and classifying polyps was feasible by photographing the monitor screen with a mobile smartphone. Data generated in environments similar to those where they will be used may be more appropriate for processing polyp images on the monitor.

Fig. 1 Overview of transfer learning process and test procedure

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP056V Endoscopic necrosectomy of extensive WON with solid debris using OTSG: Once you dig it, you've got to clean it

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DOI 10.1055/s-0043-1765341

Walled-Off Necrosis (WON) are peripancreatic collections with variable amount of liquid and solid content. After transgastric drainage, collections with a large amount of solid content often require necrosectomies to optimize the cleaning of the necrotic cavity. Until recently, there were no specific devices for these procedures. We present a case demonstrating the use of over-the-scope grasper (OTSG) in the necrosectomy of a WON with a great content of solid debris. The OTSG demonstrated the ability to optimize endoscopic necrosectomy, making this procedure more effective and faster.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP057 Is the anesthesiologist still needed for endoscopic ultrasound gallbladder drainage?

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DOI 10.1055/s-0043-1765342

Aims Endoscopic ultrasound gallbladder drainage (EUS-GBD) was reserved for high-surgical-risk patients. However, many of them showed a high-risk even for deep sedation. Our aim was to evaluate the safety and efficacy of EUS-GBD under conscious sedation (CS).

Methods All consecutive EUS-GBD under CS performed in our hospital were prospectively enrolled from January 2020 to December 2022. Patient characteristics, type and dosage of anesthetic drug administered (Fentanyl (FNT), Pethidine (PTD) or Benzodiazepine (BZD)), size of lumen-apposing-metal-stent (LAMS), gallbladder (GB) access, technical success, clinical success, early and late adverse events (AEs) rate were evaluated. Safety was defined as AEs occurrence. The efficacy of EUS-GBD was expressed as technical and clinical success.

Results 34 patients (41.7% male, mean age 82.9 ± 10 years) underwent EUS-GBD under CS. In 30 (88.2%) EUS-GBD a 10x10mm LAMS was deployed, in 2 (5.9%) procedures a 15x10mm and in 2 (5.9%) an 8x8mm LAMS. GB was accessed from the stomach in 55.9% of cases. A combination of FNT + BZD was administered in 17 (50%) EUS-GBD, while 15 (44.1%) procedures were per-

formed under PTD + BZD. Only 2 (5.9%) EUS-GBD were performed only under BZD. Mean FNT, PTD, BZD dose were 50 (± 11.5) mcg, 38.4 (± 25.6) mg and 4 (± 1.5) mg, respectively. Technical and clinical success were both of 97%. Only in 1 (2.9%) EUS-GBD an early AE was reported. No late AEs were described. The administration of FNT + BZD or PTD + BZD or only BZD affected neither technical nor clinical success, nor AEs rate (p = 0.28).

Conclusions EUS-GBD under CS was a safe procedure with a low AEs rate. The administration of FNT + BZD, PTD + BZD or BZD alone did not affect procedure outcome.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP058 Recurrence rate after piecemeal endoscopic mucosal resection of 10 – 19mm nonpedunculated lesions: should we worry about the risk?

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DOI 10.1055/s-0043-1765343

Aims Size threshold for recommending early repetition of colonoscopy (ERC) after piecemeal endoscopic mucosal resection (pEMR) of nonpedunculated colorectal lesions (NPL) is ≥20mm. Nevertheless, there is scarce data focused on recurrence/residual tissue rate (RR) after pEMR of 10–19mm NPL. We aimed to determine the RR after pEMR of 10–19mm NPL and compare it with the RR of ≥20mm NPL.

Methods Retrospective cohort-study including all ≥10mm NPL resected by pEMR in our center between 2018–2022 with ERC performed at our institution. Endoscopic and histological NPL features, EMR methods and intraprocedural adverse events were reviewed. RR was defined as residual tissue identified in the ERC EMR scar with NBI or histological confirmation after sampling of the EMR scar if NBI was not available or when endoscopic features were unclear. RR was evaluated and compared between group A (10–19mm) and group B (≥20mm).

Results A total of 444 NPL were assessed, 124 (27.9%) from group A, which included mostly right colon (46.0%), Paris 0-IIa (50.8%), NICE2 (80.6%) NPL with a median size of 15mm. In group A, most NPL were adenomas (77.4%) with low grade dysplasia (64.6%), all removed by hot snare and 61.3% received thermal ablation of EMR margins. In the ERC, performed a median of 6 months after pEMR, group A RR was significantly lower than group B (10.5% vs. 21.3%, P = 0.009) even after adjustment for thermal ablation of EMR margins.

Conclusions The early RR after pEMR of 10–19mm NPL is 10.5%, significantly lower compared to ≥20mm NPL. However, it is a non-negligible RR that should be considered in the selection of the appropriate post-polypectomy endoscopic surveillance.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP059 The British Society of Gastroenterology Endoscopy Quality Improvement Programme (BSGEQIP) haemostasis course improves confidence and resilience by reducing perceived workload

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DOI 10.1055/s-0043-1765344

Aims The aim of this study was to assess the role of the haemostasis course in improving the knowledge, confidence and resilience among the delegates and reducing their perceived workload in performing endoscopy tasks.

Methods Three one-day haemostasis courses were organised at the Sheffield Teaching Hospitals as part of the BSGEQIP facilitated by experienced consultants and representatives from endoscopy industry. Courses included lectures followed by hands-on training on variceal and non-variceal endotherapies using porcine and synthetic models. Questionnaires were collected from delegates to compare their self-perceived confidence, resilience and satisfaction before and after the course. Two-tailed Wilcoxon signed-rank test was used to analyse the data collected.

Results A total of 69 delegates attended the courses which consisted of mostly gastroenterology trainees (60%) followed by consultants (gastroenterology and surgical) and endoscopy nurses. 46 of the delegates (67%) were JAG-certified in upper gastrointestinal endoscopy. Pre-course and post-course questionnaires were completed by 57 delegates (83% response rate) which showed significant increase in satisfaction and confidence in non-technical and technical skills in endotherapy, reduced perception of physical and mental workload and frustration in performing endoscopy tasks ($p < 0.001$) post course.

Conclusions The haemostasis course provided significant benefit to all delegates and should be recommended to all endoscopists dealing with upper GI bleeding.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP060V Cap-Suction underwater endoscopic mucosal resection (CAP-UEMR) for intra-appendiceal lesions

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DOI 10.1055/s-0043-1765345

Abstract Text Intra-appendiceal lesions could be challenging. Herein we show 2 examples of a simple technique (CAP-UEMR) for management of intra-appendiceal lesions. Patients did not have previous appendectomy [1].

TECHNIQUE: a standard colonoscope with a conic shaped cap is inserted to the cecum, gas is aspirated and saline is infused to fill all the lumen in the working area. The lesion is faced, and underwater cap-suction is applied to invaginate the intra-appendiceal lesion into the lumen, then a snare is used for underwater resection (VIDEO). Patients were discharged on same day, there were not delayed complications. Histology showed sessile serrated lesions (R0)

Conflicts of interest Hugo Uchima collaborates in proctorships with Erbe Spain and Olympus Iberia

[1] Uchima H, Calm A, Colán-Hernández J et al. Cap-suction underwater endoscopic mucosal resection for en bloc resection of nongranular pseudo-depressed colonic lesion: a novel technique when conventional snaring is not possible. *Endoscopy*. 2022; Epub ahead of print

eP061 Endoscopic Zenker's diverticulotomy: fewer recurrences due to Z-POEM?

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DOI 10.1055/s-0043-1765346

Aims Endoscopic diverticulotomy is nowadays the standard procedure for the treatment of symptomatic Zenker's diverticulum. With Z-POEM (*peroral endoscopic myotomy*), a new technique is now available that may reduce recurrence

es. Z-POEM has been used at our center since 2021. We retrospectively evaluated data regarding effectiveness and complication rate compared to conventional diverticulotomy. [1]

Methods From our database, the technical feasibility and complications of diverticulotomy were ascertained and analyzed. All patients were surveyed via telephone for symptoms that could be indicative of a recurrence.

Results From 01/2021 to 10/2022, 14 patients (7 men) underwent Z-POEM. Patients were 76 (61-84) years old on average. 2 patients (14.3%) presented with recurrence after classical endoscopic diverticulotomy. Complete diverticulotomy was successfully performed in all patients. One patient had a mediastinal perforation, which was closed by TTS clip and could be treated conservatively. Median follow-up was 10.5 (2-20) months. One patient (7.1%) had a recurrence after 7 months, which was treated again with the Z-POEM technique. Compared with the patients we treated conventionally since 2010 ($n = 116$), a lower recurrence rate (7.1% vs 21.5%) is currently evident.

Conclusions Diverticulotomy using Z-POEM technique is an effective and safe procedure for the treatment of Zenker's diverticulum. Complete transection of all muscle fibers seems to be more reliably achieved, thus reducing the recurrence rate. Further studies on this are required.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Weusten BLAM, Barret M, Bredenoord AJ, Familiari P, Gonzalez JM, van Hooff JE, Lorenzo-Zúñiga V, Louis H, Martinek J, van Meer S, Neumann H, Pohl D, Prat F, von Renteln D, Savarino E, Sweis R, Tack J, Tutuiian R, Ishaq S. Correction: Endoscopic management of gastrointestinal motility disorders – part 2: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2020; 52 (7): C7. doi:10.1055/a-1201-7524. Epub 2020 Jun 24. Erratum for: *Endoscopy*. 2020 Jul;52(7):600-614. PMID: 32580233

eP062 Outcomes of EUS-guided gallbladder drainage and propensity score-matched subgroup comparison with percutaneous drainage

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DOI 10.1055/s-0043-1765347

Aims Endoscopic ultrasound-guided gallbladder drainage (EUS-GBD) is increasingly used for the treatment of acute cholecystitis, especially in patients unfit for surgery. Our aim was to assess technical and clinical success of EUS-GBD. Furthermore, we aimed to compare outcomes of EUS-GBD with percutaneous transhepatic gallbladder drainage (PT-GBD).

Methods This is a tertiary single-center retrospective analysis of all consecutive EUS-GBD procedures performed between 2016 and April 2021. Furthermore, a 1:1 propensity score-matched comparison was included (matching tolerance 0.01), using a historical cohort of PT-GBD.

Results In total 74 patients (mean age 72 years; 54% male) underwent EUS-GBD, with a technical and clinical success rate of 93% and 91% respectively. Indication for EUS-GBD was acute cholecystitis in 58.1%. Recurrent cholecystitis and need for reintervention was seen in 16%, with higher incidence following a transgastric approach (31.8 vs 10.9%; $p = 0.026$). Overall adverse events (AE) occurred in 18% and there were 2 procedure-related deaths (3%).

In the matched cohort ($n = 34$: 17 EUS-GBD, 17 PT-GBD) technical and clinical success, as well as time to resolution were similar in both groups. Hospital stay was significantly shorter with EUS-GBD (median 6.5 vs 31 days, $p < 0.001$). Safety outcomes, recurrent cholecystitis and reinterventions were not significantly different, but more patients in the PT-GBD group underwent cholecystectomy (6% in EUS-GBD, 41% in PT-GBD, $p = 0.039$).

Conclusions In our series EUS-GBD showed high technical and clinical success rates. Compared to PT-GBD, technical and clinical success, as well as overall safety was similar. There was a shorter hospital stay in favor of EUS-GBD.

Conflicts of interest WL co-chairs the Boston-Scientific Chair in Therapeutic Biliopancreatic Endoscopy with SVDM and has consultancy agreements with Boston Scientific and Cook. SVDM holds the Cook chair in Interventional endoscopy and holds consultancy agreements with Cook, Pentax and Olympus. MB received grants from Ovesco/Fides Medical and has consultancy agreements with Taewoong – Prion Medical. HvM hold consultancy agreements with Boston-Scientific.

eP063 Influence of *Helicobacter pylori* infection on the optical diagnosis of gastric atrophy in clinical practice in a European country with low incidence of gastric cancer

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DOI 10.1055/s-0043-1765348

Aims To evaluate the influence of *Helicobacter pylori* (Hp) infection on the diagnostic accuracy of endoscopic gastric atrophy (GA) in clinical practice.

Methods Routine gastroscopies were performed prospectively by eight endoscopists in three hospitals in Spain. We used high-definition endoscopes and SFI virtual chromoendoscopy (Sonoscape). Endoscopic diagnosis of GA was made using the Kimura-Takemoto (KT) classification. Biopsies and histological diagnosis were performed according to the updated Sydney consensus.

Results We included 318 gastroscopies. The mean age was 57 (SD ± 15) years old and 193 (60%) were women. Histological atrophy was reported in 94 (30%) patients and 17 (5.5%) had high-risk GA (OLGA III-IV). Fifty-four (17%) patients were Hp(+) on the histology (± urease test). Hp status by non-invasive methods before the gastroscopy was unknown in 207 (65%) cases and this group included 46/54 (85%) of all positive cases. Sensitivity in the antrum was 49% [Hp(+) 23% vs Hp(-) 58%, $p=0.03$] and in the body 73% [Hp(+) 27% vs Hp(-) 88%, $p<0.01$]. Specificity in the antrum was 76% [Hp(+) 75% vs Hp(-) 76%, $p=0.9$] and in the body 84% [Hp(+) 81% vs Hp(-) 84%, $p=0.7$]. Diagnostic accuracy in the antrum was 71% [Hp(+) 60% vs Hp(-) 73%, $p=0.08$] and in the body 82% [Hp(+) 67% vs Hp(-) 85%, $p<0.01$].

Conclusions Endoscopic diagnosis of GA had a high diagnostic yield mainly in the body and Hp-negative patients. Hp eradication before a routine gastroscopy should be advised.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP064 New HREM based proposed classification for Hypercontractile Esophagus with Clinical Correlation- ?Learning from Achlasia

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DOI 10.1055/s-0043-1765349

Aims Hypercontractile esophagus(HE) is a rare motility disorder of esophagus. The Chicago Classification version 4.0 defined hypercontractile esophagus as hypercontractility (DCI>8000) at least in 20% of swallows. Our aim of study was to identify the demographic, clinical characteristics and HRM subtypes of patients, and correlation of clinical characteristics & HRM subtypes

Methods Retrospective observational study conducted september 2020 to May 2022 reviewed. Patients, 18 years of age or older, with the diagnosis of HE according to the chicao classification were included in the study. Diagnostic criteria for HE was occurrence of at least 20% of contractions with DCI > 8000 mmHg.s.cm, together with intact peristalsis and distal latency. All HREM was

done and interpreted by a single operator, using RMH Australia 24 Channel water perfused catheter. Three HREM patterns were seen (► Fig. 1).

Results 26 patients with mean age of 58 years. Dysphagia predominant in 16 (61.5%) followed by chest pain 14 (53.8%). 3 patterns were seen on HREM, Type 1 or Single peak HRM, Type 2 or Double peak HRM and Type 3 or prolonged type HRM. Single peak in 13(50%), double peak in 11(42.3%) patients. Rest 7.7% had prolonged type or type 3. Patients with dysphagia 13/16(81.2%) usually had single peak HRM finding, with chest pain 11/14(78.5%) usually had double peak HRM. Rest had prolonged type of HRM findings 4(7.7%) [1–3].

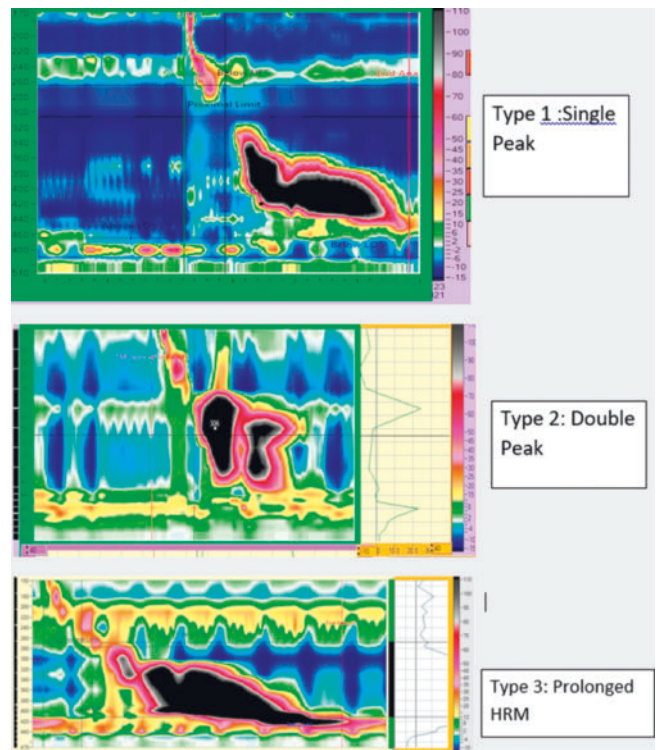
Conclusions We describe three different manometric patterns of HE using HREM. This may reflect different spectrum of HE.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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► Fig. 1

eP065 Redo Endoscopic Sleeve Gastroplasty (Re-ESG): the experience of a tertiary center

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DOI 10.1055/s-0043-1765350

Aims Obesity is a chronic relapsing disease. As such, a “one and done” strategy may not lead to satisfying results in the long term for both surgical and endoscopic procedures. Endoscopic Sleeve Gastroplasty (ESG) is an effective,

safe, and repeatable bariatric procedure. As loss of satiety with weight regain or insufficient weight loss may occur after a primary ESG (p-ESG), re-ESG may play a role in such patients to improve weight loss. In this case series, we evaluate the short and medium-term outcomes of the re-ESG.

Methods A retrospective analysis was performed on a prospective database including patients who underwent ESG between March 2017 and September 2022; patients who received a re-ESG because of progressive loss of satiety, insufficient weight loss and weight regain $\geq 50\%$ after p-ESG were included in the analysis. %TBWL, and the Bariatric Analysis and Reporting Outcome System (BAROS) questionnaire were assessed during follow-up. Weight loss parameters were calculated both after re-ESG and overall.

Results Of 406 patients that underwent p-ESG, 27 required a re-ESG (6.7%) after a mean time of 20 months (range 7-42). Re-ESG was technically feasible in all patients and no periprocedural adverse events occurred. The mean BMI was 38.4 ± 6.5 kg/m² and 35.5 ± 6.0 kg/m² at p-ESG and re-ESG, respectively. Weight loss and quality of life (QoL) outcomes are summarized in (► **Table 1**).

Conclusions Re-ESG showed satisfying short and medium-term weight loss and QoL improvement. As such, re-ESG should be seen as a further step in the endoscopic approach to obesity.

Conflicts of interest Prof. Guido Costamagna: Consultant for and food and beverage compensation from Cook Medical, Boston Scientific, and Olympus. Dr Ivo Boskoski: Consultant for Apollo Endosurgery, Cook Medical, and Boston Scientific; board member for Endo Tools; research grant recipient from Apollo Endosurgery; food and beverage compensation from Apollo Endosurgery, Cook Medical, Boston Scientific, and Endo Tools. Vincenzo Bove: Consultant for Apollo Endosurgery. All the other authors have nothing to declare.

	1 month	3 months	6 months	12 months
Overall %TBWL	15.2% \pm 8.0	19.0% \pm 8	18.2% \pm 8.1	18.7% \pm 6.2
Re-ESG %TBWL	10.3% \pm 6	13.2% \pm 6.4	13.6% \pm 7.7	14.1% \pm 7.5
BAROS score	3.6 \pm 1.5	4.2 \pm 1.6	4.2 \pm 2.0	4.1 \pm 1.8

Values are reported as mean \pm standard deviation

► **Table 1**

eP066V Laparoscopic and endoscopic cooperative surgery to treat superficial neoplastic lesions involving appendiceal orifice: LECS-CR

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DOI 10.1055/s-0043-1765351

Abstract Text Case 1: 81-year-old woman. Appendectomy. 40 mm LST-GM lesion involving appendiceal orifice. Case 2: 52-year-old man. 20 mm 0-Is lesion over invaginated appendix. Colorectal laparoscopic and endoscopic cooperative surgery procedure (LECS-CR) step by step. First, surgical release of the cecum from retroperitoneum. Target lesion is identified using colonoscope, while guiding surgeons to complete a limited cecal sleeve resection using electric endo-stappler. Last, water-tightness of the surgical suture and adequate pass to distal ileum is verified using the colonoscope. Final histology: Case 1: 40 mm tubulovillous adenoma with high-grade dysplasia, R0; Case 2: 18 mm tubulovillous adenoma with low-grade dysplasia, R0

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP067 Importance Of Human-Machine Interaction In Detection Of Barrett's Neoplasia Using A Novel Deep Neural Network In The Evolving Era Of Artificial Intelligence (AI)

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DOI 10.1055/s-0043-1765352

Aims Despite improvements in endoscopic imaging modalities, there are still significant miss rates in detecting Barrett's neoplasia. We have previously reported the development of novel deep neural network in detecting Barrett's neoplasia¹. The aim of this study was to understand the added value of AI system across a range of expert and non-expert endoscopists.

Methods We used WiseVision (NEC Corporation, Japan) as an AI platform. Pre-recorded videos were edited and histology was used as a ground truth. 10 experts and 10 non-experts were asked to review the videos without AI and then with AI and asked to categorise into neoplastic, non-neoplastic or uncertain. Videos were randomly distributed to reduce recall bias (► **Fig. 1**).

Results 114 videos (57 neoplastic and 57 non-neoplastic) were collected. There were 15 polypoidal and 45 non-polypoidal neoplasia. Sensitivity of AI is 84.5%. There is a significant improvement in performance of non-experts with AI (sensitivity 63% to 81%). Improvement in experts with AI is statistically significant but not clinically significant (69% to 73%). With AI, non-experts have a greater improvement in achieving fewer uncertain answers compared to experts (12.8% to 4.8% in non-experts vs 11.6% to 8.9% in experts) [1].

Conclusions Sensitivity of AI looks promising and non-experts seem to agree more with AI, resulting in a greater gain in detecting additional neoplasia. Experts, however, seem to disregard AI results, resulting in very little additional gain and this could potentially deprive patients from additional AI-related benefits. Our data gives an interesting insight into human-machine interaction which needs to be further explored before the widespread use of AI.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Abdelrahim M, Saiko M, Maeda N, Hossain E, Alkandari A, Subramaniam S, Parra-Blanco A, Sanchez-Yague A, Coron E, Repici A, Bhandari P. Development and Validation of Artificial Neural Networks Model for Detection of Barrett's Neoplasia, a Multicenter Pragmatic Non-Randomized Trial. *Gastrointest Endosc* 2022; S0016-5107 (22): 02084-3. doi:10.1016/j.gie.2022.10.031. Epub ahead of print PMID: 36283443

	Non-experts (95% CI)	Non-experts with AI (95% CI)	Experts (95% CI)	Experts with AI (95% CI)
Sensitivity	0.63 (0.59-0.67)	0.81 * (0.78-0.85)	0.69 (0.65-0.72)	0.73 * (0.69-0.76)
Specificity	0.63 (0.59-0.67)	0.71 * (0.67-0.75)	0.79 (0.75-0.82)	0.79 (0.76-0.83)
Accuracy	0.63 (0.59-0.67)	0.76 * (0.73-0.8)	0.74 (0.70-0.77)	0.76 (0.73-0.80)

*p value <0.05

► **Fig. 1** Performance of experts and non-experts with and without AI.

eP068 Real-Time Computer-Aided Detection of Colorectal Neoplasia during Colonoscopy: Systematic review and meta-analysis

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DOI 10.1055/s-0043-1765353

Aims Artificial intelligence by computer-aided Detection (CADE) of colorectal neoplasia during colonoscopy may increase adenoma detection rates (ADR). We quantified benefit and harms of CADE in randomized trials.

Methods We searched MEDLINE, EMBASE, and Scopus databases until September 2022 for randomized trials comparing CADE assisted with standard colonoscopy for polyp and cancer detection. Main outcome for CADE benefits were Per-patient and per-polyp adenoma detection rates (ADR), adenomas detected per colonoscopy (APC), Advanced Adenoma (> 10 mm, high-grade dysplasia, villous histology), Serrated lesion (SPC). For CADE harms were number of polypectomies for non-neoplastic lesions and withdrawal time.

Results Seventeen randomized trials on 16,024 patients were included. ADR was higher in the CADE group than in the standard group (45.3% versus 37.9%; RR 1.28 [95% CI 1.17-1.40]; moderate low certainty evidence). The serrated lesion per-colonoscopy was also higher in the CADE group (MD, 0.028 [95% CI: 0.010; 0.046] moderate certainty evidence). More non-neoplastic polyps were removed in the CADE than the standard group (0.418 vs. 0.282 per colonoscopy, MD: 0.1364; 95% CI, 0.063-0.2109; low certainty evidence) in a similar mean withdrawal time (MD: 0.36 minutes, 95% CI, 0.04– 0.68, moderate certainty evidence).

Conclusions The use of CADE for polyp detection during colonoscopy results in increased adenoma detection, but also higher rates of unnecessary removal non-neoplastic polyps

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP069 Use of the Soehendra Stent Retriever as a dilator in severe stenosis not responsive to conventional treatments: A single center real life case series

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DOI 10.1055/s-0043-1765354

Aims The Soehendra stent retriever (SSR) (Wilson Cook Medical, Winston-Salem, N.C.) was designed to facilitate the removal of endobiliary stents by its capture via self-tapping threads on the distal tip of the extractor. The SSR is like a screw drill and can be also useful for dilating severe strictures. The mechanism of action is probably the engagement of the stricture by the self-tapping threads which, when torqued clockwise, results in both mechanical displacement of tissue and dilation of the stricture. We frequently face difficulties for the recanalization of high-grade biliary and pancreatic strictures in endoscopic retrograde cholangiopancreatography, or accessing structures during an endoscopic ultrasound. The SSR can be useful when standard techniques such as balloon dilation are not successful. However, reports of SSR use in the previously mentioned situations are limited.

Methods We present the experience of the use of this device as a dilator in twelve cases:

Results Most of the cases were biliary strictures not responsive to standard dilation, including surgical stenosis (liver transplantation recipients and others) and other benign stenosis, pancreatic strictures in chronic pancreatitis and complicated access to drainage a pancreatic pseudocyst through the gastric wall [1–5].

In eleven cases we achieved satisfactory dilation and further therapeutics could be done. In the remaining case (a complex stenosis in a liver transplantation recipient) the SSR was pushed through the stenosis but it was not possible to place a stent. No complications have been observed in our series (► Fig. 1).

Conclusions The SSR can be safely and successfully used as a dilator in selected cases.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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[5] Tsutsumi K, Kato H, Sakakihara I, Yamamoto N, Noma Y, Horiguchi S, Harada R, Okada H, Yamamoto K. Dilation of a severe bilioenteric or pancreaticoenteric anastomotic stricture using a Soehendra Stent Retriever. *World J Gastrointest Endosc* 2013; 5 (8): 412–416

Number of patients	Clinical setting	Cross sectional imaging	Endoscopic findings	Use of the Soehendra Stent Retriever (SSR)
6	Biliary stenosis in liver transplantation recipients.	Anastomotic stenosis. In some cases choledocholithiasis was associated.	ERCP: anastomotic stenosis in all the cases. In one of them there was also a second stenosis in the left intrahepatic duct. Impossible to dilate the stenosis with the use of balloons.	Use of the SSR for the dilation of the stenosis and grant the access to proximal ducts. Placement of stents after the dilation in five out of the six cases.
1	Biliary stenosis after surgery (different from liver transplantation).	Dilated intrahepatic ducts and choledocholithiasis.	ERCP: critical stenosis of the extrahepatic bile duct secondary to misposition of surgical staples after cholecystectomy. The stenosis could not be treated with balloon dilation.	Use of the SSR for the dilation of the stenosis and further extraction of the lithiasis.
2	Non surgical biliary stenosis (1 Primary Sclerosing Cholangitis and 1 idiopathic).	Stenosis of the extrahepatic bile duct.	ERCP: the stenosis were both confirmed, but could not be treated with balloons.	Use of the SSR for the dilation of the stenosis and grant the access to proximal bile ducts.
2	Complications of acute pancreatitis.	Pancreatic pseudocyst over dom.	EUS: the presence of a big pseudocyst is confirmed. After several attempts it was not possible to access to it with a needle and a cystostome due to great rigidity of the gastric wall.	Use of the SSR to go through the gastric wall and achieve the access to the pseudocyst.
1	Chronic pancreatitis.	Saccular dilations and presence of lithiasis in the main pancreatic duct.	ERCP: dilated Wirsung duct with several stenosis and microolithiasis.	Use of the SSR for the dilation of all the pancreatic stenosis and grant the access to the distal ducts for extraction of the lithiasis.

SSR: Soehendra Stent Retriever; ERCP: Endoscopic Retrograde Cholangiopancreatography; EUS: Endoscopic UltraSound.

► Fig. 1

eP070 A case series of urgent single-use gastroscopy in patients presenting with clinical signs of upper gastrointestinal bleeding

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DOI 10.1055/s-0043-1765355

Aims Outbreaks of multi-drug resistant bacteria due to contaminated duodenoscopes and the Covid-19 pandemic have driven the development of single-use endoscopes. The first single-use gastroscope (Ambu aScope Gastro) received Conformité Européenne in April 2022 and is now available. Besides waste-disposal issues and the risk of infection, the diagnostic and therapeutic performance remains unclear. We aimed to evaluate single-use gastroscopes in patients with signs of upper gastrointestinal bleeding.

Methods 20 consecutive patients presenting with stigmata of upper gastrointestinal bleeding were included in this single-center case series between 10/21-11/22. The primary aim was the technical success rate defined as reaching the descending duodenum and the adequate assessment for the presence of a bleeding site.

Results The primary aim was achieved in 19 of 20 cases (95%). In 1 patient, malignant stenosis of the duodenal bulb made it impossible to reach the descending duodenum. In 18 patients, the bleeding site could be identified. Therapeutic intervention with a single-use gastroscope was performed in 6 cases (2 OTS-clip, 1 TTS, 2 variceal band ligation, 1 hemostatic powder, 2 adrenaline injections). Technical and clinical success was achieved in all 6 cases. 2 crossovers (10%) to standard gastroscopy occurred.

Conclusions In this feasibility study, we propose a possible niche for single-use gastroscopes in patients presenting for urgent endoscopic evaluation of upper gastrointestinal hemorrhage. Endoscopic hemostasis was successful in all patients who underwent endoscopic intervention with the single-use endoscop.

Conflicts of interest Helmut Messmann reports relationships with the following endoscopic companies: Apollo Endosurgery, Biogen, Boston Scientific, CDx Diagnostic, Cook Medical, CSL Behring, Dr Falk Pharma, Endo Tools Therapeutics, Erbe, Fujifilm, Hitachi, Janssen-Cilag, Medwork, Norgine, Nutricia, Olympus, Ambu, Ovesco Endoscopy, Servier Deutschland, and US Endoscopy; has received grants from Amgen, Bayer, Dr. Falk Pharma, MSD, Novartis Olympus, and Roche; has received honoraria from Covidien, Dr Falk Pharma, and Olympus; and has received consultation fees from Boston Scientific, CDx Diagnostics, Covidien, Erbe, Lumendi, Norgine, and Olympus.

eP071V Endoscopic management of Mirizzi Syndrome: a case series

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DOI 10.1055/s-0043-1765356

Abstract Text Mirizzi Syndrome (MS) is defined by common duct compression by an impacted stone in the cystic duct or neck of the gallbladder. These are considered difficult biliary stones (DBS). We present our experience successfully treating 18 cases of MS either with sequential strategy (ERCP procedures followed by surgery) or ERCP advanced procedures alone (papiloplasty, use of stents or cholangioscopy-assisted intraluminal lithotripsy). ERCP is gold standard for the diagnosis of MS and a high effective tool in its treatment, ensuring biliary decompression, reducing inflammation, adhesions and anatomical changes, surgery associated comorbidities and, in certain cases, achieving the resolution of the condition.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP072 A Comparative Trial of Capsule Endoscopy versus Deep Enteroscopy as First Diagnostic Test for Suspected Small Bowel Bleeding

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DOI 10.1055/s-0043-1765357

Aims Capsule endoscopy (CE) or Deep Enteroscopy (DE) are recommended in the evaluation of suspected small bowel bleeding (SSBB). It remained uncertain which of this test should be done as first test with better diagnostic yields. We conducted a comparative trial of patients presented with SSBB using CE or DE as a first diagnostic test. In addition, we wanted to find out if DE could provide therapeutic intervention once small bowel lesions were found.

Methods 104 hospitalized patients with Iron Deficiency Anaemia (IDA) and acute haemoglobin drop and/or overt GI bleeding were recruited. All had prior OGD and colonoscopy with normal findings, or no bleeding lesion followed by CE or DE. Both CE and DE were performed by trained endoscopists with at least ten years of endoscopic experience.

Results 58 and 46 patients had CE and DE respectively. In the CE cohort, mean age was 65.2 (Range 19-95). 30 and 28 had IDA and overt GIB respectively. In the DE cohort, mean age was 51.0 (Range 20-84). 28 and 18 had IDA and overt GIB respectively. Small bowel lesions were detected in 8 patients (14%) in CE versus 31 patient (67%) in DE. 3 patients had incomplete CE due to technical failure and 2 had capsule retention. 2 had suspicious CE findings only. Enteroscopic haemostasis was successful in 6 patients and jejunal polypectomies were performed in 2 patients [1-3].

Conclusions Our study showed that DE is the preferred first diagnostic test in the evaluation of SSBB. In contrast, CE can be done as screening for small bowel lesion in IDA with no GI presentation. DE enabled confirmation of suspected small bowel lesions and therapeutic intervention.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Estevinho MM, Pinho R, Fernandes C et al. Diagnostic and therapeutic yields of early capsule endoscopy and device-assisted enteroscopy in the setting of overt GI bleeding: a systematic review with meta-analysis. *Gastrointest Endosc* 2022; 95: 610

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eP073V Peroral antegrade cholangioscopy-guided conversion of dysfunctional choledochoduodenostomy to transpapillary drainage via trans-LAMS (Back to the original anatomy)

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DOI 10.1055/s-0043-1765358

Abstract Text Introduction: A 75-year-old woman with biliary obstruction due to borderline pancreatic neoplasm is drained by EUS-guided choledochoduodenostomy after failed ERCP. Several admissions for recurrent biliary obstruction episodes (sump syndrome type). A conversion of the transmural to transpapillary drainage is proposed [1-2]

Technique: A Rendezvous trans-LAMS using a cholangioscope is attempted. The cholangioscope is anterogradely advanced, facilitating the guidewire insertion until reach the duodenal lumen. Retrograde biliary cannulation is performed and transpapillary drainage with a partially covered metal stent is successfully placed. Lastly, dysfunctional LAMS is withdrawn.

Conflicts of interest J.B. Gornals: Consultant of Boston Sc; Grant Research, Fujifilm M. Puigcerver-Mas, A. Garcia-Sumalla, D. Luna-Rodriguez, S. Maisterra, C. F. Consiglieri, S. Quintana-Carbó: Declare that have no conflict of interest.
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eP074 Combination of mucosa-exposure device and computer-aided detection for Adenoma Detection during Colonoscopy: a randomized trial

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DOI 10.1055/s-0043-1765359

Aims Both CADE- assisted and Endocuff-assisted colonoscopy have shown to increase adenoma detection. We investigated the performance of the combination of the two tools to detect colorectal neoplasias during colonoscopy in a multicenter randomized trial.

Methods Men and women undergoing colonoscopy for CRC screening, polyp surveillance, or clinical indications at 6 centers. Patients were assigned (1:1) to colonoscopy with the combinations of CADE (GI-Genius, Medtronic) and a mucosal exposure device (Endocuff Vision –ECV-, Olympus) or to CADE-assisted colonoscopy alone (control group). All detected lesions were removed and sent to histopathology for diagnosis. The primary outcome was adenoma detection rate (ADR). Secondary outcomes were adenomas detected per colonoscopy, advanced adenomas and serrated lesions detection rate, the rate of unnecessary polypectomies, and withdrawal time.

Results From July 1, 2021 to May 31, 2022, 1316 subjects were eligible for analysis (660 to the ECV group, 656 to control group). The ADR was significantly higher in the ECV group (49.6%) than in the control group (44.0%). Adenomas detected per colonoscopy were significantly higher in the ECV group (mean, 0.94 + 0.54) than in the control group (0.74 + 0.21). The two groups did not differ in term of detection of advanced adenomas and serrated lesions. There was no significant difference between groups in withdrawal time or proportion of subjects undergoing unnecessary polypectomies

Conclusions The combination of CADE and EndocuffVision during colonoscopy increases ADR and adenomas detected per colonoscopy without increasing withdrawal time.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP075 Computer assisted measuring of colorectal polyps (The CAMP Study)

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DOI 10.1055/s-0043-1765360

Aims Size of colorectal adenomas is one of the main factors in deciding the interval of follow-up colonoscopy. Up until now size is estimated by comparing the lesion to an instrument of known size (i.e. biopsy forceps), creating inaccurate size data. Aim of this study was to develop a computer program using machine learning algorithms to automatically assign polyps from colonoscopy videos to clinically relevant size categories.

Methods This was a prospective single-center study. During colonoscopy video data of 498 polyps was gathered. True size of polyps was found by measuring with a flexible millimetre scale held next to the polyp. An algorithm was used to detect the polyps in the video frames. Depth maps were created in order to measure polyp size objectively. Size categories calculated by the machine learning algorithm were then compared to true sizes.

Results The algorithm correctly identified 90.6% of lesions <5mm, 18.8% of lesions 5-9mm and 43.0% of lesions >9mm (sensitivity). Results showed an overall accuracy of 76.2% in attributing the correct size category to the measured video frames.

Conclusions We were able to develop a program to automatically put polyps in clinically relevant size categories in videos of colonoscopy. Next step will be to feed more video data into the program to further increase accuracy. Best results were shown in analysing polyps <5mm, which is the most important clinical size category regarding follow-up recommendations. Implementation into live endoscopy possibly in combination with a program for automated optical diagnosis could lead to a powerful supporting tool during colonoscopy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP076 The yield of next generation sequencing for atypical cells in diagnostic work up of suspicious biliary strictures

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DOI 10.1055/s-0043-1765361

Aims It is often difficult to correctly diagnose a suspicious biliary stricture. Biliary brushes and biopsies gain low cellular specimens and when cytopathological assessment is indecisive, additional sensitive diagnostic tests are lacking. Next generation sequencing (NGS) is an adjunctive diagnostic tool that may improve the diagnostic sensitivity. The aim of this study is to assess the added value of NGS for morphological classification of biliary brushes and biopsies in patients with suspicious biliary strictures.

Methods In this retrospective single-center cohort study between 2019-2022, patients with suspicious biliary strictures of which biliary specimens by brush or biopsy were obtained and on which NGS was performed, were included. Sensitivity and specificity of NGS were calculated for benign, atypical, suspicious for malignancy and malignant morphology. Final diagnosis of the suspi-

cious biliary strictures was defined on surgical resection specimens and autopsy, other endoscopic or percutaneous biopsies and/or clinical follow-up.

Results A total of 109 samples (94 brushes, 15 biopsies) in 106 patients were included. NGS was able to identify 42 of the 75 (56%) malignancies correctly. There were no false positive results. NGS had an overall sensitivity of 65% for brushes and 58% for biopsies, and specificity of 100% for both. This was consistent for all different morphological outcomes, as shown in (► **Table 1**).

Conclusions There is a significant additional yield of NGS in the setting of biliary strictures. NGS should only be used in patients in which the outcome is most valuable. However, in the future this will probably increase with more targeted therapy options and more sensitive NGS panels.

Conflicts of interest M.J. Bruno received research funding for industry initiated studies from Boston Scientific and Cook Medical. He received research funding for investigator initiated studies from Boston Scientific, Cook Medical, Pentax Medical, Interscope, Mylan and ChiRoStim. He is a consultant to Boston Scientific, Cook Medical, and Pentax Medical. The other authors declare no conflicts of interest.

	Brush - Sensitivity	Brush - Specificity	Biopsy - Sensitivity	Biopsy - Specificity
Benign	NA	1.00 [0.29 – 1.00]	-	-
Atypia	0.64 [0.41 – 0.83]	1.00 [0.85 – 1.00]	0.00 [0.00 – 0.60]	1.00 [0.16 – 1.00]
Suspicious for malignancy	0.67 [0.46 – 0.83]	1.00 [0.16 – 1.00]	0.88 [0.47–0.99]	1.00 [0.03 – 1.00]
Malignancy	0.60 [0.15 – 0.95]	NA	-	-

► Fig. 1

eP077 Hemostatic powder: A last resort in a delayed postsphincterotomy bleeding

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DOI 10.1055/s-0043-1765362

Aims A 72-year-old woman presented in the emergency department due to epigastric pain and vomiting. She had type 2 diabetes mellitus and arterial hypertension.

Methods Analytically she presented elevated inflammatory parameters and liver enzymes, and a total bilirubin of 6 mg/dL. Abdominal ultrasound identified cholelithiasis and endoscopic ultrasound reported a 5.8mm stone distally in the biliary tract. She was admitted due to acute cholangitis and underwent endoscopic retrograde cholangiopancreatography (ERCP) with sphincterotomy. Before successful removal of the stone, there was a mild self-limited bleeding after sphincterotomy. An adrenaline flush of the biliary tract was performed.

Results The following day, the patient presented melena and a 3 g/dL drop in hemoglobin but remained hemodynamically stable. A side-viewing duodenoscopy was performed and we were able to identify an adherent clot and an oozing bleed near the pancreatic duct opening. The clot was removed with a snare after adrenalin injection and 3 endoclips of 8mm were positioned in the superior portion of the sphincterotomy but bleeding persisted. We opted to apply a hemostatic powder (Hemospray) with successful bleeding cessation. Four days later, the hemoglobin increased and no blood loss was reported, the patient was released. There was no recurrence or suspected biliary blockage.

Conclusions Postsphincterotomy bleeding is a serious adverse ERCP event although its estimated incidence is below 2%. We intend to alert to the potential role of hemostatic powder as an alternative resort in difficult cases, offering a high rate of immediate hemostasis, around 97% in overall upper gastrointestinal bleedings.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP078V Standard endoscopy at its best: removal of an eroded gastric band

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DOI 10.1055/s-0043-1765363

Abstract Text Gastric band surgery is a common method of bariatric surgery. Although complications are rare, one type is intragastric band erosion. Here we present this type of complication which was successfully managed and removed endoscopically with standard endoscopy. A 48-year-old female was referred to our endoscopy unit complaining of epigastric pain, nausea and weight regain six years after gastric band placement. An upper GI endoscopy performed earlier confirmed the partially eroded band in the stomach. The video illustrates the endoscopic removal of the eroded gastric band.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP079 Advance Imaging Techniques Associated with EUS vs EUS-guided Sampling in the Differential Diagnosis of Solid Pancreatic Tumors: Analysis of a Prospective EUS Registry

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DOI 10.1055/s-0043-1765364

Aims To evaluate the accuracy of EUS-guided advanced imaging (AI) vs EUS-guided sampling for the evaluation of malignancy in solid pancreatic tumors (SPT)

Methods Patients who underwent EUS-guided sampling and EUS-guided AI (elastography and contrast enhancement) for the evaluation of SPT between 2017 and 2020 were identified from a prospective EUS registry. EUS was performed with linear Pentax echoendoscopes and Hitachi systems. EUS-guided sampling was performed either with cytological and/or histological standard needles. Pancreatic tumors were classified as malignant at advanced imaging when presenting a blue predominant elastographic pattern and a hypo-hypervascular pattern after contrast administration. Results are shown as median, range and percentage. The distributions of the validity and safety parameters of the diagnostic methods were constructed using bootstrap methodology and t-student comparative analysis

Results 89 patients were included (41 males, median age 70 years (59-78). Median size of SPT was 29mm (20-37). 48 lesions were located in pancreatic head, 25 at body, 9 at tail, and 7 at uncinate process. Final diagnosis was 71 malignant tumor (78.9% adenocarcinomas; 8.4% NET G2-3; 12.7% others) and 18 benign lesion (72.2% NET G1; 27.8% inflammatory masses). Sensitivity, specificity, and overall accuracy for malignancy was 85.9%, 100%, and 88.7% for EUS-guided sampling, and 97.2%, 94.4%, and 96.6% for advanced imaging. Sensitivity and overall accuracy was superior for advanced imaging (p < 0.001).

Conclusions EUS-guided AI by represents a very useful tool for the detection of malignancy in SPT, being AI especially useful in cases of negative or inconclusive biopsy.

Conflicts of interest Advisor for Pentax Medical, Fujifilm, Boston Scientific, Mediglobe

eP080 EUS-guided Sampling for the Pathological Diagnosis of Solid Liver Lesions

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DOI 10.1055/s-0043-1765365

Aims to analyze the diagnostic yield of EUS-guided sampling for the pathological evaluation of solid liver lesions (SLL)

Methods Patients who underwent EUS-guided sampling for the evaluation of SLL between January 2013 and March 2021 were identified from a prospective EUS registry. Procedures were performed with linear Pentax echoendoscopes and Hitachi systems. Sampling was performed with cytological (FNA) and/or histological (FNB) needles. Samples were analyzed on-site by an expert pathologist (FNA) or collected in a cytological solution and processed for histological evaluation (FNB). Data are shown as mean and/or percentage. Indications, number of needle passes, complications and diagnostic accuracy were evaluated (► **Table 1**).

Results 114 patients (mean age 68.05 years (32-88), 64 males) were included. Mean size of SLL was 25.0 mm (9-60 mm). Cytological needles were used in 43 cases (37.7%) [22-gauge in 19 cases and 25-gauge in 24]; and histological needles in 71 (62.3%) [19-gauge in 4 cases, 20-gauge in 5, 22-gauge in 37 and 25-gauge in 25]. An adequate sample for the cyto-histological evaluation was obtained in all cases (100%) after a mean of 1.4 passes (range 1-4). In 27 cases (23.7%) FNA samples were evaluated on-site by the pathologist. Sensitivity, specificity, and overall accuracy of EUS-guided tissue sampling was 89.1%, 100% and 89.5%, respectively. There was only one minor complication (self-limited mild bleeding at the puncture site).

Conclusions EUS-guided tissue acquisition is a safe and accurate method for the cyto-histological diagnosis of SLL.

Conflicts of interest Advisor for Pentax Medical, Fujifilm, Boston Scientific, Mediglobe

Final Diagnosis	Number of cases (correct diagnosis base on EUS-guided tissue acquisition)
Metastasis:	
adenocarcinoma of unknown origin	6 (6)
pancreatic cancer	43 (39)
gastric cancer	8 (8)
lung cancer	15 (14)
neuroendocrine tumor	11 (10)
colo-rectal cancer	8 (7)
biliary tumor	9 (7)
others	7 (4)
Liver cell carcinoma	3 (2)
Benign lesions	4 (4)

► **Table 1**

eP081 Prevalence of musculoskeletal injuries in endoscopy staff

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DOI 10.1055/s-0043-1765366

Aims To assess the prevalence and risk factors of ergonomic injuries in endoscopy personnel.

Methods This is a case-control study including 150 health professionals who answered a questionnaire on google forms. The cases are the staff in endoscopy unit and the controls are the staff belonging to services that do not perform endoscopic or surgical procedures. The questionnaire includes 3 items: epidemiological data, endoscopy unit activity for endoscopists, and presence of musculoskeletal injuries. Data were collected using Excel and statistical analysis was performed using SPSS V 22.0 software.

Results 150 health professionals completed the form, including 90 endoscopy staff (60%) and 60 non-endoscopy staff (40%). Among endoscopists (cases), the prevalence of musculoskeletal injuries was 73% compared to 30% among non-endoscopists (controls) ($p=0.001$). Among endoscopists, the most frequent complaints were lumbar pain (34%), shoulder pain (32%) and wrist pain (30%). These events caused a postponement of the endoscopy program in 33% of cases and a social impact in 34% of cases. Among the endoscopists, half of the participants had spent more than 10 years in the endoscopy unit and 47% spent 2-3 days per week. Twenty-seven percent of the endoscopists performed interventional procedures, including 22% who performed ERCP. Statistical analysis showed that the factors predisposing to musculoskeletal damage were: performing more than 5 colonoscopies per week ($p=0.001$), more than 4 hours per day in the endoscopy unit ($p=0.001$), performing ERCP ($p=0.042$), abdominal compression during colonoscopy ($p=0.001$).

Conclusions endoscopists should be aware of good joint ergonomics to avoid muscular injury

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP082 Hemospray use in pancreaticobiliary related gastrointestinal haemorrhage: Outcomes from an international multicentre registry

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DOI 10.1055/s-0043-1765367

Aims Hemospray is a topical hemostatic powder used endoscopically for the management of acute gastrointestinal bleeding (GIB). There is limited data regarding the use of haemostatic agents in the context of pancreaticobiliary (PB) related GIB. Here we evaluate outcomes from a multicentre international Hemospray registry.

Methods Data was collected prospectively from 18 sites between January 2016 to January 2022 from patients who received Hemospray. Cases where Hemospray was used in the context of PB related GIB were extracted for sub-group analysis (► Table 1).

Results 20 patients received Hemospray in the context of PB related GIB. There was an immediate hemostasis rate of 95% (19/20) across the whole cohort with 2 cases of rebleeding. No adverse events were reported in the registry. Outcomes according to aetiology of PB related GIB are listed below in Table 1. One patient re-bleed following hemospray application for GIB post sphincterotomy, this patient successfully underwent radiological embolisation.

Conclusions Hemospray used in the context of PB related GIB can offer high rates of immediate hemostasis with acceptable re-bleed rates. This could potentially offer a bridge to more definitive therapy such as radiological embolisation of offending vessels. The small case numbers impact the generalisability of our results but to our knowledge this is the largest case series reporting outcome data following Hemospray use in PB related GIB.

Conflicts of interest MH has received speaker fees from Cook medical/VS receives honorarium for professional services from Pentax Europe, Medtronic Ltd, Astra Zeneca and Pharmacosmos/RJH receives educational grants to support research infrastructure from Medtronic Ltd. Cook endoscopy (fellowship support), Pentax Europe, C2 therapeutics, Beamline diagnostic, and Fractyl Ltd.

	GIB post sphincterotomy N=8	GIB Post ampullectomy N=4	Fistula related GIB N=3	Haemorrhagic pancreatitis N=2	GIB post hot saline stent deployment N=2	GIB Post biliary stent removal N=1
Immediate hemostasis	7/8 (88%)	4/4 (100%)	3/3 (100%)	2/2 (100%)	2/2 (100%)	1/1 (100%)
Re-bleed rate	1/7 (14%)	0/4 (0%)	1/3 (33%)	0/2 (0%)	0/2 (0%)	0/1 (0%)
30 day mortality	1/8 (12.5%)	0/4 (0%)	0/3 (0%)	1/2 (50%)	0/2 (0%)	0/1 (0%)
Context of Hemospray use	Rescue 1/8 (13%) Combination 1/8 (13%) Monotherapy 1/8 (13%)	Rescue 2/4 (50%) Combination 1/4 (25%) Monotherapy 1/4 (25%)	Rescue 1/3 (33%) Combination 0/3 (0%) Monotherapy 1/3 (33%)	Rescue 0/2 (0%) Combination 1/2 (50%) Monotherapy 1/2 (50%)	Rescue 0/2 (0%) Combination 0/2 (0%) Monotherapy 0/2 (0%)	Rescue 0/1 (0%) Combination 1/1 (100%) Monotherapy 0/1 (0%)

► Table 1

eP083 Development of a combined deep learning model for automatic detection of multiple gastrointestinal lesions in device-assisted enteroscopy using convolutional neural networks

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DOI 10.1055/s-0043-1765368

Aims Device-assisted enteroscopy (DAE) allows deep exploration of the gastrointestinal (GI) tract, combining its diagnostic ability and the application of endoscopic therapy. Recently, a large number of studies have been published regarding the application of artificial intelligence (AI) to different endoscopic modalities. We aimed to develop a combined panenteric convolutional neural network (CNN) to identify multiple gastrointestinal lesions using DAE images (► Table 1).

Methods We developed a combined CNN-based system based on 250 DAE exams performed at a single center. A total of 12870 images from different

segments of the GI tract (stomach, small bowel and colon) were included, 2668 images containing protruding lesions, 1547 hematic residues, 1450 angioectasias, 633 containing ulcers/erosions. The remaining images showed normal mucosa (n = 6139) and other findings not classified elsewhere (e.g. xanthomas, stenosis and diverticula, n = 433). Training and validation datasets were built using 80% and 20% of the full dataset, respectively [1–3].

Results The model had an overall sensitivity of 96.2%, specificity 95.0%, positive and negative predictive values of 95.6% and 95.7%, respectively, and an overall accuracy of 95.6%. The AUC was 0.99. The results for specific lesions are summarized in table 1.

Conclusions The authors have developed a pioneer combined deep learning system for automatic detection of a wide range of lesions across the different segments of the gastrointestinal tract. The development and application of these technologies DAE techniques may complement current existing panenteric techniques (e.g. capsule endoscopy), providing more accurate diagnosis and directed treatments.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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	Blood	Angioectasia	Ulcers/erosions	Protruding lesions
Sensitivity	93.8%	92.1%	96.4%	96.6%
Specificity	100%	97.9%	98.9%	98.9%
PPV/NPV	100%/98.6%	90.8%/98.2%	88.5%/99.6%	97.3%/98.5%
Accuracy	98.8%	96.8%	98.7%	98.2%

PPV – positive predictive value; NPV – negative predictive value

► Table 1 Performance of the convolutional neural network for the detection of specific findings.

eP084 Estimating the environmental impact of endoscopic activity at a tertiary center: a pilot study

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DOI 10.1055/s-0043-1765369

Aims Healthcare services are a major waste generator, with significant environmental impact. The growing number of endoscopic procedures, frequently using single-use disposable instruments, generates a large amount of waste. To date, the reality of waste production at large European endoscopy centers is unknown. This study aimed to estimate the amount of waste due to endoscopic practice at a tertiary center in Portugal.

Methods We calculated the mass (in Kg) of residues generated during a period of 5 days at an endoscopy service, including residues produced at endoscopy suites, pre and postprocedure areas and during endoscope reprocessing. Residues were categorized as non-dangerous (groups I/II), of biologic risk (group III) and specific hazardous hospital residues (group IV). The production of residues which were separated for recycling/valorization (paper/card and plastic) was also quantified [1–3].

Results A total of 241 endoscopic procedures were performed. A total of 443.2 kg of waste (22.6 kg groups I/II, 266.9 kg group III and 3.9 kg group IV) was generated, most at the endoscopy suite (73.1%). For each endoscopic procedure, 1.8 kg of waste was generated. Individual protection equipment accounted for 32.1 kg (7.3%) of waste. Of the total mass of waste only 17.8% (79 kg) were separated for recycling/valorization (► Fig. 1).

Waste production (per group)

Groups I/II, kg (%)	31.7 (7.2)
Group III, kg (%)	328.6 (74.1)
Group IV, kg (%)	3.9 (0.9)
Recycled, kg (%)	79.0 (17.8)

► Fig. 1

Conclusions We performed a pioneer quantitative analysis of the waste production from a large-volume endoscopy service. These analyses are essential to accurately apprehend the reality of each center, which is a pivotal step to implement effective measures to improve resource utilization and more sustainable practices.

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP085 Is Endoscopic Retrograde Cholangiopancreatography safe in cirrhotic patients: A systematic review and meta-analysis

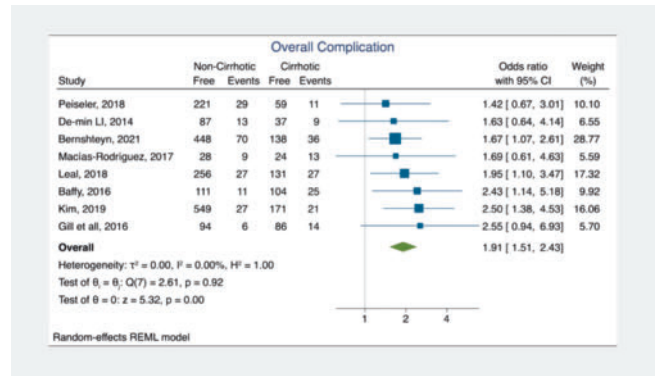
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DOI 10.1055/s-0043-1765370

Aims This study aims to objectively determine if cirrhotic patients are at increased risk of adverse events and mortality in comparison to those without cirrhosis.

Methods PubMed, Scopus, Embase, and Cochrane databases were searched for studies comparing post-ERCP complication in cirrhotic versus non-cirrhotic patients. Pooled Odds Ratio (OR) and 95% confidence intervals (CI) for dichotomous data related to post-ERCP clinical events were calculated utilizing a random effects model. The cirrhotic patient group was determined to be the reference group; hence, OR > 1 indicates an increased odds of complications in the cirrhotic group (► Fig. 1).



► Fig. 1

Results Eight studies with 2892 patients who underwent ERCP were identified. Overall, post-ERCP complication rate was significantly higher in cirrhotic patients as compared to controls with pooled OR of 1.91 (95% CI: 1.51–2.43, $P < 0.001$, $I^2 = 0.00\%$). Post-ERCP hemorrhage was higher in cirrhotic patients than non-cirrhotic patients with OR of 2.21 (95% CI 1.47–3.33; $p < 0.01$; $I^2 = 0\%$). Cholangitis was also higher in cirrhotic patients than the control group with OR 2.13 (95% CI 1.30–3.49; $p = 0.00$; $I^2 = 0\%$). However, no significant difference of post-ERCP pancreatitis or perforation was found between cirrhotic and non-cirrhotic patients with OR of 1.22 (95% CI 0.78–1.89; $p = 0.39$; $I^2 = 0\%$) and 1.07 (95% CI 0.38–2.97; $p = 0.90$; $I^2 = 0\%$), respectively.

Conclusions it is imperative to perform a thorough peri-procedural risk-benefit assessment taking into consideration the extent of liver disease prior to proceeding with ERCP in this patient population, as doing so may improve clinical outcomes.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP086 Applicability of Child-Turcotte-Pugh score in anticipating post-ERCP adverse events in cirrhotic patients: A Systemic Review and Meta-analysis

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DOI 10.1055/s-0043-1765371

Aims We aim to determine the utility of Child-Turcotte-Pugh (CTP) classification system in predicting the risk of post-ERCP adverse events in patients with pre-existing cirrhosis.

Methods PubMed, Embase, and Cochrane databases were searched to identify studies that compared post-ERCP adverse events in cirrhotic patients based on CTP score. Utilizing the restricted maximum likelihood method, random-effect model was used to pool the estimates of odds ratios (ORs) and corresponding 95% confidence intervals (CIs) for data related to post-ERCP clinical events. The CTP class C patient group was determined to be the reference group; hence, OR > 1 indicates an increased odds of complications in the CTP class C patient group.

Results A total of 7 studies with 821 patients who underwent 1068 ERCPs were identified. CTP class C patient population was at higher risk of overall post-ERCP adverse events than those with Class A or B and this difference was statically significant with OR of 2.87 (95% CI: 1.77–4.65, $P = 0.00$, $I^2 = 0.00\%$) and 2.02 (95% CI: 1.17–3.51, $P = 0.01$, $I^2 = 47.17\%$), respectively. Furthermore, CTP class B patients had a statistically significant higher complication rate than CTP class A patients with a pooled OR of 1.62 (95% CI: 1.04–2.53, $P = 0.03$, $I^2 = 3.06\%$). However, there was no statistical significant difference comparing the specific types of complications across the three groups including bleeding, pancreatitis, cholangitis, perforation, or mortality.

Conclusions Our study shows that CTP class is a reliable system in predicting complications of ERCP in cirrhosis patients. Hence, ERCP should be performed with extreme caution in patients with CTP class C.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP087 Different biopsies handling protocols in digital single-operator cholangioscopy for indeterminate biliary strictures: a retrospective analysis of a single tertiary center

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DOI 10.1055/s-0043-1765372

Aims Indeterminate biliary strictures (IDBS) represents a diagnostic challenge. Digital single-operator cholangioscopy (D-SOC) allows biopsies of biliary lesions under direct visualization [1]. However, the diagnostic yield of D-SOC is still suboptimal [2], and the optimal specimen processing technique remains unclear. In our analysis, we retrospectively compared three different tissue processing methods to determine the optimal strategy (► **Table 1**).

	Protocol 1	Protocol 2	Protocol 3
Number of D-SOC	12	38	20
Mean n. biopsies/D-SOC	10 (range 6-20)	7.8 (5-12)	7.7 (5-11)
Rate biopsies missed	37%	6%	0.7%
Rate of inadequate biopsies	Not applicable	17%	10%

► **Table 1**

Methods All 57 consecutive patients who underwent 70 D-SOC biopsies for IDBS between May 2017 and June 2022 were considered. Three were the biopsy handling protocols for off-side evaluation: in protocol 1, at least 6 biopsies were collected in a single container with 10% buffered formalin solution for fixation; in protocol 2, at least 5 biopsies were oriented on cellulose acetate filter and all were collected in a single container; and in protocol 3, at least 5 biopsies were individually oriented on cellulose acetate filter and each placed in its own separate container. For each protocol, the number of biopsies missed and the percentage of specimens judged adequate for subsequent pathologist evaluation were calculated.

Results In 10 patients of the first group one or more specimens were lost, accounting for a total of 37% of the biopsies. This percentage was significantly lower with the second protocol (6%) and really low in the last group (0.7%). Protocol 3 was also better than protocol 2 in adequacy of specimens to the pathologist's assessment.

Conclusions To separate specimens individually reduces the number of biopsies missed and appears to increase the adequacy of the sample obtained during D-SOC for IDBS.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP088V Endoscopic suturing with Ovestitch in “Candy cane syndrome” after oesophago-jejunosomy: a case report

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DOI 10.1055/s-0043-1765373

Abstract Text A 39-year-old woman with advanced gastric adenocarcinoma underwent chemotherapy and subsequent gastrectomy with termino-lateral oesophago-jejunal anastomosis. Two months later, patient developed Candy-cane syndrome. At oesophagogastroduodenoscopy, a straight and fast access to afferent limb pouch was observed, with difficult access to efferent loop. After Argon Plasma Coagulation, the opposite borders of afferent limb were put closed using endoscopic suturing system Apollo Overstitch SX with double wire charge and passage of running points, reducing the filling of cul-de-sac and allowing a direct transit through efferent limb. Patient resumed stepwise oral feeding and her symptoms improved [1–4].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP089 EUS guided fine needle fragmentation (EUS-FNF) for the treatment of difficult biliary stones; a novel therapeutic indication for EUS. A case report with images

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DOI 10.1055/s-0043-1765374

Aims This case reports a novel therapeutic indication for EUS in difficult biliary stone disease.

Methods A lady (65y) presented with abdominal pain and jaundice. The liver enzymes, ALP and bilirubin were elevated. MRCP showed Mirizzi's syndrome Type I. An impacted stone in the cystic duct was obstructing a very short common hepatic duct and the intrahepatic biliary tree. A cholangiogram in the laparoscopic cholecystectomy with intraoperative ERCP confirmed the MRCP finding. The surgeon was unable to mobilize the stone out of the cystic duct. A transcystic guide wire was provided to an ERCPst and a balloon was introduced to the cystic duct by the ERCPst. The stone could not be mobilized to the common bile duct. The cystic stone was left and the bile duct was stented with a plastic stent.

Results Two weeks later, the patient was readmitted for an elective stone extraction with cholangioscopy and lithotripsy. Based on a personal experience of fragmenting a pancreatic stone using FNA-needle, the endoscopist decided to start with EUS.

The stone in the cystic duct was found on EUS and confirmed by a cholangiogram using a 25G EUS-FNA needle. The stone was fragmented by the needle and flushed into the common hepatic duct. Only an ERCP and a balloon cath-

eter were then used to extract the stone in the same session. No further stones were observed on the final cholangiogram.

Conclusions EUS guided fine needle fragmentation (EUS-FNF) seems to be an easy, effective and cheap new therapeutic indication for EUS.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP090 Counter-traction with the ProdiGI Traction Magnet facilitates colorectal ESD and can improve patient outcomes

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DOI 10.1055/s-0043-1765375

Aims Endoscopic submucosal dissection (ESD) is a challenging procedure for resection of early neoplasias. Countertraction can improve access to the submucosal layer and facilitate ESD. We aimed to evaluate the ProdiGI Traction magnet for colorectal ESD.

Methods Colorectal lesions resected with assistance of the traction magnet device were evaluated. The primary endpoint was technical and clinical success of ESD including en bloc and R0 resection. Secondary endpoints were complication and recurrence rates.

Results Fifteen colorectal ESD procedures (11x rectum, 3x sigmoid, 1x transverse colon) with the Traction Magnet Device were performed. All procedures were technically feasible and none was discontinued during implementation of the method. Attachment of the clips to the mucosal flap and the intestinal wall, respectively, was feasible without detachment of the clips or the magnets. En Bloc and complete resection rates were 100%, respectively. No immediate or delayed complications related to the procedure occurred, while on follow-up endoscopy at 3 months, residual/recurrent tumor was not detected in any of the patients (n = 0, 0,0%).

Conclusions The ProdiGI Traction magnet can assist endoscopists and improve outcomes during colorectal ESD.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP091 Searching for a reference range of pancreatic strain histogram EUS elastography: a pilot study

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DOI 10.1055/s-0043-1765376

Aims Strain histogram (SH) EUS-elastography is a semi-quantitative elastographic technique. Defining a pancreatic SH reference range would be useful for early diagnosis of pancreatic parenchymal diseases, mainly early chronic pancreatitis (CP). The study aimed at determining a SH reference range in patients without clinical, radiological, and ultrasonographic evidence of pancreatic disease.

Methods In this single-center cross-sectional study, all patients aged ≥ 18 yo undergoing pancreatic EUS were consecutively enrolled. Exclusion criteria were: alcohol abuse; pancreatic mass or IPMN; CP diagnosis; previous or current acute pancreatitis. Mean strain histogram (SH) was calculated by machine integrated software in a region of interest placed on the pancreatic parenchyma. Three measures for each pancreatic segment (head, body and tail) were performed. Baseline clinical variables were recorded [1–7].

Results Ninety-five patients (44% male, mean age 65 years) were finally enrolled. Choledocholithiasis was both the most frequent indication (67%) and diagnosis (32%). Normal distribution of SH was verified using the Shapiro-Wilk test ($p = 0.001$). Overall pancreatic mean SH (O-SH) was 116, with a 95%CI of 97–137. No differences between pancreatic segments were found. O-SH showed a negative correlation with age ($r = -0.36$, $p < 0.001$). Patients ≥ 65 yo had significantly lower O-SH values than younger patients (114 vs. 122, $p = 0.008$). No other correlations with clinical variables were found.

Conclusions SH provides a real-time assessment of pancreatic stiffness and may be a useful tool in clinical practice for the identification of early parenchymal disease, particularly early CP.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP092 Diagnostic yield of gastric biopsies of the incisura angularis in patients with gastric intestinal metaplasia in a low incidence gastric cancer region

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DOI 10.1055/s-0043-1765377

Aims Patients with gastric intestinal metaplasia (GIM) can be stratified into non-extended and extended GIM. In patients with extended GIM surveillance is recommended based on a higher risk of neoplastic progression. The updated Sydney protocol is the most widely accepted biopsy system to identify extended GIM, and includes, besides biopsies of the corpus and antrum also biopsies of the incisura angularis (IA). However, data on the added value of additional biopsies of the IA in patients with premalignant gastric lesions is scarce. Our aim is to evaluate the yield and added value of the updated Sydney protocol in a low incidence gastric cancer region.

Methods This prospective cohort study included patients with GIM who underwent follow-up endoscopies. Biopsies were taken according to the updated Sydney protocol.

Results In total 177 patients with GIM were included. Median age was 62 (IQR 20) and 55.9% was male. During follow-up seven (4.0%) patients developed gastric neoplasia after a median follow-up of 37 months (IQR 38). At baseline 50 patients were classified as extended (28.2%), of which only one patient showed neoplastic progression. The other six patients that showed progression were classified as non-extended. At baseline, angular GIM was found in 97 (54.8%) patients of which six showed neoplastic progression; three patients had GIM in antrum and IA (40.7%) and the other three had GIM in IA and corpus (27.1%).

Conclusions In patients with gastric intestinal metaplasia angular GIM might be a better risk factor for neoplastic progression than the extension of GIM.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP093V Ileal B lymphoma of the marginal zone EUS guided fine needle biopsy diagnosis, Case report

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DOI 10.1055/s-0043-1765378

Abstract Text Primary small intestinal lymphoma is a rare condition, accounting for 15–20% of gastrointestinal lymphomas. Small intestinal marginal zone B cell lymphoma (MZL) of mucosa-associated lymphoid tissue (MALT) is an even less common disease accounting for about 15–30% of primary small bowel lymphomas. There are only a few reported cases of ileal MALT lymphomas, which are more frequent in symptomatic patients and with advanced endoscopic findings. This is the first reported case of EUS-guided biopsy diagnosis of an ileal lymphoma.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP094V Endoscopic intermuscular dissection of rectal T1 cancer with adaptive traction: use of the additional loops to improve traction directly on the circular muscular layer

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DOI 10.1055/s-0043-1765379

Abstract Text Endoscopic R0 resection rate for T1 cancers harboring focal invasive patterns is far from perfect on the vertical margin. Recently, Endoscopic intermuscular dissection (EID) was described to get a free vertical margins by dissecting deeper, between the two muscular layers. This approach is feasible in the rectum where the two layers are thick combines the benefits of maintaining the rectal longitudinal muscle and dissecting deeper to get clear free vertical margins when deep submucosa is invaded. To facilitate intermuscular space exposure, as described in ESD, traction seems useful. We describe here an adaptive traction device, (A-TRACT, Hospices Civils de Lyon, France), that could be helpful in this situation [1–5].

Conflicts of interest All authors are co-founder of the company A-TRACT device & co

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eP095 Predictive Validity of the Toronto IBD Global Endoscopic Reporting (TIGER) Score for Clinical Outcomes and Quality of Life Among Ulcerative Colitis and Crohn's Disease Patients

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DOI 10.1055/s-0043-1765380

Aims The recently developed TIGER endoscopy score was established to reliably describe disease severity as it can be utilized for both Ulcerative Colitis (UC) and Crohn's disease (CD) patients.¹ The aim of this study was to assess the TIGER score's ability to predict outcomes regarding complications and quality of life of both UC and CD patients.

Methods A cohort of 78 patients (UC n = 40, and CD n = 38) followed for 52-week in multiple visit prospective study. Each visit included patient interviews, disease specific quality of life IBD disk questionnaire, blood draws for C-reactive protein (CRP) mg/dL, and fecal calprotectin (FC) µg/g. Baseline total TIGER endoscopy scores were dichotomized as <100 (remission-mild activity) or ≥100 (moderate-severe activity) [1].

Results At baseline UC patients with TIGER scores ≥100 had significantly higher CRP, FC, and IBD disk. In CD patients, at baseline, compared to patients with TIGER scores <100, patients with TIGER scores ≥100 had significantly higher CRP, FC, and IBD disk. In terms of hospitalizations, at 52-weeks, patients with baseline TIGER scores ≥100 had a significantly increased likelihood of being hospitalized (p < 0.02). In terms of side effects, at 52-weeks, compared to patients with baseline TIGER scores <100, UC and CD patients with baseline TIGER scores ≥100 had a significantly increased likelihood of reporting a side effect from both medications and disease complications (p < 0.006).

Conclusions The TIGER endoscopic score demonstrates significant association with CRP, FC and disease-specific quality of life IBD disk questionnaire in both UC and CD patients.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Zittan E, Steinhart AH, Aran H et al. The Toronto IBD Global Endoscopic Reporting [TIGER] Score: A Single, Easy to Use Endoscopic Score for Both Crohn's Disease and Ulcerative Colitis Patients. *J Crohns Colitis* 2022; 16: 544–553

eP096 ERCP for the initial management of malignant biliary obstruction – real world data on 596 procedures

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DOI 10.1055/s-0043-1765381

Aims To evaluate outcomes after ERCP as first-line management in patients with malignant biliary obstruction (MBO) in a real-life setting.

Methods Retrospective observational study of patients who underwent ERCP as the first-line management of MBO at Oslo University Hospital between 2015 and 2021. Primary endpoint was decrease in bilirubin to <80 µmol/L within 30 days after ERCP. Secondary endpoints were technical success (TS) of ERCP, complications and overall mortality.

Results A total of 596 patients were included (55% male), median age 70 years. ASA score was ≥III in 67% of patients. The most common cancers causing MBO were pancreatic cancer (n = 308, 52%), metastatic lesions (n = 118, 20%) and cholangiocarcinoma (n = 95, 16%). In the 30 days follow-up period, 347 patients

(58%) achieved the primary endpoint of clinical effect. Overall TS was 76% with higher rates in the distal extrahepatic (80%) and perihilar (69%) groups compared to those with intrahepatic (40%) or multiple level (49%) MBOs. Reintervention was performed in 161 patients (27%). Complications occurred in 91 patients (15%); post-ERCP pancreatitis in 9%, cholangitis in 5%, bleeding in 0.1% and perforation in 0.1% of patients. Most complications were of minor/moderate severity (81%). Overall mortality was 33% within the first 90 days. Patients deceased by the end of the study period had median survival of 146 days (range 1-2582 days).

Conclusions This study shows that ERCP has a high rate of clinical effect and technical success in the management of both distal extrahepatic and perihilar MBO. Our data indicate that ERCP is a valid option in the first-line management of MBO.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP097 Abdominal desmoid tumours after colectomy and ileorectal anastomosis versus proctocolectomy and ileal pouch-anal anastomosis in familial adenomatous polyposis

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DOI 10.1055/s-0043-1765382

Aims Desmoid tumours (DT) are amongst the most common causes of death in patients with familial adenomatous polyposis (FAP). DT risk might be related to the type of colectomy. We aimed to compare colectomy and ileorectal anastomosis (IRA) to proctocolectomy and ileal pouch-anal anastomosis (IPAA) in terms of DT development.

Methods We performed an international historical cohort study in FAP patients who underwent IRA or IPAA between 1961 and 2020. Primary outcome was the incidence of abdominal DT, including mesenteric, retroperitoneal and abdominal wall DT. Patients with DT diagnosis before or at colectomy were excluded. Time to DT was considered censored at an eventual secondary proctectomy after IRA.

Results 780 patients were included: 472 with IRA and 308 with IPAA (median follow-up 21 and 17 years, respectively). DTs were diagnosed in 61 IRA patients (13%) and 59 IPAA patients (19%). Median time from surgery to DT diagnosis was 5 years (IQR 2-13). In patients without DT, 36% had ≥ 1 negative abdominal CT/MRI scans >5 years after surgery. The proportion with DT at 5 and 10 years was 7.4% and 8.8% after open IRA and 16.4% and 19% after open IPAA (log-rank, $p=0.002$). These estimates were 5.2% and 9.9% after laparoscopic IRA and 7.7% and 9.5% after laparoscopic IPAA ($p=0.8$). When adjusting for sex, mutation site, DT family history and surgical approach (open versus laparoscopic), IPAA remained associated with DT development.

Conclusions In FAP, the risk of abdominal DT was higher after IPAA than after IRA in this historical cohort study.

Conflicts of interest Maria Pellise: endoscopic equipment on loan of Fujifilm, research grant from Fujifilm, ZiuZ and Casen Recordati, consultancy for Fujifilm, Olympus and speakers' fee from Olympus, Medtronic and Fujifilm. Barbara A.J. Bastiaansen: speakers' fee from Olympus, Tillotts Pharma AG and Ovesco Endoscopy AG. Rodrigo Jover: consultancy for CPP Pharmaceuticals. Francesc Balaguer: FB has received an honorarium for consultancy from Sysmex and CPP Pharmaceuticals, speaker's fees from Norgine, and editorial fee from Elsevier. Michal Kaminski: speaker's fee from Olympus, Fujifilm, Boston Scientific,

Medtronic, AlfaSigma, IPSEN, consultancy fee from Olympus, ERBE, AlfaSigma. John G. Karstensen: JGK received honorarium from SNIPR BIOME and AMBU and speakers fee from Norgine. Luigi Ricciardiello: consultancy and unrestricted research grant from SLA Pharma AG. Evelien Dekker: endoscopic equipment on loan of Fujifilm and Olympus, research grant from Fujifilm, consultancy for Fujifilm, Olympus, Tillots, GI Supply, CPP-FAP, PAION and Ambu, and speakers' fee from Olympus, Roche, GI Supply, Norgine, IPSEN, PAION and Fujifilm.

eP098 Peptic stenosis: state of the art

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DOI 10.1055/s-0043-1765383

Aims The aim of this study is to describe the epidemiological, endoscopic and evolutionary aspects of peptic stenosis (PS) in our context.

Methods This is a retrospective study realized over a period of 18 years [January 2002-August 2020], including all patients diagnosed as PS. The dilatation was performed by Savary-Gilliard candles or hydrostatic balloons.

Results We included 137 patients. The mean age was 50.2 years [16-88 years] with a male predominance (sex ratio M/F of 1.15). one hundred and twenty-nine dilatation procedures were performed. A history of chronic gastroesophageal reflux disease (GERD) was present in 77% of the patients with a mean duration of 6 years [1-17 years]. The reason behind consultation of our patients was dysphagia in all cases; regurgitation in 77% and pyrosis in 25%. The upper endoscopy showed an impassable stenosis in 74.5% and a surmountable stenosis in 25.5% of the cases. The stenosis located in the lower third of esophagus in 75% of the cases, with an average extent of stenosis of 3.5 cm. All our patients were put on proton pump inhibitor (PPI). Dilatation was made by candles with progressive diameters in 63% and by balloons in 37.2%. The evolution was marked by a clinical improvement in 64.7% of the patients with recurrence in 30% requiring other endoscopic dilatation sessions. No complications were reported.

Conclusions Peptic stenosis is a benign complication of GERD. Endoscopic dilatation associated with PPI is the optimal treatment with good functional results.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP099 The Toronto IBD Global Endoscopic Reporting (TIGER) Score and its Ability to Predict Outcomes Regarding Steroid and Biologic Use in Ulcerative Colitis and Crohn's Disease Patients – A Construct Validation Study

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DOI 10.1055/s-0043-1765384

Aims The recently developed TIGER endoscopy score was established to reliably describe disease severity as it can be utilized for both Ulcerative Colitis (UC) and Crohn's disease (CD) patients [1]. The aim of this prospective study was to assess the TIGER score's ability to predict UC and CD patient outcomes including biologic and steroid use.

Methods A cohort of 78 patients with UC (n=40) and CD (n=38) was followed for 52 weeks in a multiple-visit prospective study. Each visit included patient interviews using the IBD disk questionnaire, blood draws for C-reactive protein (CRP) mg/DL, and fecal calprotectin (FC) $\mu\text{g/g}$. An endoscopy assessment was performed at baseline. Steroids, biologics, and dose escalations were recorded.

Baseline total TIGER scores were dichotomized as < 100 points (remission-mild endoscopic activity) or ≥ 100 points (moderate-severe endoscopic activity).

Results At baseline, UC and CD patients with TIGER scores ≥ 100 had significantly positively correlated with CRP mg/DL ($p < 0.001$), FC µg/g ($p < 0.001$), and IBD disk score ($p < 0.001$).

At 52 weeks, UC and CD patients with baseline TIGER scores ≥ 100 had a significantly increased likelihood of requiring steroid use ($p < 0.0001$). Moreover, UC and CD patients with baseline TIGER scores ≥ 100 both had a significantly increased likelihood of being prescribed or having to subsequently escalate biologic therapy ($p < 0.0001$).

Conclusions The TIGER endoscopy score demonstrates a significant association with CRP, FC, and IBD disk in both UC and CD patients. Moreover, the TIGER endoscopy score ≥ 100 points can be utilized as a measure to predict the likelihood of requiring certain therapeutic interventions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Zittan E, Steinhart AH, Aran H et al. The Toronto IBD Global Endoscopic Reporting [TIGER] Score: A Single, Easy to Use Endoscopic Score for Both Crohn's Disease and Ulcerative Colitis Patients. *J Crohns Colitis* 2022; 16: 544–553

eP100 Plummer-Vinson syndrome: 50 new cases

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DOI 10.1055/s-0043-1765385

Aims The aim of our work is to report the epidemiological, endoscopic and evolutionary profiles of the patients followed in our unit for Plummer-vinson syndrome (PVS)

Methods This is a retrospective descriptive study, realized over a period of 10 years [January 2010-August 2020] during which 50 cases of PVS were collected.

Results The average age of our patients was 46 years [14 to 77 years], with a female predominance (sex ratio M/F of 0.28). The reason for consultation was dominated by high dysphagia in all cases. In addition, 5 cases of upper gastrointestinal hemorrhage with unexplored dysphagia were recorded. Biologically, iron deficiency anemia was found in the majority of patients (80% of patients (N = 40)). The upper endoscopy was performed in all patients and showed oesophageal webs in all patients. Ninety-six percent of the patients benefited from endoscopic dilatation, either by balloon (76%) or by candles (24%). A single session was sufficient in 82% of cases. Iron supplementation was prescribed for all patients with anemia. The evolution was good in 96% of the cases, while one case of ENT tumor after 10 years of evolution and one case of esophageal tumor diagnosed after dilatation were recorded.

Conclusions The PVS is a rare entity; however, it's associated with a proven risk of cancer of the esophagus and oro-pharyngeal region requiring endoscopic surveillance. The Treatment is based mainly on iron supplementation and endoscopic dilatation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP101V Endoscopic Subserosal Dissection (ESSD) of a symptomatic giant gastric subepithelial tumor (SET)

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DOI 10.1055/s-0043-1765386

Abstract Text A 46-year-old woman underwent EGD for iron deficiency anemia, during which a 70-mm SET was observed in the gastric cardia. It was decided to perform Endoscopic Subserosal Dissection (ESSD). Stepwise submucosal dissection was performed to create a small flap. Four clips were placed to grasp a snare to the lesion in order to achieve an appropriate multipoint strong countertraction. At this point, dissection could be performed easily, with good visualization. The defect was closed by a combination of Endoloop and clips with no adverse events. Histopathologic assessment confirmed a leiomyoma.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP102 Safety and Efficacy of Full-Thickness Resection Device in Resection of Upper Gastrointestinal Subepithelial Tumor Compared to Conventional Endoscopic Methods

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DOI 10.1055/s-0043-1765387

Aims Full-Thickness Resection Device (FTRD) is a novel resection method that allows removal of non-lifting lesion. Its safety and efficacy in removal of subepithelial tumor (SET) in upper gastrointestinal tract are not well studied. This study aimed to compare the safety and efficacy of FTRD and conventional endoscopic (CE) resection techniques.

Methods This is a retrospective review of prospectively maintained cohort of patients with upper gastrointestinal SET who underwent endoscopic resection by either FTRD or CE techniques. Primary outcomes were technical success rate and R0 resection rate.

Results A total of 18 patients were included (8 in FTRD and 10 in CE group). Tumor characteristics and demographic data were similar in both groups except for patients in CE group were significantly younger than the FTRD group ($p = 0.005$). There was no statistical difference in technical success rate ($P = 0.87$), R0 resection rate ($P = 0.68$), en bloc resection rate ($P = 0.68$), or adverse event rate ($p = 0.4$) between FTRD and CE group. Adverse events of FTRD included bleeding and esophageal mucosal injury. Procedural time was substantially shorter in FTRD group (28.75 ± 16.3 vs. 149.80 ± 79.6 min; $p = 0.003$) while the hospitalization length was similar (2.5 ± 2.3 vs 2.3 ± 1.2 ; $p = 0.83$). There was 0% recurrence at 1-year follow-up among both groups (▶ **Table 1**).

Conclusions Compared to CE, FTRD achieved comparable safety and efficacy with significantly shorter procedural time.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	FTRD (n=8)	CE (n=10)	p-value
Size (means±SD)	1.6±0.6	2.5±1.2	0.08
technical success rate	7 (87.5%)	9 (90%)	0.87
R0 resection rate (%)	7 (87.5%)	8 (80%)	0.68
Adverse event rate	2 (25%)	1 (10%)	0.28
Procedural time	28.75±16.3	149.80±79.6	p=0.003*

▶ **Table 1** Tumor characteristics.

eP103 EUS-guided splenic and hepatic subcapsular collection drainage using lumen apposing metal stents

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DOI 10.1055/s-0043-1765388

Aims EUS guided cystogastrostomy using lumen-apposing metal stents (LAMS) is a recognised method of draining pancreatic fluid collections. LAMS

have been used to drain other abdominal collections, however hepatic and splenic subcapsular collections are commonly drained using a percutaneous approach. We present a retrospective series of EUS guided drainage of these collections using LAMS, assessing the technical and clinical outcome.

Methods We performed a retrospective review of all patients who underwent LAMS insertion for hepatic and splenic subcapsular collection drainage at a major UK HPB centre between March 2021 and September 2022. Demographic and clinical details were recorded. Primary outcome measures were technical and clinical success. Technical success was defined as safe deployment of the stent. Clinical success was defined as improvement in patients' clinical condition, inflammatory markers and imaging (reduction of collection < 50% or < 5 cm in size after two weeks). All patients were followed up and all adverse events were recorded as a secondary outcome measure. 20 mm x 10mm diameter LAMS (Axios, Boston Scientific) were used in all patients. The average size of the collection was 7.9cm. All patients underwent contrast enhanced CT scan pre and post EUS intervention.

Results A total of 11 patients underwent LAMS insertion for hepatic (2) and splenic (9) subcapsular collection. The majority of patients were male and the mean age was 63. Technical and clinical success was 100% with no major complication.

Conclusions In patients with hepatic or splenic subcapsular collection, EUS guided LAMS drainage has a high rate of clinical success with an excellent safety profile.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP104V Haemostatic matrix for treating intra-collection bleeding after EUS-drainage and endoscopic necrosectomy of a WOPN in a cirrhotic patient

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DOI 10.1055/s-0043-1765389

Abstract Text A 45-years-old male with alcoholic liver cirrhosis developed an infected WOPN(8.9 cm x 3 cm) filled with 90% of necrotic material, so EUS-drainage with a lumen apposing metal stent(10x20 mm) was performed followed by the first necrosectomy. A spurting bleeding suddenly occurred from a vessel of the wall during necrosectomy and haemostasis was immediately achieved by using a metal clip. At the fourth necrosectomy session, we achieved a complete cleaning of the cavity, but a wide area of the wall had an oozing bleeding, so we decided to apply a haemostatic agent into the cavity, next to the damaged wall, which immediately stopped to bleed. After further 48 hours we removed the LAMS.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP105 Endoscopic stricturoplasty with linear stapler for the treatment of refractory rectal anastomotic stricture

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DOI 10.1055/s-0043-1765390

Aims Anastomotic stricture is a common complication after colorectal resections. Although most of the strictures are either asymptomatic or respond well to endoscopic balloon dilation, in the case of refractory stenoses an operative treatment is usually necessary.

Aim of our study is to evaluate a new endoscopic method of anastomotic stricturoplasty with the use of a linear stapler for the treatment of refractory rectal anastomotic strictures.

Methods We retrospectively analysed all patients that underwent an endoscopic anastomotic stricturoplasty with the use of a linear stapler in our department between 2004 and 2021. All procedures were performed under sedation in the endoscopy suite. A linear stapler was inserted transanally parallel to the endoscope. One branch of the stapler was inserted through the stricture in the colon oral to the anastomosis and the other branch was placed in the blind loop of the colon distal to the anastomosis. The stapler was fired under endoscopic control, cutting through this septum and thus widening the lumen of the anastomosis.

Results We performed 12 procedures in a total of 10 patients presenting with a refractory rectal anastomotic stenosis with a suitable anatomy (end-to-side or side-to-side anastomosis). In 9 cases the procedure was technically successful. 2 patients required a second session. All patients with a technically successful procedure showed no complications and no recurrence of the stenosis in follow-up.

Conclusions Based on our findings we conclude that the endoscopic anastomotic stricturoplasty with the use of a linear stapler is an efficient method for selected patients with refractory anastomotic stenosis and a suitable anatomy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP106 Successful treatment of hemorrhagic chronic radiation proctopathy with a novel self-assembling peptide

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DOI 10.1055/s-0043-1765391

Aims Chronic radiation proctopathy is common manifestation of the epithelial damage to the rectum caused by radiation therapy. Despite its uncertain long-term efficacy and side effects occurring in up to 20% of patients, because of the lack of effective topical agents argon plasma coagulation of teleangiectasias is currently treatment of choice [1].

Here we present case of a patient with hemorrhagic chronic radiation proctopathy successfully treated with a novel self-assembling peptide.

Methods A 75-year-old patient was referred to our Centre for spontaneous rectal bleeding and debilitating pain four months following radiation therapy for prostate cancer.

A lower endoscopy was performed revealing 30 mm large rectal ulcer with surrounding teleangiectasias. We decided to try treatment with novel self-assembling peptide gel Purastat (3D-Matrix Europe Ltd., France). Gel was applied through catheter covering the whole surface of ulcer and surrounding mucosa with teleangiectasias. Patient underwent 4 sessions of therapy (weeks 0 – 3 mL (Fig. 1), 3 – 4 mL (Fig. 2), 6 – 1 mL (Fig. 3), 12 – 1 mL (Fig. 4)).

Results On each subsequent endoscopy there was obvious regression of endoscopic finding as well as significant improvement in patient's symptoms. On week 12 patient was symptom free and there was no ulceration left and we applied 1 mL of Purastat on small persisting teleangiectasias. On week 24 (Fig. 5) rectoscopy revealed complete mucosal healing.

Conclusions A novel self-assembling peptide as a topical agent without known side effects might present a promising tool in treating patients with hemorrhagic chronic radiation proctopathy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Zhong QH, Liu ZZ, Yuan ZX et al. Efficacy and complications of argon plasma coagulation for hemorrhagic chronic radiation proctitis. World J Gastroenterol 2019; 25 (13): 1618–1627

eP107 Incidence of Post-ERCP Pancreatitis in Patients Receiving Diclofenac Versus Indomethacin Prophylaxis

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DOI 10.1055/s-0043-1765392

Aims ERCP carries a 3% – 15% risk of post-ERCP pancreatitis (PEP). Rectal indomethacin has been shown to reduce the risk of PEP. Rectal diclofenac has also been used to reduce risk of PEP (in part due to the 20-fold price increase for rectal indomethacin in the United States) although its efficacy is less studied. Our aim was to compare the incidence of PEP after indomethacin vs diclofenac prophylaxis.

Methods We reviewed all available ERCP cases at our institution where 100 mg rectal diclofenac was administered (n = 304). In addition, 300 consecutive ERCP cases between 5/2018 and 2/2019 with administration of 100 mg rectal indomethacin were reviewed. The incidence of PEP was compared between diclofenac and indomethacin groups. Risk factors (age, female sex, history of PEP or pancreatitis, biliary stenting during procedure, sphincterotomy) and protective factors (prophylactic pancreatic duct stenting) were compared in both groups (► **Table 1**).

Results There was no significant difference in mean age (57.2 vs 55.8, $p = 0.3127$) or sex (female 54.3% vs 63.7%, $p = 0.8805$) between the diclofenac and indomethacin groups, respectively. A total of 26 patients (8.6%) in the diclofenac group and 25 patients (8.3%) in the indomethacin group developed PEP ($p = 0.9228$). No significant differences in known PEP risk or protective factors were seen between both groups (table 1).

Conclusions No difference was observed in the incidence of PEP between patients receiving diclofenac or indomethacin. These findings support prior reports suggesting similar efficacy between medications. Given the price increase of indomethacin in the United States, diclofenac appears more cost-effective and thus the likely preferred choice.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Diclofenac group (N=304)	Indomethacin group (N=300)	Total (N=604)	p-value ^a
History of prior PEP	33 (10.9%)	44 (14.7%)	77 (12.7%)	0.1602
History of pancreatitis	123 (40.5%)	134 (44.7%)	257 (42.5%)	0.2959
Biliary stent placement or exchange	122 (40.1%)	121 (40.3%)	243 (40.2%)	0.9597
Sphincterotomy during procedure	167 (54.9%)	171 (57.0%)	338 (56.0%)	0.6091
Prophylactic pancreatic duct stent placement	85 (28.0%)	76 (25.3%)	161 (26.7%)	0.4653

^achi-square test

► **Table 1**

eP108V Complete intra-peritoneal maldeployment of a LAMS during EUS-GEA for mGOO: rescue retrieval with peritoneoscopy through NOTES

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DOI 10.1055/s-0043-1765393

Abstract Text A 75-year-old female developed malignant gastric outlet obstruction (mGOO) so we scheduled an endoscopic ultrasound (EUS) in order to create a gastro-entero-anastomosis (GEA), but a complete intra-peritoneal maldeployment of the LAMS occurred while performing free-hands technique. We then decided to achieve the EUS-GEA with a second but successful attempt and after that, we moved to endoscopically manage the retrieval of the in-

tra-abdominal LAMS using the NOTES (Natural Orifice Transluminal Endoscopic Surgery), performing a trans-gastric peritoneoscopy with the retrieval of the LAMS and closing the iatrogenic gastric leak with three metallic clips. No extra-luminal diffusion of contrast was seen at the fluoroscopy [1].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Sanchez-Ocana R, Penas-Herrero I, Gil-Simon P, de la Serna-Higuera C, Perez-Miranda M. Natural orifice transluminal endoscopic surgery salvage of direct EUS-guided gastrojejunostomy. *VideoGIE* 2017; 2 (12): 346–348

eP109 Could the novel Spiral pedal kick the balloon in managing small bowel disorders?- a single centre experience

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DOI 10.1055/s-0043-1765394

Aims Small bowel evaluation is easier now with Balloon enteroscopy and Novel motorised power spiral enteroscopy. We hereby compared these two technologies in a retrospective study.

Methods We did a retrospective study of 125 patients in our centre comparing single balloon enteroscopy and Novel motorised power spiral enteroscopy. Primary outcomes were diagnostic and therapeutic success rates. Other outcomes included procedure length, depth of maximal insertion, rate of complete enteroscopy, and adverse events.

Results A total of 125 patients had undergone small bowel evaluation over last 4 years (2019-2022). Fifty patients (35 males) underwent Single balloon enteroscopy and 75 (47 males) underwent Power spiral enteroscopy. The technical success, diagnostic and therapeutic success rates were similar. However, procedure time was significantly shorter for power spiral group (60 + /- 15 min. Vs. 80 + /- 15 min.) and with greater depth of insertion (300 + /- 50 cm vs 250 + /- 50 cm). The total enteroscopy was possible in 25% of patients with power spiral enteroscopy. The scope was steadier with Power spiral enteroscopy. Complications with both techniques was less. However, power spiral is relatively contraindicated in post-surgical status and in small built patients, where balloon came to rescue in 3 patients.

Conclusions Single balloon and Power spiral enteroscopy achieved similar diagnostic and therapeutic outcomes but Power spiral scored over balloon enteroscopy in terms of greater depth of insertion, shorter procedural time, rate of total enteroscopy and stability of scope. However both have their limitations from making us reach the light at end of tunnel more easily. For now it's too premature to say that power spiral with pedal is going to kick the balloon.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP110 Scoring systems in clinical small-bowel capsule endoscopy: Ohmiya comorbidity score and SSB Capsule Dx score as useful tools to identify patients with potential small bowel bleeding lesions

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DOI 10.1055/s-0043-1765395

Aims With the purpose of increasing the accuracy of capsule endoscopy (CE) to predict the diagnosis of significant SB lesions in patients with suspected midgut bleeding (MBG), the Suspected Small Bowel Bleeding (SSB) Capsule Dx score and the Ohmiya score have been recently devised. We aimed. We aim to evaluate the diagnostic yield of these scores

Methods We performed a retrospective analysis at our hospital from January 2015-October 2022. Patients were excluded if they had any prior capsule examination studies, capsule study was incomplete, unappropriate endoscopic workup with upper endoscopy and colonoscopy or inadequate bowel preparation. Data was collected by consulting the clinical records.

Results 202 patients were included, being 60.7% female with an average of 65.5 years old. Most patients had capsules deployed in an outpatient setting (88.2%) for the indication of occult gastrointestinal bleeding (78.0%). Cutoff of ≥ 0 points in *SSB Capsule Dx score* and ≥ 1 points in *Ohmiya comorbidity score* was associated with significant SB hemorrhagic lesions ($p < 0.004$ e $p < 0.001$, respectively). Sensitivity and specificity for the different scoring system cutoff values were 75,6%/55,3% with the *SSB Capsule Dx score* and 76,9%/52% with *Ohmiya Score*. *SSB Capsule Dx score* and *Ohmiya score* presented a moderate and reasonable diagnostic acuity respectively with regards to identification of clinically significant lesions (AUC = 0,790 and e 0,645 respectively) [1–3].

Conclusions Despite the moderate and reasonable diagnostic acuity, these scores showed a relatively high sensitivity and may be useful tools to help in prioritize access to CE.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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[3] Rosa B, Margalit-Yehuda R, Gatt K et al. Scoring systems in clinical small-bowel capsule endoscopy: all you need to know!. *Endosc Int Open* 2021; 9 (6): C6

eP111 Endoscopic management of malignant hilar strictures- A Tertiary centre experience: Successes or Failures

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DOI 10.1055/s-0043-1765396

Aims Review endoscopically placed metal stents in the management of malignant hilar strictures in terms of technical (correct placement of self-expandable metal stents (SEMS)) and clinical success (bilirubin drop > 50%), safety, and outcomes.

Methods This was a retrospective review of our comprehensive ERCP database of patients treated between October 2014 and July 2022.

Results 81 patients had hilar strictures. In 80 cases, stent deployment was successful (bilateral UC-SEMS in 47, single SEMS in 27 and 6 plastic stents). The final analysis included patients who received either bilateral UC-SEMS or unilateral SEMS (crossing the liver hilum). We had 58 patients (47 with bilateral UC-SEMS and 11 with unilateral SEMS). Bismuth (B) I was found in 4 patients, B II in 21, B III in 12, and B IV in 21. Complications occurred in 8.6% of patients: 3 with pancreatitis and 2 with Cholangitis. More than 50% bilirubin improvement (12 patients were excluded due to lack of data) was observed in 33 of 46 patients (71.7%). 7 patients (15.2%) improved their bilirubin levels (> 30%); however, this was less than 50%. The reintervention rate was: 12 (20.6%) required reintervention due to stent blockage; 3 (25%) had tumour ingrowth and further stents successfully deployed; and 9 (75%) had debris successfully cleared. The 30-day survival rate was 81.0% (5 unilateral, 42 bilateral), while the one-year survival rate was 22.4% (1 unilateral, 12 bilateral).

Conclusions Endoscopic SEMS deployment in hilar strictures has a high technical and clinical success rate. We also noted a 100% success rate for reintervention. In expert hands, this should be considered the primary modality of biliary drainage rather than primary PTC.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP112 Endoscopic Resection of Foregut Neuroendocrine Tumours (NET)

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Aims To analyse outcomes of endoscopic management (EMR/ESD/EFTR) of foregut (stomach/duodenum) NET given limited literature.

Methods Retrospective analysis of 52 patients undergoing endoscopic resection of histologically confirmed Foregut NET at tertiary hospital over 10 years (August 2012 to July 2022) (► **Table 1**).

Results Mean age-58.75 years (range 33-82). Total N = 84 NETs in 52(M-38) patients. Location- duodenal bulb (59,70.2%), descending duodenum (17,20.2%), stomach (8,9.5%). Presentation – Incidental-46(88.4%) carcinoid syndrome = 6(11.6%). Mean tumour size -11.7mm(7-50). All NET arising from sub-mucosa on EUS (3 suspicious for deep invasion) No metastatic disease (CECT/DOTA) in all. Resection – ESD(36,42.8%),EMR-L(20,23.8%), EMR(10,11.9%) EFTR(9,10.7%),Hybrid ESD(6,7.1%),EMR-C(3,3.5%). Multiple lesions – largest resected by ESD, others – EMR-L or ligation only. Mean procedure time-74 mins(40-220) AEs – Muscle defect = 8, all asymptomatic, primary closure; bleed = 1- endotherapy. En bloc resection = 64/64(100%) with tumour free margin in all; Remaining 20 had ligation only. Histology – G1 = 57(89.1%), G2 = 7(10.9%). Median follow up-21 months(IQR 1-85). Recurrence = 2(3.8%), (1 – LN + treated by depo octreotide – complete regression; 1 – new 6cm D2 lesion, vascular invasion(PET)- PRRT-partial response (Asymptomatic). New lesions = 3(5.7%) patients – FTRD = 1, lost = 2.

Conclusions Endoscopic resection is safe and effective for management of small foregut NETs with low recurrence rates. Further large studies are needed to validate this data.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Characteristics		Number	Percentage
Patients (n=52)	Male	38	73.1
	Female	14	26.9
Location (n)	Duodenal bulb	59	70.2
	Descending Duodenum	17	20.2
	Stomach	8	9.5
Endoscopic procedure (n)	ESD	36	42.8
	EMR-L	20	23.8
	EMR	10	11.9
	EFTR	9	10.7
	Hybrid ESD	6	7.1
	EMR-C	3	3.5
Duration of follow up	Months (IQR)	21 (6-85)	
Follow-up (n)	Recurrence	2	3.8
	New lesion	3	5.7
	Disease free	47	90.5

► **Table 1** Characteristics of endoscopically treated Foregut NETs.

eP113V Endoscopic submucosal resection with adaptative traction device: a new strategy to facilitate resection in lesions with a suspicion of deep focal invasion

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DOI 10.1055/s-0043-1765398

Abstract Text ESD is potentially curative for T1 colorectal cancer under certain conditions. Is it currently being studied for colonic lesions displaying a focal (< 15 mm) deep invasive pattern (FDIP), as classified with Sano's and Kudo's patterns. A Sano IIIb or Kudo Vn predict a focal invasion > 1000 µm and need surgical treatment, whereas < 1000µm are considered curative resections. An important challenge regarding diagnostic ESD is the frequent fibrosis encoun-

tered. We believe that the strong traction provided by an adaptive traction device (A-TRACT), could be particularly helpful in these procedures.

Conflicts of interest All authors are co-founders of A-TRACT device & co

eP114 Effects of add-on devices in screening colonoscopy outcomes: a systematic review and meta-analysis

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DOI 10.1055/s-0043-1765399

Aims Add-on devices, including Endocuff, Endocuff Vision, EndoRings and Wingcap, placed on the distal tip of the colonoscope have been manufactured to unfold the colonic mucosa and provide a thorough view of the lumen leading to higher detection of precancerous lesions. We performed a systematic review and meta-analysis to evaluate the performance of these devices among individuals undergoing screening colonoscopy.

Methods We performed literature searches in MEDLINE and Cochrane Library for randomized-controlled trials (RCTs) published as full papers in English language evaluating add-on-devices-assisted versus standard colonoscopy (SC). The primary outcome of the study was the adenoma detection rate (ADR). The effect size on study outcomes was calculated using random effect model and it is shown as RR(95%CI).

Results We identified seven studies enrolling a total of 5863 patients. Two of them evaluated the first generation Endocuff device; three the Endocuff Vision device, one study the EndoRings and one study the Wingcap add-on device. Overall, use of add-on-devices was associated with increased ADR compared to SC [45.9% vs. 41.0%; RR(95%CI) = 1.18(1.02-1.36); I² = 79%]. Data from four studies did not reveal any difference in terms of AADR and SADR between add-on-devices and SC [RR (95%CI) = 1.01(0.80-1.27); I² = 56% and RR (95%CI) = 1.09(0.86-1.37); I² = 25%, respectively].

Conclusions Add-on-devices-assisted colonoscopy increases adenoma detection rate compared to standard colonoscopy among individuals undergoing screening colonoscopy procedures.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP115 The Endoscopic Mega Plication Procedure (EMPP). Prospective Study of the Primary Obesity Surgery Endoluminal (POSE) with Double G-Lix Procedure for treatment of Obesity. Safety and effectiveness at three-month follow-up

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DOI 10.1055/s-0043-1765400

Aims The Endoscopic Mega Plication procedure (EMPP) involves a novel pattern of full-thickness gastric body plications to shorten and narrow the stomach using the IOP platform (POSE) with 33 mm G-Prox and durable snowshoe anchor pairs and two G-Lix simultaneously to achieve larger folds and reduce the number of plications per procedure. Our prospective trial examined the safety and durability of EMPP in adults with obesity.

Methods Adults with obesity grade I and II underwent EMPP in our center. Primary outcomes were safety, durability of plications at 3, 12 and 24 month follow-up and the cost effectiveness of the technique. Safety will be determined by the incidence of any serious adverse events reported either by the subject or observed by the investigator, relating to the procedure either peri-procedurally or in the follow-up period. All adverse events will be documented.

Secondary outcomes were percent total body weight loss (%TBWL) and proportion of patients achieving >5% TBWL at 12 months.

Results 10 patients (60% female; mean age, 45 ± 9.7 years; mean body mass index, 37 ± 2.1 kg/m²) were enrolled. This procedure used an average of 10 ± 2 suture anchor pairs, with a mean duration of 20 ± 7 minutes, and was technically successful in all subjects. 3-month follow-up: no serious adverse events occurred [1–2].

Conclusions The follow-up of these first three months seems to show that the EMPP (POSE technique with double G-Lix) is safe, durable and cost-effective, but it is necessary to complete the long-term follow-up and carry out studies with a larger sample.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] JirapinyoMD MPH, Christopher C, Thompson MD Comparison of distal primary obesity surgery endoluminal techniques for the treatment of obesity. Gastrointestinal Endoscopy Volume 96, Issue 3, September 2022; Pages 479–486

[2] Lopez Nava G, Arau RT, Asokkumar R, Maselli DB, Rapaka B, Matar R, Bautista I, Espinos, Perez JC, Bilbao AM, Jaruvongvanich V, Vargas EJ, Storm AC, Neto MG, Abu Dayyeh BK. Prospective Multicenter Study of the Primary Obesity Surgery Endoluminal (POSE 2.0) Procedure for Treatment of Obesity. Clin Gastroenterol Hepatol 2022

eP116 Comparison of tissue adequacy between wet suction versus slow-pull technique in endoscopic ultrasound-guided fine needle biopsy in solid lesions: a randomized cross-over trial

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DOI 10.1055/s-0043-1765401

Aims Modifications to improve tissue yield in endoscopic ultrasound-guided fine needle biopsy (EUS-FNB) has been explored. Conflicting data exist for wet suction (WS) versus slow stylet pull (SP) for "pure" solid lesions and thus, we planned this study.

Methods This was a single tertiary care center, randomized, single-blind, cross-over trial including patients with "pure" solid lesions (lymph node excluded). Two passes each utilizing WS or SP in a randomized order were performed. Both cytological smears as well as cell block tissue qualities were assessed. The primary aim was tissue core yield. Secondary endpoints were technical success, specimen adequacy, cellularity, and blood contamination rates.

Parameters	Wet suction technique (n=85)	Slow-Stylet pull technique (n=85)	P value
Cytology - Optimum quantity of cells			
Overall	48 (56.5%)	58 (68.2%)	0.11
Cytology blood contamination score (mean ± SD)	2.35 ± 0.61	2.18 ± 0.58	0.05
Optimum Tissue core	51 (60%)	46 (54.1%)	0.44
Specimen adequacy	83 (97.6%)	83 (97.6%)	1.00

Abbreviations: EUS Endoscopic ultrasound, FNB Fine needle biopsy, SD standard deviation

► Fig. 1

Results Overall, 170 samples obtained from 85 patients (45 males; 52.9%) were included in the analysis, of which 114 (67.1%) were pancreatic lesions.

Primary outcome of tissue core > 550 µm was similar (60% vs 54.1%; $p = 0.44$). Technical success and specimen adequacy were similar in both the arms. For cytological smear quality, grade 3 cellularity was similar in the two arms ($p = 0.11$). However, blood contamination score showed a higher trend in the WS compared to SP ($p = 0.05$) in the overall cohort and significantly higher ($p = 0.047$) in the pancreatic lesion sub-group. For cell block tissue quality, grade 4 cellularity, the cellularity score as well as blood contamination scores were similar in the two arms.

Conclusions Overall, the SP and WS techniques performed comparably for solid lesions in terms of tissue integrity, cellularity, and specimen adequacy. Cytology smears showed higher blood contamination using WS, particularly for pancreatic lesions. (Trial Reg. number: CTRI/2022/02/040100) (► Fig. 1).

Outcome parameters comparing the tissue characteristics between the wet suction and slow-styles pull techniques of EUS-guided FNB

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP117V ERCP – “Water Exchange” as the Key for the Canulation of an Intradiverticular Papilla

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DOI 10.1055/s-0043-1765402

Abstract Text Male patient, 71 years old, admitted due to biliary acute pancreatitis. Severe cholangitis and sepsis developed, requiring urgent ERCP. Canulation was not possible due to an intradiverticular papilla. A second attempt at ERCP was performed. Papilla exposure using the water exchange method. Needle-knife pre-cut followed by canulation. Balloon sweeping retrieved pus. A plastic stent was placed. Favorable evolution. Localization of the papilla in a diverticulum lowers the canulation success rate. The use of the water exchange method consists in the introduction of water in the diverticulum to manipulate its position and allow the exposure of the papilla. We present an innovative technique to be used in the future [1–2].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Goenka KM, Rodge GA, Shah BB, Afzalpurkar S. Difficult Biliary Cannulation for Intradiverticular Papilla: Forceps Technique Revisited *Gastrointest. Endosc Surg J* 2021; 7: e191–e194

[2] Altonbary AY, Bahgat MH. ERCP in periampullary diverticulum: The challenge of cannulation. *World J Gastrointest Endosc* 2016; 8 (6): 282–287

eP118 Role of endoscopic ultrasound (EUS) in the characterization of solid pseudopapillary neoplasm (SPN) of the pancreas

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DOI 10.1055/s-0043-1765403

Aims The aim of this study was to outline the characteristic EUS findings of SPN and define its role in preoperative assessment.

Methods This was an international, multicenter, retrospective, observational study from 7 hepatopancreaticobiliary centers. All cases with postoperative histology of SPN were included in the study. Data collated included clinical, biochemical, histological and EUS characteristics.

Results 106 patients with the diagnosis of SPN were included (mean age 26 years; female dominance (89.6%). The mean size of the lesion was 53.7 mm (range 15 to 130 mm), with slight predominant location in the head of the pancreas (44/106; 41.5%). The majority of lesions presented as solid (59/106; 55.7%). Calcification was observed in only 4 (3.8%) cases. Main pancreatic duct dilation (MPD) was evident in 2 (1.9%) cases, while common bile duct dilation was observed in 5 (11.3%). Lesional stiffness was not diffusely increased on elastography with no increase in internal vascularity on doppler assessment. EUS-guided biopsy was performed using 3 types of needles: FNA (67/106; 63.2%), FNB (37/106; 34.9%), and Sonar Trucut (2/106; 1.9%) and the diagnosis was conclusive in 103 (97.2%) cases. 77 patients were treated surgically (91.5%) and the post-surgical SPN diagnosis was confirmed in all cases.

Conclusions SPN presented primarily as a solid lesion located in the head and body of the pancreas, without any specific EUS findings, including elastography and Doppler assessment. Our findings suggest that there are no pathognomonic EUS imaging features of SPN and biopsy remains the gold standard in establishing the diagnosis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP119V Teaching video of the different duodenojejunal junction patterns found during EUS-guided Gastroenterostomy according to the new Nutahara-Itoi classification

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DOI 10.1055/s-0043-1765404

Abstract Text The proximity between the gastric wall and the GI tract is a crucial aspect when performing an EUS-guided gastroenterostomy (GE). However, the classic and academical illustrations do not reflect the real morphological varieties that the duodenojejunal junction may adopt. A new classification has been proposed to better reflect that. Three different patterns are described, with differentiating traits that may have an impact in the complexity and safety of the EUS-GE. This video has been edited with the duodenojejunal junction fluoroscopy images obtained from our database (GESICA project, NCT 05128604) [1].

Conflicts of interest Joan B Gornals, consultant for Boston Scientific

[1] Nutahara D, Nagai K, Sofuni A, Tsuchiya T, Ishii K, Furuichi Y, Kitamura K, Itoi M, Miyazawa H, Itoi T. Morphological study of the gastrointestinal tract around the ligament of Treitz using upper gastrointestinal radiography: Fundamental data for EUS-guided gastrojejunostomy. *J Hepatobiliary Pancreat Sci* 2021; 28: 1023–29

eP120 Correlation between morphology and histology confirmed after endoscopic submucosal dissection (ESD) for Barrett's associated cancer

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DOI 10.1055/s-0043-1765405

Aims The risk of submucosal invasive cancer in Barrett's esophagus (BE) in correlation with morphology remains unclear. Our aim to describe differences between T1a and T1b cancers and to find predictors for deep invasion for lesions resected by endoscopic submucosal dissection (ESD) to better tailor treatment methods.

Methods In a retrospective analysis, all patients undergoing ESD for neoplastic BE between 2010 and 2022 at our referral center were analyzed, outside of a RCT starting in 2016. Included were patients with adequate lesion's morphology and post resection adenocarcinoma histology. Data recorded were participant demographics, morphology features, location, pre- and post-resection histology. Logistic regression analysis was used to identify variables independently associated with T1b cancer (► **Table 1**).

Results One hundred ten patients undergoing ESD for Barrett's associated adenocarcinoma (75 T1a, 35 T1b). T1b were larger (mean size 19.1 vs. 15.3; $p=0.017$), more likely to be ulcerated (45.7% vs. 25.3%; $p=0.03$) and had more high-risk features in the post resection histology, L1 (28.6% vs. 6.7%; $p=0.005$) and R1 (31.4% vs. 6.7%, $p=0.001$). No difference was observed in term of the Paris-classification and pre- resection histology status. After adjusting for independently features, lesion size ≥ 20 mm (OR, 2.68; 95% CI, 1.1-6.1, $p=0.01$) and ulceration (OR, 2.48; 95% CI, 1-5.7, $p=0.03$) were predictors for T1b.

Conclusions Barrett's associated T1b adenocarcinoma are more likely to be larger and ulcerated. These findings have implications for curative endoscopic resection techniques particularly en block resection.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Univariate logistic regression by using T1b (sm1-3) as a dependent variable.

	T1b		
	OR	95%CI	P-value
Size >2 cm	2.684	1.172-6.146	0.01
Polypoid/bulky (Ia+Ib)	0.492	0.130-0.870	0.29
Flat (IIa+IIb)	0.796	0.344-1.845	0.59
Depressed (IIc+III)	2.100	0.805-5.477	0.12
Ulceration	2.482	1.067-5.775	0.03

► **Table 1**

eP121 Investigating the influence of papilla morphology on ERCP outcomes – a systematic review and meta-analysis

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DOI 10.1055/s-0043-1765406

Aims Endoscopic Retrograde Cholangiopancreatography (ERCP) is the most commonly used therapeutic procedure for pancreaticobiliary disorders. However, how to achieve safe and effective cannulation is still a question since the risk of adverse events is still high. We aim to assess the influence of papilla morphology on ERCP outcomes and adverse events.

Methods Three medical databases were systematically searched from inception in October 2022. Studies detailing the cannulation process or the risk for

adverse events in the context of papilla morphology were included. The risk of bias assessment was performed using the Joanna Briggs Institute Critical Appraisal tool for studies reporting prevalence. PROSPERO registration number: CRD42022360894.

Results A total of 17 studies were eligible, and 15 were included in the quantitative synthesis. Based on the first validated intra- and interobserver classification by Haraldsson et al., we found that type IV ("creased or rigid") papilla had the highest risk for difficult cannulation, with a 46% (CI: 34%-59%) incidence rate. The incidence of cannulation failure was also the highest in type IV papilla. There was also a difference in cannulation time and the number of cannulation attempts between the different papilla types. In case of adverse events, post-ERCP pancreatitis happened the most frequently in the case of type II ("small") papilla (11%; CI: 8%-15%). The risk for post-ERCP bleeding and perforation was not different between the different papilla types.

Conclusions Our results suggest that specific morphologies of the papilla have a higher risk for difficult cannulation and cannulation failure and are more prone to adverse events.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP122 FIRST-STEP EUS-GUIDED GALLBLADDER DRAINAGE FOR JAUNDICE PALLIATION IN MALIGNANT DISTAL BILIARY OBSTRUCTION: A PROSPECTIVE PILOT STUDY

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DOI 10.1055/s-0043-1765407

Aims Biliary drainage using electrocautery lumen apposing metal stent (EC-LAMS) is currently a well-established procedure when ERCP fails. We performed a prospective study with a new EC-LAMS with the primary aim to assess clinical success rate of EUS-GBD as first approach to the palliation of MBO.

Methods Patients referred between February 2022 and August 2022 with jaundice (at least 5mg/dl bilirubin level) due to distal MBO secondary to unresectable tumours. Clinical success was defined as bilirubin level decrease > 15% 24 hours and > 50% 14 days after EC-LAMS placement.

Results 37 consecutive patients were enrolled. Jaundice was secondary to pancreatic adenocarcinoma in 23 patients (62.1%), ampullary cancer in 4 patients (10.8%), and cholangiocarcinoma in 10 patients (27.1%). CGS and CDS were performed in 15 (40.6%) and 22 (59.4%) patients, respectively. EC-LAMS placement was technically feasible in all of the patients (100%) and clinical success rate was 100%. 4 patient (10.8%) experienced adverse events (AEs), one bleeding, one food impaction and two cystic duct obstruction because of

the disease progression. No death stent-related were observed. The median overall survival was 4 months (95% CI 1-8).

Conclusions EUS-GBD with this new EC-LAMS allows a valid option in palliative endoscopic biliary drainage as first- step approach in patients with malignant jaundice unfit for surgery with high technical and clinical success and a low rate of AEs. A smaller diameter EC-LAMS should be preferred to avoid potentially food impaction, conditioning stent disfunction.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP123 Deep learning and device-assisted enteroscopy: automatic panendoscopic detection of ulcers and erosions

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Aims Device-assisted enteroscopy (DAE) has a significant role in approaching enteric lesions. Endoscopic observation of ulcers or erosions is frequent and can be associated with many nosological entities, namely Crohn's disease. Although the application of artificial intelligence (AI) is growing exponentially in various imaged-based gastroenterology procedures, there is still a lack of evidence of AI technical feasibility and clinical applicability of DAE. This study aimed to develop and test a multi-brand convolutional neural network (CNN) based algorithm for automatically detecting ulcers and erosions in DAE.

Methods A retrospective study was conducted for the development of a CNN, which was based on 260 multi-brand DAE exams (Fujifilm; N = 186; Olympus; N = 74). A total of 22976 images (gastric, esophageal, enteric, and colonic) were used, of which 678 images were labeled as ulcers or erosions after tripe-validation by expert endoscopists. Data was divided into a training and a validation set, the latter being used for the performance assessment of the model.

Results Sensitivity, specificity, PPV, and NPV were respectively 88.5%, 99.7%, 96.4%, and 98.9%. The algorithm's accuracy was 98.7%. The AUC-PR was 1.00. The CNN processed 169.5 frames per second, enabling AI live application in a real-life clinical setting in DAE (► **Table 1**).

Conclusions To the best of our knowledge, this is the first study regarding the automatic multi-brand panendoscopic detection of ulcers and erosions throughout the digestive tract during DAE, overcoming a relevant interoperability challenge. Our results highlight that using a CNN to detect this type of lesion is associated with high overall accuracy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)
Fold 1	88.5	99.4	93.4	98.8	98.4
Fold 2	87.9	99.7	97.1	98.8	98.6
Fold 3	93.2	99.5	94.7	99.3	98.9
Overall mean	89.7	99.5	95.1	99.0	98.6
(95% CI)	(84.2-95.6)	(99.2-99.8)	(91.4-98.7)	(98.4-99.5)	(98.1-99.1)

► **Table 1** Three-fold cross validation, which was performed during training phase. PPV: positive predictive value; NPV: negative predictive value.

eP124 Cost and resource analysis of endoscopic submucosal dissection: Results of the German ESD Registry

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DOI 10.1055/s-0043-1765409

Aims Endoscopic submucosal dissection (ESD) is an effective procedure for resection of early neoplasias of the gastrointestinal tract. Data on the costs and resources involved in ESD in Europe are lacking. The aim of the study was to analyze the cost of ESD procedures based on data from the German ESD registry.

Methods Since 2016, ESD procedures in 22 participating centers in Germany were registered. Cost and resource analysis was based on procedure duration, personnel and material costs.

Results 1874 patients with ESD procedures were evaluated. The average length of stay for an elective ESD was 4.32 (± 3.67) days, regardless of the location. 1.65 doctors and 1.93 assistants were required for the procedure; this did not vary significantly depending on the location. The average duration of the procedure varied from 89 (esophagus) to 142 minutes (duodenum). In terms of instruments, the hook-knife(-jet) was the most commonly used with over 50%, followed by the dual knife. Intubation anesthesia was required in 55-92% of upper, but only in 15-18% of lower GI tract lesions. 91.6% could be transferred from the recovery room to the normal ward immediately after the procedure; 2.9% had to be transferred to the IMC and 5.6% to the intensive care unit at short notice or due to complications.

Conclusions This study provides critical information on the health economic relevance of ESD in Germany.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP125 DdPCR (droplet digital PCR) analysis of *Fusobacterium nucleatum* in FIT samples can potentially ameliorate colorectal cancer and advanced adenoma detection performance in a screening population

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DOI 10.1055/s-0043-1765410

Aims Fecal immunochemical test (FIT) has been the most frequent method used in population-based CRC screening programs. Fecal *Fusobacterium nucleatum* (*Fn*) has been reported as a potential noninvasive biomarker for CRC and advanced adenoma detection. We aimed to evaluate the diagnostic performance of *Fn* by ddPCR in FIT samples.

Methods *Fn* presence was evaluated by ddPCR in bacterial DNA isolated from FIT (fecal immunochemical test) samples. A total of 161 samples from positive and negative screeners from Barretos Cancer Hospital CRC Screening Program were analyzed.

Results High *Fn* levels were found in 50% of FIT-positive samples (n = 82), and 9.6% of FIT-negative (n = 166) and *Fn* high levels were significantly prevalent in FIT samples from cancer patients compared to early adenoma (p = 0.049) and with no lesion (p = 0.031). Performance analysis of *Fn* in FIT samples from

screeners to detect cancer showed an AUC of 0.956 (CI:0.805-1.000) with high sensitivity (100%) and specificity (88.3%). An AUC value of 0.675 (sensitivity of 71% and specificity of 55% for advanced adenoma) was shown.

Conclusions This study shows the feasibility of detecting *Fn* in feces from FIT samples using an ultrasensitive ddPCR technique and highlights the potential of DNA testing for *Fn* in fecal samples to help CRC detection.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP126 A rare case of chylomicron retention disease

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DOI 10.1055/s-0043-1765411

Aims Case report: This is a 58-year-old man, with a past medical history of retinitis pigmentosa from childhood and a femoral neck fracture due to osteoporosis, who was referred to the consultation due to gait ataxia and sensory neuropathy with 2 years of evolution. The patient also reported steatorrhea and a weight loss of 4 Kg. Laboratory tests showed vitamin A deficiency (22 µg/dL), vitamin D deficiency (4 ng/dL), vitamin E deficiency (198 µg/dL) and hypocholesterolemia (total cholesterol 79 mg/dL, HDL cholesterol 20 mg/dL, LDL cholesterol 43 mg/dL). Stool cultures were negative as well as *T. Whipplei* polymerase chain reaction. The patient had an anti-transglutaminase IgA antibody <7 UI/L and normal fecal calprotectin and elastase. Upper endoscopy showed a whitish aspect of duodenal mucosa, which was biopsied. A capsule endoscopy was also performed, which revealed a white appearance throughout the small bowel mucosa, similar to "gelée blanche". The histologic evaluation demonstrates vacuolization of enterocytes in intestinal villi of normal structure [1–2].

Methods Genotyping identified a homozygous SAR1B gene mutation, confirming the diagnosis of chylomicron retention disease.

Results The patient started a low-fat diet supplemented with fat-soluble vitamins.

Conclusions Discussion: Chylomicron retention disease is an autosomal-recessive condition characterized by the inability to secrete chylomicrons from the enterocytes following the ingestion of fat, typically present in infancy. The authors present a rare case of familial hypocholesterolemia diagnosed in an adult, with exuberant and extensive findings in the endoscopic studies.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP127 Management of iatrogenic perforation post endoscopic resection using an "endoloop system": description and results of a new technique

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DOI 10.1055/s-0043-1765412

Aims To define a new technique of endoscopic closure of an iatrogenic perforation, using an endoloop system, to assess its rate of technical success and of post resection complications.

Methods After a large iatrogenic perforation (diameter ≥ 10 mm), during an endoscopic submucosal dissection or transperietal resection of colorectal or gastric lesions, two similar techniques of closure of wall defects were implemented, using a single-channel colonoscope with a standard channel diameter or a gastroscope with a large operating channel (>3.2mm). An endoloop was dropped directly through the operating channel or towed parallel to the endoscope, then fixed with several clips on the margins of the defect, directly to the muscular layer (at 0, 2, 4, 6, 8 and 10 o'clock). The loop was reattached to the mobile hook and closed with an edge-to-edge suture of the muscular layers.

Results 8 patients (6 women, median age 67 years) were included in this analysis. 6 colorectal polyps and 2 gastric stromal tumors were resected (median size – 20 mm), with a 17.5 mm median perforation size. Technical success was obtained in 100% of cases, with a median 6 clips used. The median duration of hospitalization was 4 days. Prophylactic antibiotics were prescribed for all the patients (median duration of 7.5 days). 3 pneumoperitoneum evacuations, 1 febrile episode and 1 small non drainable collection were observed, but 0 post-resection bleeding.

Conclusions Safe and easy original methods for closing wall defects with a single channel endoscope, using clips and endoloop for an edge-to-edge muscular layer suture, were presented, with excellent technical success rate and minimal complications.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP128 ERCP of uncertain benefit in cancer patients with large volume hepatic tumor burden: a tertiary referral cancer center experience. (Is the glass half empty or half full?)

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Aims Cancer patients with large volume hepatic tumor burden (LVHTB), hyperbilirubinemia and bile duct obstruction are frequently referred for ERCP with uncertain benefit. In most cases a bilirubin of < 2mg/dL is needed for systemic chemotherapy. The aim of this study was to evaluate the outcomes of patients with LVHTB referred for ERCP.

Methods A retrospective review was performed on all patients with LVHTB referred for ERCP from 7/2021-9/2022. LVHTB was defined as estimated > 50% liver involvement as assessed by cross-sectional imaging. Appropriate candidates for ERCP were selected based on the presence of dilated bile ducts within the remnant liver amenable to endoscopic drainage. The primary outcomes included technical success (successful biliary stent placement), clinical success (bilirubin normalization < 2mg/dL) and subsequent treatment eligibility.

Results Of 170 patients with LVHTB referred, 81 (47.6%) underwent ERCP and 89 (52.4%) were declined. Technical success was 93.8% (76/81). Clinical success was 27.2% (22/81). Percutaneous transhepatic biliary drainage was subsequently performed in 14 with a clinical success of 14.3% (2/14). Only 21.0% (17/81) received subsequent chemotherapy treatment. The remainder went to hospice 72.8% (59/81) or did not follow-up 6.2% (5/81). To date, 76.5% (62/81) passed away within a median of 32days (range 8-383) after ERCP (► **Table 1**).

Mean Age; Gender	57.5 years (30-82); 51 (63%) Male
Cancer Type	Pancreas Ca (n = 27; 33.3%)
	Colorectal Ca (n = 19; 23.5%)
	Cholangio Ca (n = 17; 21.0%)
	Other (n = 18; 22.2%)

► **Table 1**

Conclusions Based on our experience, less than half of referrals with LVHTB are candidates for ERCP. Despite high technical success, only one in four patients will have adequate response to allow treatment. This information should prove useful to setting expectations of patients and referring providers.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP129V Giant Ulcerated Gastric Lipoma Managed with Endoscopic Submucosal Dissection

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DOI 10.1055/s-0043-1765414

Abstract Text Gastric lipomas represent 1-3% of all gastric tumors, most of which are asymptomatic. Rarely, large gastric lipoma (>4 cm) can cause gastric outlet obstruction or bleeding due to mucosal erosion. Traditionally, the approach to symptomatic gastric lipomas is surgical. The endoscopic approach plays an increasingly important role, especially in not-fit for surgery patients and in lipomas with a greater submucosal component (instead of subserosal). We present a case of gastric lipoma managed endoscopically (ESD) with great efficacy and safety [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP130 Biliary pancreatitis – is endoscopic sphincterotomy an alternative approach for patients unfit for cholecystectomy?

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DOI 10.1055/s-0043-1765415

Aims Although cholecystectomy is recommended in patients with acute biliary pancreatitis to avoid a recurrence of pancreatitis and other biliary events, some patients, given their age and comorbidities, are unfit for surgery.

Aims: To assess if endoscopic sphincterotomy (ES) reduces the risk of recurrent biliary pancreatitis (RBP) or gallstone-related events in patients unfit for cholecystectomy.

Methods Retrospective review of all patients older than 65 years admitted for a first episode of acute biliary pancreatitis unfit for cholecystectomy between January 2016 to June 2019.

Results 58 patients included, average age 80.93 ± 7.79 years, 53% female. Average Charlson Comorbidity Index (CCI) was 4.76 ± 1.56 . In most cases (94.83%), the severity of pancreatitis was mild or moderately severe; 4 patients died. 24 patients had ERCP with ES only, while 34 had no intervention during initial hospitalization. The risk of recurrent pancreatitis was 12.07%. All these patients had no intervention during initial hospitalization. The medium time to recurrence was 6.29 ± 7.09 months. Patients who had ES had proportionally less incidence of RGP with statistical significance ($p = 0.018$). CCI ($p = 0.03$) was independently associated with recurrence, while age and sex were not. There was no statistical significance association between ES and other biliary events.

Conclusions Our results suggest that ERCP with ES may be an acceptable approach in elderly patients who more commonly have comorbidities associated with high surgical-anesthesiology risk. Future studies are needed to accurately identify these patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP131 Role of endoscopic ultrasound to identify morphological features predictive of malignancy in patients undergoing surgical resection for presumed IPMN

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DOI 10.1055/s-0043-1765416

Aims Intraductal papillary neoplasm of the pancreas (IPMN) are common in general population. IPMNs can be classified into three morphological types (Main-duct/MD, Branch-duct/BD and Mixed-type/MT) and ranging from low grade dysplasia (LGD) to invasive carcinoma (IC). Identification of high-grade dysplasia (HGD)/IC has a strong clinical value. The aim of this study is to evaluate the accuracy of endoscopic ultrasound (EUS) to predict malignancy.

Methods This is a retrospective study including consecutive patients undergoing preoperative EUS before surgery for IPMNs from 2015 to 2019. Several EUS features were considered: 1) presence of worrisome feature (WF), high-risk stigmata (HRS) or macroscopic solid component (MSC) at diagnosis; 2) Pancreatic duct (PD): PD dilation, thickened walls of PD (TW-PD), presence and dimension of PD nodules (PDN), contrast-enhancement (CE)/real time elastography (RTE) on PDN. 3) Cysts: dimension >30 mm, TW, CE on walls, presence/dimension of mural nodules (MN), CE/RTE on MN.

Results We enrolled 105 patients (median age: 71 years, male sex: 60.9%). The final histological diagnosis was LGD in 38.1%, HGD in 26.6% and IC in 35.3%. EUS predictors of HGD/IC at univariate regression were TW-PD ($p = .03$) and PDN dimension ($p = .01$). Predictor factors of IC were WF ($p = .002$), HRS ($p = .001$), or MSC ($p < .001$) at diagnosis, PD dilation ($p = .04$), rigid pattern of PDN on RTE ($p = .04$) and rigid pattern of MN on RTE ($p = .02$).

Conclusions EUS is able to predict the invasive behavior of IPMNs selected for surgery. Interestingly, some factors associated with aggressiveness as TW-PD or EUS-RTE, are not mentioned in current international guidelines.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP132 Loop-Clip closure of acute iatrogenic perforations-A tertiary care centre experience

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Aims The study aims at studying the effectiveness of Loop-clip method by a single channel endoscope in closure of acute iatrogenic perforations.

Methods a predetached endoloop (LeClamp ligation device; Leo Medical Co Ltd, Changzhou, China) fixed to the hemoclip (Resolution clip, Boston Scientific, Boston, Mass, USA) was delivered using a single-channel endoscope (GIF-HQ190 Olympus, Tokyo, Japan) and anchored near the proximal margin of the defect, followed by deployment of consecutive hemoclips to anchor the endoloop along the margins of the defect. The endoloop was then tightened slowly by reattaching it to a hooking device (endoloop delivery system) resulting in approximation of the borders of the perforation and closing it in a purse-string fashion

Results A total of 24 cases of iatrogenic perforations were closed using the loop-clip method at our institution (the biggest endoscopic centre in country). The site of perforations was 1 oesophageal, 6 Gastric, 3 duodenal, 1 jejunal and 13 colonic. 19 patients had perforations during therapeutic procedures (Oe-

sophageal dilatation, Gastric ESD, SEMS deployment of a jejunal anastomotic leak, Colonic EMR/ESD). To the best of our knowledge, endoscopic closure of a jejunal perforation in altered anatomy using loop and clips has not been described in the literature. The mean size of the defect was 2.1 cms. The mean closure time was 12.7 minutes. 23(95%) of the patients complained of abdominal pain, 16(67%) patients developed fever mostly on day 2 of admission which settled with iv antibiotics. All the defects (100%) were closed successfully. None required surgery.

Conclusions We found Loop-Clip method aN effective method for closure of largiatrogenic perforations.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP133 Performance of the Baveno VII criteria in predicting the absence of esophageal varices

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DOI 10.1055/s-0043-1765418

Aims Upper digestive endoscopy (UDE) is the gold standard for screening for esophageal varices (EV) in chronic liver disease (CLD). Recently, the Baveno VII guidelines permitted avoiding this endoscopy in patients with liver stiffness < 20kpa and a platelet count $\geq 110,000/\text{mm}^3$ [1]. Our objective was to evaluate the performance of these criteria in predicting the absence of grade 2 or 3 EV.

Methods We conducted a retrospective study including, between January 2015 and August 2018, consecutive patients with CLD who underwent both, within 3 months, a UDE and Fibroscan. We assessed the sensitivity (se), specificity(sp), positive predictive value(PPV), and negative predictive value(NPV) of the Baveno VII criteria in predicting grade 2 or 3 EV absence.

Results A total of 138 patients were included, with a mean age of 54.6 ± 15.9 years and a sex ratio of 0.74. The main etiology was viral infection (94.2%). EV were found in 27 patients. Liver stiffness <20kpa had se, sp, PPV, and VPN in predicting the absence of grade 2 or 3 EV of 89.1%, 58.3%, 95.5%, and 35% respectively with an area under the curve ROC(AUROC) of 0.743[95% CI:0.569-0.917]. A platelet count $\geq 110000/\text{mm}^3$ had a se, sp, PPV, and NPV of 90.5%, 25%, 91.4%, and 23% with an AUROC of 0.581[95% CI:0.369-0.767]. The combination of these criteria ($p=0.003$) had a se, sp, PPV, and VPN of 83.1%, 58.3%, 94.6%, and 28% with an AUROC of 0.724[IC to 95%: 0.551-0.897].

Conclusions Our results confirmed the performance of Baveno VII criteria in predicting the absence of large EV, in our skies, where viral causes predominate.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP135 Red pill or blue pill? Effect of antithrombotic therapies on small bowel bleeding

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DOI 10.1055/s-0043-1765419

Aims Suspected SB bleeding (SBB) represents about 5-10% of all gastrointestinal bleeding and is the main indication for videocapsule endoscopy (VCE) [1–3]. We explored the impact of antithrombotic therapies on SBB with the use of VCE.

Methods Consecutive patients in two centres (Milan-Italy and Sheffield-UK) who underwent VCE from March 2001 to July 2020 were considered. Demo-

graphic and clinical parameters, drug therapy at the time of enteroscopy, procedure technical characteristics and adverse events were collected. VCE findings and diagnostic yield (DY) were evaluated.

Results 1756 VCEs (1497 patients) were collected, 1052 (957 patients) were performed for suspected SBB (20% overt, 80% occult) with a DY of 50.6% and no VCE retentions. 27 patients (27 VCEs) were on direct oral anticoagulants, 87 (88 VCEs) on other anticoagulants, and 115 (135 VCEs) on antiplatelet therapy. 198 patients (218 VCEs) were on monotherapy while 31 (32 VCEs) were on combined therapy. There were no differences in terms of completion rate, type of findings and DYs comparing each drug subgroup with others or with general SBB population, and monotherapy vs combined therapy (Table 1). Overt bleeding rate was similar in all the groups and general SBB population, even considering antithrombotic users vs patients not on therapy (23.2% vs 20.6%, $p=0.59$) or monotherapy vs combined therapy (17.9% vs 25%, $p=0.34$) (► Table 1).

Conclusions This study confirms VCE as a safe technique with high clinical impact in SB bleeding. Antithrombotic therapies do not appear to affect the DY or rate of overt bleeding and consequently can be considered safe in terms of risk of SBB.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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[2] Liao Z, Gao R, Xu C et al. Indications and detection, completion, and re-entention rates of small-bowel capsule endoscopy: a systematic review. *Gastrointest Endosc* 2010; 71: 280–286

[3] Hale MF, Sidhu R, McAlindon ME. Capsule endoscopy: Current practice and future directions. *World J Gastroenterol* 2014; 20: 7752–7759

DOACs (27 patients)	VKAs (87 patients)	APAs (115 patients)	Monotherapy (198 patients)	Combined therapy (31 patients)
Procedures: 27	Procedures: 88	Procedures: 135	Procedures: 218	Procedures: 32
Complete: 27 (100%)	Complete: 77 (87.5%)	Complete: 121 (89.6%)	Complete: 204 (93.6%)	Complete: 28 (87.5%)
DY: 48.1%	DY: 48.9%	DY: 59.3%	DY: 56%	DY: 46.9%

DOACs: direct oral anticoagulants; VKAs: vitamin K antagonists; APAs: antiplatelet agents;

► **Table 1** Technical aspects of enteroscopies performed for suspected SBB in patients receiving antithrombotic therapies.

eP136 Efficiency and safety of nasal positive airway pressure systems during endoscopic procedures in high risk patients. Endo-Breath-Study

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DOI 10.1055/s-0043-1765420

Aims Sedation of high-risk patients resemble a relevant issue in interventional endoscopy. This especially because standard oxymetric monitoring displays only hypoxia and not the preceding hypercapnia. Therefore, the question arises whether the implication of a nasal positive airway pressure (nPAP) system can decrease the rate of sedation associated events.

Methods A randomised, prospective trial, was conducted at University Hospital Ulm, including 110 consecutive patients, identified as high-risk patients (ASA physical status ≥ 3) and scheduled for prolonged (> 15 minutes) endoscopic procedures. Patients underwent 1:1 randomisation into interventional (nPAP-mask) and control (conventional oxygen supplementation) group. Levels of CO₂ were measured non-invasively by transcutaneous capnometry device. Primary outcome was the incidence of hypoxia (SpO₂ < 90%) and difference between initial and mean CO₂ levels (ΔCO_2).

Results Data-analysis of currently fully processed 42 out of 110 cases showed lower incidence of hypoxia in interventional group (0/21 vs. 6/21) $p < 0.05$. In 3 out those 6 patients, episodes of severe hypoxia ($SpO_2 < 80\%$) were detected. There was a noticeable difference in ΔCO_2 levels in interventional vs. control group ($3.48 (\pm 8.43)$ vs. $7.59 (\pm 7.13)$ mmHg).

Conclusions In high-risk patients a nasal positive airway pressure system could significantly lower the risk of hypoxia especially in prolonged procedures. It has also shown to reduce possibility of hypercarbia during endoscopic procedures so far.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP137 Performance comparison of a deep learning algorithm with endoscopists in the detection of duodenal villous atrophy (VA)

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DOI 10.1055/s-0043-1765421

Aims VA is an endoscopic finding of celiac disease (CD), which can easily be missed if pretest probability is low. In this study, we aimed to develop an artificial intelligence (AI) algorithm for the detection of villous atrophy on endoscopic images.

Methods 858 images from 182 patients with VA and 846 images from 323 patients with normal duodenal mucosa were used for training and internal validation of an AI algorithm (ResNet18). A separate dataset was used for external validation, as well as determination of detection performance of experts, trainees and trainees with AI support. According to the AI consultation distribution, images were stratified into “easy” and “difficult”.

Results Internal validation showed 82%, 85% and 84% for sensitivity, specificity and accuracy. External validation showed 90%, 76% and 84%. The algorithm was significantly more sensitive and accurate than trainees, trainees with AI support and experts in endoscopy. AI support in trainees was associated with significantly improved performance. While all endoscopists showed significantly lower detection for “difficult” images, AI performance remained stable.

Conclusions The algorithm outperformed trainees and experts in sensitivity and accuracy for VA detection. The significant improvement with AI support suggests a potential clinical benefit. Stable performance of the algorithm in “easy” and “difficult” test images may indicate an advantage in macroscopically challenging cases.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP138 Reversible electroporation for palliation of anemia from unresectable gastrointestinal (GI) tumors. A preliminary experience

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DOI 10.1055/s-0043-1765422

Aims Assess endoscopic reversible electroporation for palliation of anemia in GI malignancies.

Methods A single-use device (EndoVE, Mirai Medical, Ireland) was used with a dedicated generator (ePORE). The transparent tip of the device allowed for proper endoscopic orientation and needle injection of calcium in the submucosa, which was necessary prior to each current delivery via the electrode on the tumor, lasting approx. 30–40 secs. Deep sedation was used.

Results The main outcome was met in 4 patients with inoperable GI malignancies that caused clinically significant anemia. Patient 1 was an 82 y-old man suffering from a small gastric metastasis (20 mm) from renal cell cancer; after treatment, he could restart treatment with tyrosine-kinase inhibitors and remained free from anemia for 12 months until his death due to disease progression. Patient 2 was a 72 y-old woman affected by an advanced gastric adenocarcinoma (60 mm); after treatment, she was started on chemotherapy and remained symptom-free at 6 months. Patient 3 was an 87 y-old man with rectal cancer (25 mm) and concomitant anticoagulant therapy; the treatment was technically successful, however, the patient expired 25 days later due to cardiovascular causes. Patient 4 was a 69 y-old man with esophageal moderately differentiated adenocarcinoma (25 mm) and status post-pancreaticoduodenectomy for papillary intraductal carcinoma (2003); he remained symptom-free at 3 months. The procedures were judged easy by the operators; the duration was 20–50 minutes. They were well tolerated in all cases and no adverse events occurred.

Conclusions In our case series, reversible endoscopic electroporation was feasible, safe, and effective for the palliation of anemia due to unresectable GI malignancies.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP139 Overstitch versus Endomina for endoscopic sleeve gastroplasty

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DOI 10.1055/s-0043-1765423

Aims Endoscopic sleeve gastroplasty (ESG) is defined as safe and effective. Several devices for ESG are available, but these have not been compared in terms of weight loss outcomes. Aims were to compare outcomes between the Overstitch (Apollo Endosurgery, Austin, TX) and Endomina system (E-ESG, Endo Tools therapeutics, Belgium) in obese patients that underwent ESG.

Methods We reviewed 42 patients which underwent ESG at our unit from January 2020 to December 2021. Patients were matched between the two groups for age, sex, and body mass index (BMI).

Results The mean age and BMI were 48 years old and 34 kg/m². The majority were female (90.48%). All procedures were performed by the same endoscopic team to avoid operator-related bias. The TBWL% at 12 and 24 months with Overstitch were 16% and 10.87% compared to 16.53% and 13.92% with Endomina. The EWL% at 12 and 24 months were 58.94% and 40.24% with Overstitch compared to 66.74% and 55.45% with Endomina.

Conclusions Both devices have been shown to be effective for obesity treatment. Endomina appears to have bigger impact in maintaining body weight loss over the long term. Further studies on a larger patient population are needed to better evaluate this data.

Conflicts of interest I. Boskoski is a consultant for Apollo Endosurgery, Nitinotes, Endo Tools and Cook Medical, and a research grant holder from Apollo Endosurgery

eP140 Hybrid EMR as a salvage technique during colonic EMR

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DOI 10.1055/s-0043-1765424

Aims Investigate if proceeding with hybrid EMR after conventional EMR fails, is safe and effective.

Methods All EMR and hybrid EMR (partial ESD with snaretip) procedures performed in a non-academic Belgian center between Sept '15 and Feb '22 were retrospectively collected and analyzed. For safety parameters we looked at rate of AE (overall, clinically relevant (AGREE > 1), severe (AGREE > 3a) and perforations). For outcome parameters we looked at en-bloc resection rate, primary unsuccessful resection rate (need for salvage therapy (ESD or surgery) in additional session), recurrence rate and recurrence needing surgery. All data was analyzed in SPSS, v28. Data between the groups was compared using crosstabs and significance tested with Chi square test (► **Table 1**).

Results 301 procedures were performed, 20 (6,6%) being hybrid. With hybrid having more lesions >30mm (30%vs23,8%), more NICE 3 (18,2%vs12,3%) and more SSMC (10,5%vs5%), all not statistically significant. Hybrid EMR had en-bloc rate of 15%vs25% for EMR; recurrence rate was 5,0%vs11,7% and recurrence needing surgery was 0%vs1,4%, all not statistically significantly different. The safety parameters are listed in the table and are not statistically significantly different. Finally we see that 4,1% of our EMR were primary unsuccessful, compared to 10% of our hybrid EMR (p = ns), or 6,9% overall, which would have been statistically significantly higher at 10,8% (p = 0,005) if we hadn't embarked on hybrid EMR.

Conclusions Embarking on hybrid EMR if conventional EMR fails, seems to be a highly effective salvage method, with a lower recurrence rate than EMR and a reduced need of postprocedural salvage therapy. Moreover this technique does not lead to a higher complication rate.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Safety parameters	Conventional EMR	Hybrid EMR	All
Overall adverse event rate, %	7,9	10,0	8,0
Clinically relevant AE rate, % (AGREE >1)	6,0	10,0	6,3
Severe AE rate, % (Agree >3a)	1,8	0	1,7
Perforations, %	0,7	0	0,7

► **Table 1**

eP141V Vacuum therapy as rescue treatment for uncontrollable sepsis after endovascular treatment of aorto-esophageal fistula

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DOI 10.1055/s-0043-1765425

Abstract Text A gastroscopy in a 78 year-old with AEF, visualized an orifice in the esophageal wall. TEVAR was carried out achieving hemostasia, but an uncontrolled sepsis developed. An endoluminal vacuum therapy system was placed. It consisted of a polyurethane sponge connected to a negative pressure pump by a naso-sponge catheter. After 18 days and 3 eso-sponge replacements, a 2mm orifice was observed. The patient started oral intake and could be discharged. Three months later, gastroscopy revealed a complete closure of the fistula. Vacuum therapy is an effective therapy for the management of sepsis and wall gap of AEF.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP142V Multidisciplinary treatment of a chronic tracheoesophageal fistula

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DOI 10.1055/s-0043-1765426

Abstract Text A 67 y.o. male had orotracheal intubation due to respiratory insufficiency for COVID-19. This led to the onset of a tracheoesophageal fistula, caused by the continuous overpressure of the cuff. After a multidisciplinary evaluation, surgical treatment was attempted, but was unsuccessful in closing the fistula. In the second place, endoscopic suturing with Apollo Overstitch was performed 2 times, but also was unsuccessful. In the third place, the placement of an Amplatzer atrial septal occluder to close the fistula was technically and clinically successful. At 12-months follow-up the patient eats everything and is in excellent clinical conditions

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP143 EUS-guided portal pressure gradient measurement: our preliminary experience

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DOI 10.1055/s-0043-1765427

Aims We report our preliminary experience on EUS-guided portal pressure gradient (EUS-PPG).

Methods Patients referred to a tertiary center for EUS-PPG. We used a 25G dedicated needle (EchoTip Insight), used as previously reported [1].

Results The procedure was performed in 21 patients, 11 males/10 females, median age 47 ± 2 yo). *Indications:* assessment of NAFLD 17; idiopathic portal hypertension 2; evaluation for curative therapy in HCC 2. Anticoagulants were withdrawn in 4 patients. Bilobar liver biopsies were also performed in 18 patients (86%). PPG was successfully obtained in 19/21 patients (90%). Average time to obtain PPG was 24 ± 12 minutes. In 9 cases the PPG was > 5 mmHg (one case shown esophageal varices with PPG of 16 mmHg), and 8 patients with NAFLD without varices with PPG ranging 5.3-10 mmHg. In 2 cases PPG was not obtained, for rapid breathing movements and for non-reliable pressure measurements (probably for bending of the needle and use of the elevator). In one case the 25G needle passed in close proximity to the hepatic artery. We experienced difficulty in puncture the hepatic and the portal vein in one and two cases, respectively. Mean time for PPG plus bilobar hepatic biopsy was 49 ± 11 minutes. One mild epigastric pain 2 day after a combined procedure was observed. No other adverse events were registered one month later.

Conclusions In our preliminary experience, EUS-guided PPG measurement seems safe providing useful clinical information.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Hashimoto R, Chang KJ. Endoscopic ultrasound guided hepatic interventions. *Dig Endosc* 2021; 33 (1): 54–65

eP144 Performance of non-invasive methods in predicting subclinical portal hypertension

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DOI 10.1055/s-0043-1765428

Aims Portal hypertension (PH) is a life-threatening entity. Its diagnosis at a subclinical stage is essential in order to set up a preventive strategy. Our objec-

tive was to evaluate the performance of non-invasive methods in the prediction of subclinical PH in cirrhotic patients.

Methods This was a retrospective study including, between 2010 and 2020, consecutive cirrhotic patients, who underwent, within 3 months, an Upper digestive endoscopy(UDE), a biological assessment, and an abdominal ultrasound(AU). Subclinical PH was defined as any PH uncomplicated by variceal bleeding and retained in the presence of PH endoscopic signs.

Results A total of 224 patients were collected. Among them, 123 patients(54.9%) had subclinical PH with a mean age of 60.47 ± 13.16 years and a sex ratio of 1.46. A significant correlation was noted between the presence of signs of PH on AU and the presence of endoscopic signs of PH($p < 0.001$). The sensitivity, specificity, positive predictive value, and negative predictive value of AU were 74.7%, 80%, 94.2%, and 42.1%, respectively with an AUROC of 0.774[95%CI:0.659-0.888]. The following non-invasive scores were also correlated with the presence of endoscopic signs of PH: FIB-4($p < 0.001$), GUCI($p < 0.001$), APRI($p = 0.001$), CHILD($p = 0.002$), ALBI($p = 0.008$), MELD($p = 0.014$) and CDS($p = 0.042$). CDS had the best AUROC(0.900 [95%CI: 0.760-0.999]), followed by ALBI(0.824[95%CI:0.690-0.958]), FIB-4 (0.820[95%CI: 0.711-0.928]), APRI(0.755 [95%CI: 0.636-0.874]), CUGI(0.755 [95%CI: 0.564-0.896]), CHILD(0.717 [95%CI:0.594-0.841]) and MELD(0.707 [95%CI:0.580-0.835]).

Conclusions Strongly correlated with UDE, these non-invasive methods could better select vulnerable patients requiring endoscopic exploration. [1]

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Ho SY, Liu PH, Hsu CY, Chiou YY, Su CW, Lee YH et al. Prognostic Performance of Ten Liver Function Models in Patients with Hepatocellular Carcinoma Undergoing Radiofrequency Ablation. *Sci. Rep* 2018; 8: 843

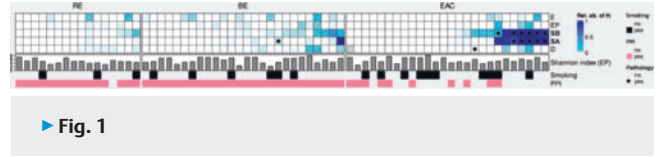
eP145 Association of relative abundance of *Helicobacteraceae* in the stomach in patients with esophageal adenocarcinoma

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DOI 10.1055/s-0043-1765429

Aims While *Helicobacter pylori* (*H. pylori*) infection was associated with gastroesophageal reflux disease or Barrett's esophagus (BE), an inverse or a neutral relationship between *H. pylori* infection and esophageal adenocarcinoma (EAC) was reported.

Methods This pilot study aimed to analyze bacteriome and the occurrence of *H. pylori* in tissues from several sites within the gastrointestinal tract in patients with reflux esophagitis (RE)/BE/EAC. Biopsy samples from the esophageal tissues with the main pathology (EP) and adjacent tissue (E), stomach body (SB), stomach antrum (SA), and duodenum (D) from 68 patients (16 RE, 26 BE, 26 EAC) were collected. Immunohistochemical analysis (IHC) for *H. pylori* detection was performed in formalin-fixed and paraffin-embedded samples of SA, SB, and D (► Fig. 1).



Results There were no differences in age, BMI or smoking status among RE, BE and EAC patients ($p > 0.05$). *H. pylori* and also *Helicobacteraceae* (in relative abundance higher than 40%) were significantly more common in SA/SB/D samples from EAC patients than from RE/BE patients ($p < 0.05$). While 97.2% of RE and BE patients were users of proton pump inhibitors (PPI), only 38.5% of EAC patients used these drugs ($p < 0.01$). [1]

Conclusions Our pilot results showed that the high relative abundance of *Helicobacteraceae* is associated with EAC, especially in patients who are not treated with PPIs.

Conflicts of interest Acknowledgements: This study was supported by the Ministry of Health of the Czech Republic, grant nr. NU20-03-00126 and by Ministry of Health of the Czech Republic – conceptual development of research organization (FNBr, 65269705, Sup 3/21). This publication has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 857560. This publication reflects only the author's view and the European Commission is not responsible for any use that may be made of the information it contains. Authors also thank to Research Infrastructure RECETOX RI (No LM2018121) and project CETOCOEN EXCELLENCE (No CZ .02.1.01/0.0/0.0/0.0/17_043/0009632) financed by the Ministry of Education, Youth and Sports for supportive background.

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eP146 Reaching hidden depths. A correlation between small bowel capsule endoscopy transit and depth of insertion on anterograde device assisted enteroscopy

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DOI 10.1055/s-0043-1765430

Aims Capsule endoscopy (SBCE) and device assisted enteroscopy (DAE) are complementary tools for small bowel disease management. A better understanding of the correlation between time based location on SBCE and DAE distance would be useful for planning intervention. We aim to correlate predicted distance on DAE with transit based location at SBCE.

Methods A retrospective single centre comparison study. Cases with a SBCE after an anterograde DAE (single or double balloon) with a visible distal limit of insertion tattoo on capsule review were included. Transit time (TT), location of the tattoo as a % of the TT (%TT), DAE cycles and distance traversed to the tattoos were recorded and compared.

Results 56 cases were identified, in 42 (74%), the tattoo was visible on capsule review. Median time to SBCE was 12 weeks (0–174). The median recorded tattoo depth on DAE was 200cm (45cm–400) with a median of 5 cycles (1–13). Median TT was 248min (42min–625min). Median %TT was 14% (5%–0.15%), >33 %TT was achieved in 26% (12/42) of cases. There was no

correlation between DAE distance and %TT on SBCE ($r = -0.216$, $p = 0.17$). In general, the percentage small bowel transit estimated at DAE was significantly less than that documented on SBCE ($p < 0.001$) mean (2.87% v 20.71%, respectively).

Conclusions DAE underestimates the depth of insertion compared to capsule transit. Our data suggests lesions within 33% TT are readily amenable to ADAE, with a much deeper range possible, than previously considered.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP147V Esophageal stricture after a circumferential endoscopic submucosal dissection: a not so evident cause

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DOI 10.1055/s-0043-1765431

Abstract Text A 65-year-old male treated with Ibrutinib underwent an extensive endoscopic submucosal dissection (ESD) for Barrett's esophagus C11M12 with high grade dysplasia. Steroid treatment was initiated. Four weeks after the ESD healthy ongoing re-epithelialization was confirmed, but at 3 months the mucosa was highly inflamed and a significant stricture appeared. Ibrutinib could not be withdrawn. Despite steroid therapy and 4 balloon dilation sessions the inflammation and the stricture persisted. Finally, two biodegradable stents were used over a year, with good result. Conclusion: systemic therapy with Ibrutinib (and maybe other antineoplastic agents) can hamper mucosal healing and increase the risk of stricture after extensive esophageal ESD.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP148 Alternation of MRI and EUS in pancreatic cancer screening could increase detection of both pancreatic and extra-pancreatic findings

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DOI 10.1055/s-0043-1765432

Aims Pancreatic-ductal-adenocarcinoma (PDAC) screening policies are currently restricted to high risk individuals (HRIs) and focus on pancreatic findings (PF). Nonetheless these individuals could be at risk of minor PF as also extra-pancreatic findings (EPF) due to their genetic background. However, evidence on these findings during screening is scarce. We aimed to describe PF and EPF during follow-up in HRI recruited in 2 centers of Italian-Registry-of-Families-at-Risk-of-PDAC (IRFARPC).

Methods patients included were: a) FPC; b) genetic chronic pancreatitis (CP); c) Peutz-Jeghers (PJ), Familial atypical multiple mole melanoma (FAMMM); d) Lynch syndrome, mutation of BRCA1/2, ATM or PALB2 with ≥ 1 relative affected by PDAC. Screening modality included yearly MRI or EUS.

Results Sixty-five patients were enrolled, mean age 53.6 years, 50.8% males. Forty-three (66.2%) were FPC, 7 (10.8%) BRCA1/2 mutated, 6 (9.2%) genetic CP, 5 (7.7%) FAMMM, 1 (1.5%) Lynch, 1 (1.5%) PALB2, 1 (1.5%) ATM, 1 (1.5%) PJ. PF at first round were found in 69.2% of patients, including cysts (21.5%), early CP (15.4%), CP (7.7%), vanishing pancreas (4.6%), solid lesions (3.1%) and pancreatic duct dilation (1.5%). EPF were found in 47.7% of patients during first

round, including breast cancer (1.5%), adrenal adenomas (1.5%), kidney cysts (23.1%), liver cysts (15.4%), liver angiomas (3.1%), accessory spleens (9.2%), liver FNH (1.5%), liver adenomas (1.5%), spleen angiomas (1.5%). At subsequent rounds gallbladder adenoma and surrenal adenoma were identified. EPF identification was in 70.9% of cases with MRI vs 11.8% EUS ($p < 0.0001$), PF was in 24.4% with MRI vs 75.5% EUS ($p < 0.0001$).

Conclusions EUS detects more frequently PF, while MRI EPF. An alternation of the imaging modalities could improve detection of relevant findings.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP149 Is routine EUS necessary for endoscopic papillectomy: a case series

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DOI 10.1055/s-0043-1765433

Aims Current guidelines (based on low quality data) recommend endoscopic ultrasound (EUS) to stage ampullary polyps for surgical or endoscopic resection [1]. This case series reviewed the outcome of endoscopic papillectomy (EP) without preprocedural EUS assessment in patients without signs of persistent ductal obstruction in laboratory tests and cross-sectional imaging.

Methods Patients who underwent EP for ampullary adenomas during the period 2019-2021 were included. Patients considered unsuitable for EP, those with clear evidence of duct obstruction (abnormal LFT and/or dilated CBD) or those with high grade dysplasia/adenocarcinoma were excluded. The primary outcome was the complete adenoma resection. Secondary outcomes included en-block resection, adverse events and recurrence [1].

Results Seven cases were included. The mean age was 57.3 years and four (57.1%) patients were females. The mean adenoma size was 20.4mm. Six polyps (85.7%) were completely resected, and two of them (28.6%) en-block. Regarding adverse events, one case of delayed bleeding was treated endoscopically, without need for blood transfusion or surgery. One patient had small perforation identified at the time of EP and successfully closed with clips. No polyp had pathology indicative of high-grade dysplasia or cancer. One of the cases (14.3%) was diagnosed with local recurrence at follow-up endoscopy and biopsy four months after the index procedure.

Conclusions These data, on patients treated before current guidelines, indicate that EUS may not be necessary to guide the decision for endoscopic papillectomy and to which, in our opinion, should be reserved for cases of uncertain staging, though further data are required.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Vanbiervliet G, Strijker M, Arvanitakis M et al. Endoscopic management of ampullary tumors: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2021; 53: 429–448. doi:10.1055/a-1397-3198

eP150V Extraction of migrated biliary stent assisted by Cholangioscopy

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DOI 10.1055/s-0043-1765434

Abstract Text A 72-year-old woman was diagnosed with large choledocholithiasis (17 mm). ERCP was performed without achieving stone extraction so a plastic stent was placed and patient was scheduled for a second ERCP, which she missed. 6 months later, she was admitted for acute cholangitis. ERCP was performed showing proximal stent migration. After failure of conventional removal methods, direct stent cannulation using cholangioscopy and a 0.035mm guidewire was achieved followed by uneventful removal with extraction balloon and loop. Proximal migration of biliary stents is rare and its removal challenging.

Cholangioscopy is a useful tool for cases where the conventional extraction techniques fail.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP151V Endoscopic treatment of complete stripping of esophagus

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DOI 10.1055/s-0043-1765435

Abstract Text A 45 years old woman with advanced lower esophageal cancer was treated for palliation with partially fully covered SEMs and radio-chemio therapy. Due to stent ingrowth and complete stent occlusion, 3 months later its removal was needed but, unfortunately, it caused a stripping of esophageal layers. In details, 25 cm of a floppy sleeve of esophageal mucosa and submucosa was pulled out with the SEMs. With two Kocher forceps the “monchon” was grabbed and the scope inserted through it then, a Deviere Overtube was inserted, allowing to push down the “monchon” slowly and gently. A long covered SEMs was left in place between the cervical and lower esophagus with a NFT. Recovery was uneventful, with oral intake resumed 3 days later.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP152 Correspondence among capsule endoscopy findings and molecular signatures in atrophic enteropathies

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DOI 10.1055/s-0043-1765436

Aims Diagnosis and patients' stratification of atrophic enteropathies are often challenging. The aim of our study is to describe the concordance between small bowel endoscopic markers of atrophic enteropathies and molecular signatures.

Methods We retrospectively enrolled patients that underwent capsule endoscopy (CE) for suspected atrophic enteropathy at our Center from June 2015 to July 2022. Endoscopic findings at CE were evaluated in association with demographic and clinical data, including malnutrition universal screening score (MUST), HLA DQ haplotype, clinical disease severity, atrophy sec. Marsh, duodenal flowcytometry (cyt), TCR γ receptor rearrangement, were collected.

Results Eighty-two patients who underwent CE were analyzed (55 females, average 52 years old \pm 15.08). 13 CE resulted with normal findings; 71 CE presented at least one pathologic finding: atrophy, ulcers and/or erosions and stenosis respectively in 62, 27 and 4 patients; 22 patients showed two or more findings. Patients with atrophy > 33% of SB at CE had more severe disease and higher MUST score (p 0.0006 and p 0.0005, respectively); in non-CD atrophy, its extension at CE is associated with higher MUST score only (p 0.049). Seventeen out of 29 patients that showed no atrophy at histology, at CE showed signs of distal atrophy. The diagnostic accuracy for atrophy at histology of both aberrant IELs and $\gamma\delta$ IELs was poor (respectively AUC 0.56 95% CI 0.45-0.66, p 0.26 and AUC 0.56 95% CI 0.44-0.65, p 0.37).

Conclusions Capsule endoscopy a pivotal role of CE in disease characterization, staging and management. Moreover, CE is helpful in detecting distal atrophy which could be missed with conventional upper gastrointestinal endoscopy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP153 AI-assisted detection and characterization of early Barrett's neoplasia: Results of an Interim analysis

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DOI 10.1055/s-0043-1765437

Aims Evaluation of the add-on effect an artificial intelligence (AI) based clinical decision support system has on the performance of endoscopists with different degrees of expertise in the field of Barrett's esophagus (BE) and Barrett's esophagus-related neoplasia (BERN).

Methods The support system is based on a multi-task deep learning model trained to solve a segmentation and several classification tasks. The training approach represents an extension of the ECMT semi-supervised learning algorithm. The complete system evaluates a decision tree between estimated motion, classification, segmentation, and temporal constraints, to decide when and how the prediction is highlighted to the observer. In our current study, ninety-six video cases of patients with BE and BERN were prospectively collected and assessed by Barrett's specialists and non-specialists. All video cases were evaluated twice – with and without AI assistance. The order of appearance, either with or without AI support, was assigned randomly. Participants were asked to detect and characterize regions of dysplasia or early neoplasia within the video sequences.

Results Standalone sensitivity, specificity, and accuracy of the AI system were 92.16%, 68.89%, and 81.25%, respectively. Mean sensitivity, specificity, and accuracy of expert endoscopists without AI support were 83.33%, 58.20%, and 71.48%, respectively. Gastroenterologists without Barrett's expertise but with AI support had a comparable performance with a mean sensitivity, specificity, and accuracy of 76.63%, 65.35%, and 71.36%, respectively.

Conclusions Non-Barrett's experts with AI support had a similar performance as experts in a video-based study.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP154 Sustainability and disposable duodenoscopy – is “green endoscopy” achievable? First results from a prospective national recycling project

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DOI 10.1055/s-0043-1765438

Aims Single-use devices and equipment have been widely adopted in flexible endoscopy and currently almost all reusable accessories are abandoned due to hygiene, medico-legal and economic reasons. During the last 10 years also single-use endoscopes were deployed in the clinical routine, mainly in bronchoscopy and recently for duodenoscopy (ERCP) and gastroscopy to eliminate the risk of cross-contamination. We evaluated the recycling process of single-use duodenoscope (aScopeDuodeno; Ambu A/S, Denmark) in routine clinical practice

Methods Single-use duodenoscopes were pre-cleaned and disinfected before stored and transferred to the recycling facility. In the recycling facility they are shredded and steam sterilized. Afterwards the materials are sorted and processed properly. Up to 9 different raw materials can be obtained due to the special processing technology. The main outcomes of this pilot project are the overall percentage of recyclable materials and the reduction of CO₂-footprint.

Results 52 scopes were recycled and analyzed. The overall weight of an aScope Duodeno is 665gr, there of plastics 75,5% = 507,92gr, metals 22,8% = 153,18gr, rubber 0,6% = 4,14gr and others 0,2% = 0,00gr. According to a current interim analysis the overall recyclability of the scope is overall >61% and the amount of CO2 savings of the recycling compared to incineration is 1.467gr per scope and 2207kg per tons.

Conclusions This is the first study reporting results of the recyclability of disposable endoscopes. Although it is technically demanding our results are quite promising. After the final material analysis, we expect that over 80% by weight of the aScopeDuodeno will be recyclable.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP155 Radiomic analysis of pretreatment imaging in hepatocellular carcinoma (HCC) undergoing transarterial chemoembolization (TACE): treatment response and survival

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DOI 10.1055/s-0043-1765439

Aims Radiomics uses radiological imaging to generate multi-dimensional data, defined as features. The novelty of radiomics is the possible correlation with clinical endpoints, mostly in oncological diseases. We present results of a retrospective study investigating correlations between pretreatment imaging radiomics and clinical outcomes in Patients (Pts.) with hepatocellular carcinoma (HCC) undergoing transarterial chemoembolization (TACE).

Methods We selected pretreatment data (clinical, CT scan and laboratory) of 64 HCC Pts. treated with TACE. With an open source software we extract 68 features. Therapeutic outcome was divided in "response" (complete and partial response) and "non-response" (stable disease). Response to TACE was assessed with mRECIST criteria. Primary endpoint was correlation with clinical response to treatment. Secondary endpoint was overall survival [1–5].

Results Clinical data related to response (Chi Square test) were age (upper median, $p = 0.027$), Child Pugh Score (A vs B, $P = 0.009$) and albumin (upper median, $P = 0.009$). Features related with response (Mann Whitney test, $p < 0.05$) were from family of: CONVENTIONAL, SHAPE, GLRLM, NGLDM, GLZLM. Clinical data related to survival (Cox regression model) were: age, number of nodules, albumin, history of ascites and hepatic encephalopathy. Radiomics parameters related with survival were: GLCM_Entropy_median, GLZLM_SZHGE_median. Kaplan Meier curve showed that Pts. that had high median scores of GLCM_entropy and GLZLM_SZHGE (red line) experienced inferior survival (Log Rank: $p = 0.022$), ► **Fig. 1**.

Conclusions Our study showed that some radiomic features have a prognostic value in HCC Pts. undergoing TACE. Integration of radiomic and clinical data, can improve HCC management.

Conflicts of interest Authors do not have any conflict of interest to disclose.

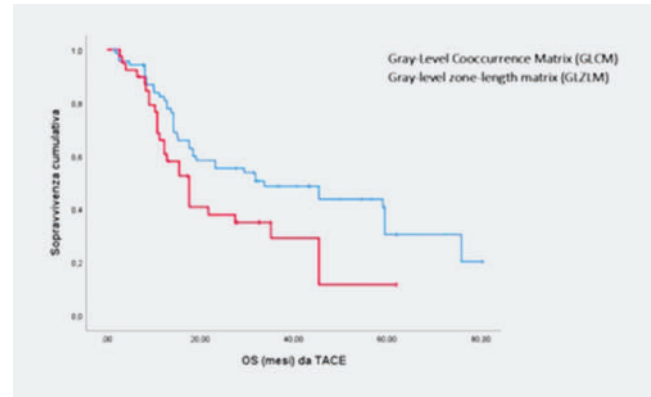
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► **Fig. 1**

eP156V Endoscopic removal of rectal GIST

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DOI 10.1055/s-0043-1765440

Abstract Text A 67-year-old patient presented with complains of constipation (unsatisfactory stools) and difficulty in urination for 1 year. Comorbidities: DM for 1 year and HT for 10 year.

USG and MRI showed a 32 25mm heterogenous mass in anterior rectum and trucut biopsy showed GIST. Patient was started on imatinib and after three months the size did not change and therefore surgery was advised. Patient did not want surgery and stoma so rectal STER planned. Injection and incision above dentate line, dissection with dual J and coag grasper done and the GIST removed with intact capsule. Haemostasis done and defect closed with hemoclips. Conclusion: STER in rectum is feasible and safe for rectal submucosal tumors.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP157V Clip with snare dynamic traction in lesions involving the pyloric ring: pulling and pushing, two ways to go

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DOI 10.1055/s-0043-1765441

Abstract Text 76-year-old-woman was referred due to a 30mm gastric Paris 0-Is + IIa lesion in the distal antrum, extending into the proximal bulb. The clip with snare traction technique allowed access to the distal part of the lesion, marking and initial incision, while pushing the snare. During the procedure, pulling the snare allowed the creation of a pocket as well as dissection of the posterior face, while pushing the snare permitted the access to the anterior face. ESD was successful allowing en bloc resection. Using traction on lesions involving the pylorus allows its exposure that would not otherwise be possible. Clip with snare dynamic traction allows bidirectional traction which can be useful in different parts of the procedure.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP158 Effect of different qualities of bowel preparation on detection of adenomas, advanced adenomas and serrated polyps in a large colorectal cancer screening cohort

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DOI 10.1055/s-0043-1765442

Aims Adequate bowel preparation is a well-established quality parameter for screening colonoscopies correlating with increase in adenoma detection rate (ADR), sessile serrated adenoma detection rate (SSADR) and advanced adenoma detection rate (AADR). However, detection of neoplastic lesions is primarily classified into two categories of bowel preparation: adequate and inadequate. In this study we aimed to compare ADR, SSADR and AADR between different bowel preparation qualities in a large screening cohort.

Methods Colonoscopy data from the Austrian national colorectal cancer screening program collected between 2012 and 2022 were analysed. Bowel preparation was categorized into different groups (excellent, good, fair, poor and insufficient) according to the Aronchik Scale. ADR, SSADR and AADR were calculated for each group.

Results A total of 375,352 colonoscopies (48.8 % in men) performed by 361 endoscopists were included in the final analysis. Mean overall ADR, SSADR and AADR were 23.8%, 8.5% and 4.2%, respectively. ADR/SSADR/AADR in excellent, good, fair, poor and insufficient bowel preparations were 26.9%/10.1%/3.1%, 27.2%/8.5%/3.3%, 27.2%/8.5%/3.3%, 15.3%/9.2%/7.3% and 22.5%/6.4%/4%, respectively.

Conclusions Recommended international standards for ADR were met in patients with adequate (excellent, good and fair) bowel preparations. Interestingly, ADR in patients with insufficient bowel preparation was >20 % and significantly higher than in patients with poor bowel preparation. Further, AADR was highest in poor bowel preparations.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP159V Acute cholangitis secondary to endoscopic choledochoduodenostomy food impaction

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DOI 10.1055/s-0043-1765443

Abstract Text A patient was admitted due to acute cholangitis secondary to endoscopic choledochoduodenostomy (EUS-CDS) food impaction. A cholangioscopy was done through the CDS and an uncovered biliary metal stent was anterogradely deployed through the distal common bile duct stricture into the duodenum. The CDS stent was retrieved but the fistula was maintained patent in case of future potential biliary stent malfunction. Hence, a double-pigtail biliary stent was deployed through the CDS and biliary metal stent, leaving its distal end through the papilla and its proximal end in the duodenal bulb. The diameter of the bulbar CDS fistula was significantly reduced with three clips alongside the proximal end of the plastic stent.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP160 3-years follow-up of intraductal radiofrequency ablation for persistent dysplasia after endoscopic ampullectomy

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DOI 10.1055/s-0043-1765444

Aims After endoscopic ampullectomy, intraductal adenoma may persist and radiofrequency ablation (ID-RFA) is a potential alternative to ovoid surgery¹,

but long-term results are unknown. The aim of this study was to evaluate 3-years follow-up after ID-RFA.

Methods 17 patients treated between 2015 and 2019 for intraductal recurrence of adenoma after endoscopic ampullectomy (15 endobiliary adenomas: 12 LGD, 3 HGD, 3 intrapancreatic LGD) were prospectively included in a database. ID-RFA sessions were performed until histological eradication of dysplasia, with systematic plastic pancreatic stent and biliary (FCMS) stent. Recurrence is defined by dysplasia appearing during follow-up after complete eradication.

Results A total of 32 sessions of ID-RFA (within 3 pancreatic) were performed with ELRA system. CBD stenosis occurred in 23 % (4), calibrated by FCMS with success. 2 patients (12 %) were considered in failure of ID-RFA: 1 with persistent dysplasia after 5 sessions (surgery was proposed), 1 with metastatic lymph node recurrence. At 3-yrs, 8/15 (53 %) pts had no recurrence during FU. 4 patients had unrelated severe disease leading to stop biliary survey (1 death, 1 pancreatic tail adenocarcinoma, 1 rectal metastatic cancer, 1 bladder carcinoma). 3 patients (20 %) had dysplasia recurrence (LGD) after complete eradication, with a mean delay of 27 months after last ID-RFA (complementary ID-RFA and argon were proposed) [1].

Conclusions In this study of consecutive patients treated with ID-RFA for persistent adenoma after endoscopic ampullectomy, the 3 years FU shows a complete eradication rate of 53 %. Recurrence (20%) can occur late, and long-term survey is mandatory.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Efficacy and safety of endobiliary radiofrequency ablation for the eradication of residual neoplasia after endoscopic papillectomy: a multicenter prospective study. Camus M, Napoleon B, Vienne A, et al. *Gastrointest Endosc* 2018;88(3):511-518

eP161 Complications in patients with surgically altered gastrointestinal anatomy undergoing endoscopic retrograde cholangiopancreatography (ERCP): Results of a retrospective cohort from Mexico

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DOI 10.1055/s-0043-1765445

Aims ERCP: Endoscopic retrograde cholangiopancreatography (ERCP) in patients with surgically altered gastrointestinal anatomy is a complex procedure. We aim to describe the complications of patients undergoing this procedure in a Mexican cohort from a tertiary care center.

Methods METHODS: A retrospective cohort study was performed including patients undergoing ERCP and a previous gastrointestinal surgery. Procedures from June 2010 to November 2021 were included. Baseline data were retrieved from clinical charts and procedures were performed by expert endoscopists. Endoscopic success was defined as the ability to reach the biliopancreatic region. Follow-up was obtained until last visit or death. Numerical variables are summarized as median and interquartile range and categorical variables are presented in frequencies and percentages [1].

Results RESULTS: A total of 239 procedures were performed in 169 patients, 68% were female and had a median age of 45 years (range 19-84 y). The most common surgical history was Roux-en-Y hepaticojejunostomy (78 %) followed by Whipple procedure (11 %). Overall success was 77 %. Complications developed in 26 procedures (10.8 %), the most common was cholangitis (5 %), followed by perforation (2.5 %), mucosal tear (2 %) and pancreatitis (1 %).

Conclusions CONCLUSIONS: Our cohort has a higher proportion of biliodigestive derivations when compared to previous reports. The complication rate in our cohort seems higher than previously reported, however we have included cholangitis (excluded in other populations).

Conflicts of interest Authors do not have any conflict of interest to disclose.

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scopic retrograde cholangiopancreatography by double-balloon enteroscopy in patients with surgically altered gastrointestinal anatomy. *Rev Esp Enferm Dig* 2020; 112 (4): 278–283. doi:10.17235/reed.2020.6940/2020PMID: 32188256

eP162V Delayed conversion of a EUS-guided gastrojejunostomy in a EUS-guided gastro-colostomy: a rare complication

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DOI 10.1055/s-0043-1765446

Abstract Text A 60 years-old male patient with metastatic pancreatic cancer presented with gastric outlet obstruction due to a distal duodenal stenosis. Endoscopic-ultrasound (EUS)-guided gastrojejunostomy was performed using the freehand technique and a 20mm lumen-apposing metal stent was deployed. The patient recovered a solid diet 48 later and a CT scan confirmed the position of the stent. Twelve days later, the patient presented with peritonitis and a new CT scan confirmed a gastro-colonic anastomosis with a jejunal perforation probably due to the migration of the stent that was traversing a colonic loop not identified during previous EUS.

Conflicts of interest Enrique Perez-Cuadrado-Robles is consultant for Boston Scientific

eP390 Comparing Liaoning score to Newcastle score in predicting oesophageal varices in patients with primary biliary cholangitis

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DOI 10.1055/s-0043-1765447

Aims Newcastle score (NS) is validated in predicting oesophageal varices (OV) in primary-biliary-cholangitis (PBC). Whereas, Liaoning score (LS) was validated, in the same purpose, in cirrhotic patients of all aetiologies. The aim of this study was to compare the diagnostic performance of these scores in predicting OV in PBC patients.

Methods We retrospectively collected, over a period of 20 years, biological and endoscopic data of 108 patients in our centre. New-Italian-Endoscopic-Club OV-grading was used. NS was calculated via an online-calculator. LS formula was: $0.466 + 1.088 \times \text{upper gastrointestinal bleeding} (1 = \text{yes}; 0 = \text{no}) + 1.147 \times \text{ascites} (1 = \text{yes}; 0 = \text{no}) - 0.012 \times \text{platelet} (10^9/l)$.

Results Mean age was 54.6 ± 13.8 years with 93% female. Forty patients (37%) were cirrhotic. Forty-three patients (39.8%) had OV: grade1 (n = 11, 10.2%), grade2 (n = 19, 17.6%) and grade3 (n = 13, 12%). LS and NS were closely correlated ($r = 0.78, p < 0.001$). Elevated NS was efficiently predictive of OV presence: area-under-ROC (AUROC) = 0.85, $p < 0.001$. A cut-off of 0.740 had values of sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and diagnostic accuracy (DA) of 74%, 81%, 74%, 81% and 78% respectively. Equivalently, higher LS was as effective in predicting OV: AUROC = 0.83, $p < 0.001$. A cut-off of 1.424 had respective sensitivity, specificity, PPV, NPV and DA of 79%, 79%, 72%, 84% and 79%. A moderate correlation with OV-grades was found with both LS ($r = 0.48, p = 0.001$) and NS ($r = 0.43, p = 0.005$).

Conclusions Both Liaoning and Newcastle scores were competitive and good predictors of OV in PBC.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP163 Medical Disputes related to Advanced Endoscopic Procedures with ERCP or EUS for the management of Pancreas and Biliary Tract Diseases

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DOI 10.1055/s-0043-1765448

Aims This study aimed to evaluate characteristics of ERCP or EUS-related adverse events (AEs) that eventually lead to medical disputes or claims on medical professional liability (MPL).

Methods Medical disputes for ERCP/EUS-related AEs that had been filed in Korea Medical Dispute Mediation and Arbitration Agency (K-medi) between April 2012 and August 2020 were evaluated with corresponding medical records. The AEs were categorized into three sections: 1) procedure-related, 2) sedation-related, and 3) safety-related AEs.

Results Among a total of 34 cases, procedure-related AEs were twenty-six (76%) [duodenal perforation, 12; post-ERCP pancreatitis (PEP), 7; bleeding, 5; perforation combined with PEP, 2], sedation-related AEs were five (15%) [cardiac arrest, 4; desaturation, 1], and safety-related AEs were three (9%) [follow-up loss for stent removal, 1; asphyxia, 1; fall-down, 1]. Regarding clinical outcomes, 20 (59%) were fatal and had eventually succumbed to the AEs. For types of medical institution, 21 cases (61.7%) occurred at tertiary or academic hospitals, and 13 cases (38.2%) at community hospital.

Conclusions The ERCP/EUS-related AEs filed in K-medi showed distinct features that duodenal perforation was the most frequent AE and clinical outcomes were very fatal resulting in at least more than permanent physical impairment.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP164V Underwater Endoscopic Mucosal Resection For En Bloc Resection of Neuroendocrine Tumours

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DOI 10.1055/s-0043-1765449

Abstract Text Neuroendocrine tumours (NETs) have malignant potential and are typically located in the rectum [1]. Guidelines suggest endoscopic removal in lesions < 10 mm, but the use of underwater endoscopic mucosal resection (UEMR) is not considered in this scenario [2].

A 61 year-old man was referred for colonoscopy. An elevated yellowish 7 mm subepithelial lesion consistent with a NET was found in the rectum. Gas was aspirated and water was infused. The lesion was easily resected underwater with a snare. Final histology revealed a pT1 G1 NET of 7 mm with tumor-free deep and lateral margins.

UEMR might be considered as a therapeutic strategy for < 10 mm rectal NETs.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Ramage JK, De Herder WW, Delle, Fave G et al. ENETS Consensus Guidelines Update for Colorectal Neuroendocrine Neoplasms. *Neuroendocrinology* (Basel) 2016; 103 (2): 139–143

[2] Rivera DR, Gallicchio L, Brown J, Liu B, Kyriacou DN, Shelburne N. Trends in adult cancer-related emergency department utilization: an analysis of data from the nationwide emergency department sample. *JAMA Oncol* 2017; 3: e172450

eP165 Sedation-associated Complication in Post-percutaneous coronary intervention patients during Esophagogastroduodenoscopy with Midazolam

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DOI 10.1055/s-0043-1765450

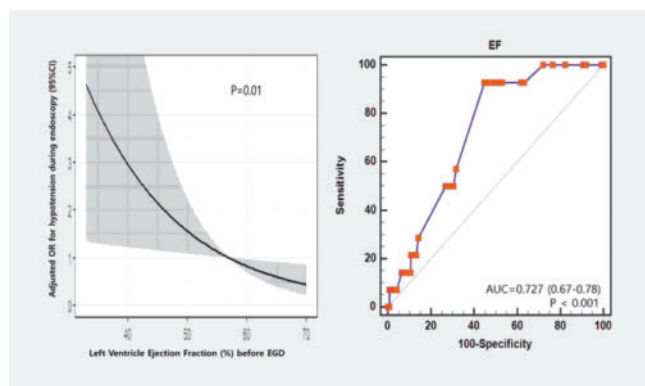
Aims We aimed to determine the surveillance performance of left ventricle ejection fraction (LVEF) by echocardiography to predict sedation-associated complications in endoscopy following percutaneous coronary intervention (PCI).

Methods A single-center retrospective study was conducted at a tertiary hospital between January 2020 and December 2020. All patients who underwent PCI before Esophagogastroduodenoscopy (EGD) with titrated midazolam were enrolled. We defined transient hypotension (SBP < 90 mmHg or at least 20 mmHg less than baseline) and oxygen desaturation (SpO₂ < 90% on room air or < 95% on 2 L/min of oxygen) [1].

Results A total of 450 post-PCI patients underwent EGD with midazolam, and all enrolled patients had echocardiography within 2 years before endoscopy. Among them, 16 patients were confirmed as having hypotension during EGD with sedation. The AUC of the ROC curve for developing hypotension during endoscopy according to the LVEF was 0.727 (95% CI, 0.67–0.78); the calculated optimal cut-off value was 55%. The sensitivity and specificity of LVEF were 92.9% and 55.1%, respectively. The figure shows the association between the risk of hypotension during endoscopy and continuous measures of LVEF using the restricted cubic spline curve. A nonlinear association between LVEF and risk of hypotension was noted, and the negative slope was steep (between 0 and 55%), reaching a plateau above 56% (► Fig. 1).

Conclusions LVEF measured before endoscopy was significantly associated with hypotension during sedation endoscopy in post-PCI patients.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Behrens A, Kreuzmayr A, Manner H et al. Gut 2019; 68: 445–452



► Fig. 1

eP166 Risk of post-polypectomy bleeding after endoscopic mucosal resection in patients receiving antiplatelet medication: comparison between the continue and hold groups

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DOI 10.1055/s-0043-1765451

Aims We aimed to assess post-polypectomy bleeding (PPB) in patients receiving antiplatelet agents and underwent EMR for various polyp sizes.

Methods Patients who underwent at least one EMR for polypectomy and those who received aspirin or clopidogrel were included. We compared PPB between the antiplatelet hold group (stopped antiplatelet therapy at least 5 days before the procedure) and continue group (antiplatelet therapy was maintained or stopped within 5 days before the procedure) [1].

Results Among patients who underwent EMR, 305 took aspirin (hold group 257, continue group 48) and 77 took clopidogrel (hold group 66, continue group 11). The mean number of polyps was four, and the mean size was 8.6 mm. There was no difference in the major PPB rate between the hold and continue groups among aspirin users (2.0% vs. 4.2%, $P=0.30$), but it was significantly higher in the continue group than in the hold group among clopidogrel users (18.2% vs. 0%, $P=0.02$). Inpatient- and polyp-based logistic regression analysis of clopidogrel users, the number of EMRs (OR 2.12, 95% CI 1.16–3.88), polyp size (OR 1.26, 95% CI 1.06–1.49), and continuing clopidogrel (OR 9.75, 95% CI 1.99–47.64) were independent risk factors for PPB.

Conclusions Continuous administration of antiplatelet agents was significantly associated with higher PPB in clopidogrel users, but not in aspirin users. Endoscopists should consider holding clopidogrel if the EMR includes polypectomy.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Park DI. Risk of post-polypectomy bleeding after endoscopic mucosal resection in patients receiving antiplatelet medication: comparison between the continue and hold groups

eP167 Feasibility and clinical utility of stone extraction balloon catheter-assisted endoscopic stenting for malignant distal duodenal obstruction

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DOI 10.1055/s-0043-1765452

Aims Duodenal stenting for malignant distal duodenal obstruction is challenging because the length of conventional gastroscopes is insufficient to reach the obstruction point. We aimed to evaluate the clinical applicability of the stone extraction balloon catheter-assisted endoscopic stenting for malignant distal duodenal obstruction.

Methods Between 2013 and 2022, patients with malignant distal duodenal obstruction who underwent stone extraction balloon catheter-assisted duodenal stenting were retrospectively enrolled. The tip of the stone-extraction balloon catheter can be buried by the balloon when it is maximally inflated. Therefore, the fully inflated balloon catheter smoothly explores the duodenum without bowel injury.

Results A total of 26 patients were enrolled in this study. Pancreatic cancer was the primary cause of duodenal obstruction, and the third portion of the duodenum was the most common site of obstruction. Technical success was achieved in 96.1% (25/26) and clinical success was 96.1%. The mean gastric outlet obstruction scoring system score (GOOSS) improved from 1.07 (pre procedure) to 2.77 (post procedure). No adverse event encountered. During follow-up, stent dysfunction was noted in 9 patients (34.6%). Overall stent patency was 97 days.

Conclusions Stone extraction balloon catheter-assisted duodenal stenting is feasible and effective for malignant distal duodenal obstruction.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP168 Safety and efficacy of endoscopic ultrasound-guided radiofrequency ablation for pancreatic insulinoma: a single-centre experience

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Aims Insulinomas are rare, functioning pancreatic neuroendocrine neoplasms (pNEN), whose gold standard therapy is surgical resection. Endoscopic ultrasound-guided radiofrequency ablation (EUS-RFA) has emerged as a minimally invasive therapeutic option for pancreatic lesions. Aim of this study is to describe a series of patients with pancreatic insulinoma treated with EUS-RFA.

Methods This single-center, retrospective study includes all consecutive patients with pancreatic insulinoma undergoing EUS-RFA because unfit for surgery or refusing surgery. EUS-RFA was performed by using a 19G RFA needle, and a dedicated current generator system with a RFA energy of 20 to 50W. Technical success (i.e., the achievement of complete ablation), adverse events rate, and radiologic response within 3 months after EUS-RFA (i.e., complete tumor necrosis) were evaluated. Follow-up was assessed by clinical monitoring and blood test evaluation at least every 6 months for the first year after the procedure [1–3].

Results From March 2017 to September 2022, 10 patients (mean age: 67.1 ± 10.1 years; F:M 7:3) were included. The mean size of insulinomas was 11.9 ± 3.3mm. The median number of passes was 6 (1–14) with a median ablation duration of 15.9 (6–20) seconds per pass. Technical success, immediate post-procedural euglycaemia, and complete radiological response were achieved in all cases. Mild procedure-related early adverse are shown in (► Table 1). Persistent euglycemia was assessed at 6 and 12 months for each treated patient.

Conclusions Results from this case series suggest that EUS-RFA is a feasible and safe therapeutic approach for pancreatic insulinomas.

Table 1. On the left column, characteristics of all included insulinomas and indication for EUS-RFA. On the right column, outcomes of EUS-RFA. EUS-RFA: endoscopic ultrasound-guided radiofrequency ablation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Waung JA, Todd JF, Keane MG et al. Successful management of a sporadic pancreatic insulinoma by endoscopic ultrasound-guided radiofrequency ablation. *Endoscopy* 2016; 48: (Suppl 1): E144–145

[2] Goldberg SN, Mallery S, Gazelle GS et al. EUS-guided radiofrequency ablation in the pancreas: results in a porcine model. *Gastrointest Endosc* 1999; 50: 392–401

[3] Tsoli M, Chatzellis E, Koumariou A et al. Current best practice in the management of neuroendocrine tumors. *Ther Adv Endocrinol Metab* 2019; 10: 2042018818804698

Patients, n	10	Patients, n	10
Tumour genetic background, n (%)			
Sporadic	8 (80)	1 RFA session	9 (90)
MEN-1	2 (20)	2 RFA sessions	1 (10)
Lesion site, n (%)			
Uncinate	3 (30)	Early adverse events (<48h), n (%)	
Head	0 (0)	Mild abdominal pain	2 (20)
Neck	0 (0)	Self-limiting intraoperative bleeding	1 (10)
Body	3 (30)	Late adverse events (>48h), n (%)	
Tail	4 (40)		0 (0)
p-NEN grading classification, n (%)			
G1 (K67 <2%)	9 (90)	Complete radiologic response, n (%)	
G2 (K67 2–30%)	1 (10)		10 (100)
G3 (K67 >30%)	0 (0)	Indication for EUS-RFA, n (%)	
Indication for EUS-RFA, n (%)			
Patient preference	3 (30)		
Age/comorbidities	7 (70)		

► Table 1

eP169 Typical gastroesophageal reflux disease in a general population: epidemiological, clinical and endoscopic profile

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DOI 10.1055/s-0043-1765454

Aims Gastroesophageal reflux disease represents a public health problem because of its prevalence and its impact on the quality of life of patients. The aim of the work is to describe the epidemiological, clinical and endoscopic lesions of gastroesophageal reflux disease.

Methods This is a retrospective descriptive study carried out between March 2018 and March 2022. It includes all patients suffering from GERD. Data collection was carried out from patients' medical records. The dependent variable was typical gastroesophageal reflux disease.

Results 127 patients were enrolled with a median age of 43 years (18 – 75 years). There was a female predominance with a sex ration M/F = 0,7. A typical symptomatology of GERD was present in 32 patients (27 %). Atypical digestive manifestations were dominated by: epigastralgia (22 %), belching (12 %). The extra-digestive symptoms were dominated by gingivitis (15 %) and precordial pain (12 %). Gastroscopy was normal in 78 % of cases. Esophagitis was present in 12 % of patients with typical symptoms of GERD. The most common lesion observed was grade B esophagitis (28 %) according to the Los Angeles classification. 30.7 % of patients with atypical symptoms had esophagitis. Similarly, grade B was also the lesion most frequently described in 25 % of cases. A hiatus hernia complicated by esophagitis was noted in 65 % of our patients. Endobrachyoesophageal lesions were found in 15 % of patients. All of our patients had received treatment with a proton pump inhibitor.

Conclusions Across a typical or atypical symptomatology of GERD, esogastroduodenal fibroscopy is always indicated because of the frequency of peptic esophagitis and the risk of progression to endobrachyoesophagus and adenocarcinoma.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP170 Predictive factors of failure of endoscopic dilatation of benign esophageal strictures

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DOI 10.1055/s-0043-1765455

Aims Endoscopic dilatation (ED) remains the optimal first-line treatment for any symptomatic benign stenosis (BS) (except idiopathic megaesophagus). The aim of the work is to evaluate the contribution of endoscopic dilatations in the short and long term, and to determine the limits of endoscopic dilatation in case of esophageal SB.

Methods This is a retrospective study including all patients who had one or more dilatation sessions over a 4-year period (2019 – 2021).

Results 27 patients were included, the mean age of our sample was 52 years, sex ration M/F = 1.15. A history of gastroesophageal reflux disease (GERD) was present in 70 % of patients. Clinically, dysphagia was present in 95 % of the patients at the time of diagnosis and was associated weight loss in 30 % of cases. The most frequent types of stenosis were peptic stenosis in 48 % of cases, Plummer Vincent syndrome in 33 % and caustic stenosis in 7 % of cases. 17 stenoses were dilated by Savary candles and 10 by hydrostatic balloon. The average number of dilatation sessions was 3 (2–4). No complications were noted in our series. Recurrence rate was in 24 % of patients, failure in 34 % and therapeutic success in 42 % of patients. In uni and multivariate analysis, male gender, age less than 60 years, extent of stenosis > 2cm and location of stenosis in the upper 1/3 of the esophagus were statistically correlated with recurrence or failure of endoscopic dilatations.

Conclusions Endoscopic dilatation of benign stenoses gives good functional results, nevertheless some factors (age, male sex or character of the stenosis) are associated with risks of failure or recurrence.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP171V Endoscopic ampullectomy

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DOI 10.1055/s-0043-1765456

Abstract Text A 90-year-old male was admitted for cholestatic jaundice. The CT-Scan showed a thickening of the biliopancreatic junction suggesting an ampullary mass with dilation of pancreatic and bile ducts. Total bilirubin rose to 10.5 dL/l. Endoscopic ultrasound indicated an ampullary mass measured 17 * 10mm respecting the duodenal muscularis that were classed uT1. Endoscopic ampullectomy using a 30 mm diathermic snare, with the placement of a double biliary and pancreatic stent was done. The postoperative outcomes were simple, with a resolution of jaundice. The histology showed poorly differentiated adenocarcinoma of the ampulla estimated at 6 mm of long axis infiltrating the duodenal wall up to the level of the muscularis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP172 Real-world artificial intelligence-aided colonoscopy does not improve adenoma detection rates in patients with inflammatory bowel disease

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DOI 10.1055/s-0043-1765457

Aims Recently, the implementation of artificial intelligence-aided colonoscopy (AIAC) has resulted in improved performance of colorectal cancer (CRC) screening. The adenoma detection rate (ADR) is a key quality indicator and achieving high ADRs is crucial for optimal prevention of CRC. We aimed to explore the ADR of patients with IBD in a large-volume endoscopic center and evaluate the effect of AIAC on ADR.

Methods This was a retrospective study conducted at a high-volume gastroenterology department equipped with an AIA device (GI Genius, Medtronic, Ireland). Colonoscopy data including ADR was collected in the 11 months before the mentioned date and compared to a 15-month period afterwards. We excluded patients that performed colonoscopy due to evaluation of IBD severity, for known or suspected malignancy, incomplete colonoscopies and colonoscopies with inadequate preparation.

Results Our study included 996 colonoscopies (237 pre-AIAC, 759 AIAC). The groups were similar in age (median 43.8 years, interquartile ratio (IQR) 28.7-61.2 vs 44.5 years, IQR 30.7-59.1, $p = 0.76$). ADR in the pre-AIAC group tended to be higher compared to AIAC (6.3% vs 4%, $p = 0.1$); When limiting to experienced gastroenterologists (≥ 5 years), ADR was significant higher in the pre-AIAC group (7.6% vs 3.8%, $p = 0.03$). Total procedure time was significantly shorter in the AIAC group (21 minutes, IQR 17-28 vs 25 minutes, IQR 19-37, $p < 0.01$).

Conclusions In a large-volume center cohort, the introduction of AIAC to real-world colonoscopies did not improve ADR in patients with IBD, questioning the integration of AIAC in routine practice.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP173V An elegant alternative to surgery for the management of an epibronchial esophageal diverticulum

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DOI 10.1055/s-0043-1765458

Abstract Text We present a volumous 5cm epibronchial esophageal diverticulum which, due to high rates of expected surgery associated morbi-mortality, was managed by diverticular peroral endoscopic miotomy (D-POEM). Upon removal of abundant food residue inside the diverticulum, a submucosal bleb was created 25mm proximally to the septum's diverticulum, where a 15-20mm extension mucosotomy was made. A submucosal tunnel was created which was then extended to both the end of the diverticulum and the esophagus, thus isolating the septum. Complete septum miotomy was then performed. The mucosal incision was then completely closed using hemoclips.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP174 Endobiliary radiofrequency ablation for malignant biliary obstruction due to perihilar cholangiocarcinoma (RACCOON-p): a prospective pilot study

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DOI 10.1055/s-0043-1765459

Aims Endobiliary radiofrequency ablation (eRFA) is expected to prolong stent patency in malignant biliary obstruction. However, data on eRFA combined with uncovered self-expanding metal stents (uSEMS) in perihilar cholangiocarcinoma (pCCA) are sparse. (1) Aim is to evaluate whether eRFA prior to uSEMS placement is feasible in patients with inoperable pCCA.

Methods Prospective pilot study including 10 patients with inoperable pCCA undergoing eRFA (ELRA, 7 watt, 90 sec, 75 °C) prior to endoscopic placement of uSEMS. Primary endpoints were technical success, clinical success and adverse events (AEs). Secondary endpoints were stent patency and overall survival.

Results The procedure was technically and clinically successful in all patients. One patient was admitted due to self-limiting bleeding after the intervention preceded by sphincterotomy. No other procedure related serious AEs occurred <30 days. Seven patients experienced some transient abdominal discomfort after the procedure (VAS 1-6), adequately treated with oral analgesics. During follow-up 7 patients experienced recurrent biliary obstruction caused by tumor ingrowth ($n = 6$) or sludge ($n = 1$) after a median of 6 months (range 1-8). Of the 3 patients with a patent stent at end of follow-up, two patients died after 2 and 6 months follow-up, the other patient currently has 14 months follow-up. Overall survival since diagnosis was 16 months (range 4-24) (► Table 1).

Conclusions This pilot study confirms the safety and feasibility of eRFA in patients with pCCA. Risk of adverse events seems low and abdominal pain after the procedure mild. Randomized controlled trials are warranted to assess the efficacy of the procedure [1].

Table. Baseline characteristics of 10 patients with pCCA undergoing eRFA and uSEMS placement

Conflicts of interest Jeska A. Fritzsche has no conflicts of interest or financial ties to disclose. Mattheus C.B. Wielenga has no conflicts of interest or financial ties to disclose. Otto L.M. Van Delden has no conflicts of interest or financial

ties to disclose. Joris I. Erdmann has no conflicts of interest or financial ties to disclose. Paul Fockens performed as a consultant for Olympus and Cook Endoscopy. Heinz-Josef Klumpen performed advisory board to institution for Janssen, Astra-Zeneca, and IPSEN. Speaker fee to institution for CCO and MedTalks. Roy L.J. van Wanrooij performed as a consultant for Boston Scientific. Cyriel I.J. Ponsioen reports research grants from Gilead and Perspectum, performed as a consultant for Pliant, Takeda and Shire, and received speaker's fees from Tillotts. Rogier P. Voermans reports research grants from Boston Scientific and Prion Medical, performed as a consultant for Boston Scientific, and received speaker's fee from Mylan and Zambon. All outside the submitted work. [1] de Jong DM, Fritzsche JA, Audhoe AS, Yi SSL, Bruno MJ, Voermans RP, van Driel LMJW. Comparison of Intraductal RFA Plus Stent versus Stent-Only Treatment for Unresectable Perihilar Cholangiocarcinoma-A Systematic Review and Meta-Analysis. *Cancers (Basel)* 2022; 14 (9): 2079

Characteristics	Total (n=10)
Female, n (%)	6 (60)
Median age, y (range)	68.5 (47-87)
Concomitant systemic therapy, n (%)	8 (80)
Bismuth type, n (%)	
• Type I	1 (10)
• Type II	1 (10)
• Type IIIa	2 (20)
• Type IIIb	3 (30)
• Type IV	3 (30)
Number of uSEMS placed, n (%)	
• One	4 (40)
• Two	6 (60)

▶ Table 1

eP175 Analysis of CD-133 and E-Cadherin in Esophageal Squamous Cell Carcinoma – association with histological characteristics

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Aims This study was thus designed to evaluate CD-133 and E-Cadherin in prognosis of esophageal squamous cell carcinoma. The efficacy of the immuno-histochemical markers in lieu of expression would be utilized in determining the treatment protocol.

Methods A total of 100 Esophageal Squamous Cell Carcinoma were identified. Hematoxylin and eosin staining were done to identify the basic pathological characteristics followed by immune-histo-chemistry for analysis of CD133 and E-Cadherin. The data was analyzed by using Statistical Package for Social Sciences version 21.0.

Results It was observed during the research that the majority of patients (83%) were found to have less than 10% positive expression and negative staining of the CD 133. Furthermore, the majority of the patients (65%) were found to have E-Cadherin expression that was less than 10% positive and negative stained, whereas only 30% had expression of CD 133 that was 10% to 30% positive and mildly stained.

Conclusions The findings revealed that CD-133 and E-Cadherin have no significant link with the presence of ESCC in patients. Further, this study provides an essential claim that the expressions of CD-133 and E-Cadherin differ in their behavior, as they did not demonstrate significance. So, it may be concluded that genetic variables and the human development environment, which vary depending on geographic location, may play an essential part in the varied behavior of CD-133 and E-Cadherin in Pakistani patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP176V EUS-guided transgastric antegrade biliary drainage

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DOI 10.1055/s-0043-1765461

Abstract Text A 36-year-old female, with medical history of metastatic antropyloric adenocarcinoma and gastrojejunal anastomosis for gastric outlet obstruction, was admitted for jaundice and fever. Clinical, biochemical and radiological examinations objectified moderate cholangitis related to the tumoral invasion of the distal CBD. We deployed an antegrade Fully Covered-SEMS 80/10 mm with good drainage. The patient presented a clear improvement of clinical status and liver function tests after drainage but unfortunately, she died 04 months later.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP177V Endoscopic submucosal dissection of a rectal lesion recurrence at the anastomotic site: when the staples lead the way

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DOI 10.1055/s-0043-1765462

Abstract Text We present a case of a neoplastic recurrence over an anastomosis site which was treated by endoscopic submucosal dissection. Submucosal injection showed non-lifting sign in the lesion area over the surgical anastomosis. After dissection of the submucosa without fibrosis, an extensive 2cm surgical staple line was reached. At this point, the ESD was technically challenging not only due to the presence of the staples which often hindered electric current passage, but also due to the severe associated fibrosis. During the dissection, two adjacent 2mm microperforations were noted, which were effectively closed with two over-the-scope clips. An R0 en bloc resection of a tubular adenoma with low and high grade dysplasia was achieved [1–2].

Conflicts of interest Authors do not have any conflict of interest to disclose.
[1] Hellinger MD, Santiago CA. Reoperation for recurrent colorectal cancer. *Clin Colon Rectal Surg* 2006; 19: 228–236
[2] Krutsri C, Toyonaga T, Ishida T et al. Feasibility of endoscopic submucosal dissection of lesions at anastomosis site post-colorectal surgery: a case series. *Endosc Int Open* 2019; 07: E949–954

eP178 The visibility and performance of video capsule endoscopy with and without pre-procedural purge preparation in the same patients

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DOI 10.1055/s-0043-1765463

Aims Video capsule endoscopy (VCE) is an established diagnostic tool for the investigation of small bowel (SB) pathologies. Despite clinical studies and meta-analyses, an area of continuing controversy is the role of pre-procedural bowel preparation. The study's aim was to compare visibility and performance of VCE with and without purge preparation in the same patients.

Methods This is a post-hoc analysis of the prospective randomized CURE-CD Trial (Comprehensive individualized pRoactive Therapy of Crohn's Disease trial). Established CD patients in clinical remission were enrolled and classified into 2 groups according to relapse risk assessment. All patients are followed up in our clinic, undergo laboratory tests every 3 months and serial VCE studies every 6 months. The first VCE is done after bowel preparation with a clear liquid diet, PEG & laxative, while the subsequent VCEs, when disease is confined to small bowel only, are done after a day on clear liquid diet. The VCE visibility is rated (1-4 points) by a blind observer, unaware to the preparation regimen [1-23].

Results Forty patients who underwent at least 2 VCEs, at baseline and after 6 months were included. Visibility scores were similar in these 2 time points (3.15 vs 3.10, $p=0.8$). Among the low-risk patients' group ($n=16$) in whom the clinical parameters (CDAI, CRP and calprotectin) haven't changed significantly during this period, inflammatory scores assessed by the capsule Lewis score (LS) and PillCam-CD-score (PCDS) were similar (median LS 225 vs 225, $p=0.87$, median PCDS 4 vs 2, $p=0.37$).

Conclusions The visibility and performance of small bowel VCE for monitoring Crohn's disease is not significantly influenced by purge preparation.

Conflicts of interest B.U. received consulting fees from Neopharm, Takeda, Janssen and Abbvie. S.B.H. has received consulting and advisory board fees and/or research support from AbbVie, MSD, Janssen, Takeda, and CellTrion. U.K. has received speaker fees from Abbvie, Janssen, and Takeda; research support from Takeda and Janssen; and consulting fees from Takeda and CTS. R.E. has received advisory and/or research support from Abbvie, Janssen, Takeda and Medtronic. R.M.Y. has received consulting fees from Medtronic. None of the other authors have any conflicts to declare.

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eP179 Restrictive transfusion decreases mortality in acute upper gastrointestinal bleeding: a systematic review and meta-analysis of randomised controlled trials

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DOI 10.1055/s-0043-1765464

Aims The optimal red blood cell (RBC) transfusion strategy in acute gastrointestinal bleeding (GIB) is debated. We aimed to assess the efficacy and safety of restrictive compared to liberal transfusion strategies in the GIB population.

Methods The protocol of our systematic review and meta-analysis was registered in PROSPERO in advance (CRD42022302923). We searched PubMed, CENTRAL, Embase, Web of Science for randomised controlled trials on the 15th of January, 2022, without restrictions. Studies comparing lower to higher RBC transfusion thresholds after GIB were eligible. We used the random effect model and calculated pooled mean differences (MD) and risk ratios (RR) with 95% confidence intervals (CI) to calculate the overall effect size.

Results All seven eligible studies reported on the upper GIB population. Five used the haemoglobin levels to define the threshold for transfusion (70–80 g/L vs 80–100 g/L), and the other two randomised the participants based on haematocrit (21–25% vs 28–32%). Patients on the restrictive arm received fewer units of RBC (MD: -1.35; CI: -2.39, -0.32). During the 28 to 45-day follow-up, the risk of death decreased by 32% with the restrictive transfusion strategy (RR: 0.68; CI: 0.48, 0.97). The two transfusion strategies did not differ in in-hospital mortality (RR: 0.94; CI: 0.46, 1.94), in-hospital rebleeding (RR: 0.67; CI: 0.30, 1.50), and 28 to 45-day rebleeding (RR: 0.75; CI: 0.49, 1.16).

Conclusions Restrictive transfusion reduces 28 to 45-days mortality after an acute upper GIB episode and is non-inferior to liberal transfusion regarding all investigated clinical endpoints.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP180 Using a new electrocautery lumen apposing metal stent to perform an EUS-guided gastroenterostomy in treatment of gastric outlet obstruction

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DOI 10.1055/s-0043-1765465

Aims Endoscopic ultrasound-guided gastroenterostomy (EUS-GE) for the treatment of gastric outlet obstruction (GOO) has been performed so far, utilizing only one type of electrocautery lumen-apposing metal stents (EC-LAMS). We aimed to evaluate the safety, technical and clinical effectiveness of EUS-GE using a newly available EC-LAMS in patients with malignant and benign GOO [1–13].

Methods Consecutive patients who underwent EUS-GE for GOO using the new EC-LAMS at five endoscopic referral centers were retrospectively retrieved between November 2020 and June 2022. Clinical efficacy was determined utilizing the Gastric Outlet Obstruction Scoring System (GOOSS) and was deemed successful when at least one point of the GOOSS score improved within 48 hours (► **Table 1–3**).

Results Twenty-five patients (64% male, mean age was 68.7 ± 9.3 years) met the inclusion criteria, and 21 (84%) had a malignant etiology. Technically, EUS-GE was successful in all patients, with a mean procedural time of 35 ± 5 minutes. The mean time to resume oral diet was 11.4 ± 5.8 hours, with an improvement of at least one point of GOOSS score observed in all patients. The mean hospi-

tal stay was 3.1 ± 3.3 days. No procedure-related adverse events occurred. After a mean follow-up of 7.6 months (95% CI 4.6–9.2), no stent dysfunctions were observed.

Conclusions This study suggests EUS-GE can be performed safely and successfully using the new EC-LAMS. Future large multicenter prospective studies are needed to confirm our preliminary data.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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GOOSS 0	no food intake
GOOSS 1	liquid only
GOOSS 2	soft solids
GOOSS 3	full diet

► **Table 1** Gastric Outlet Obstruction Scoring System (GOOSS) score [15].

Variable	Total (n=25)
Age	68.7±9.3
Gender male	16 (64%)
Malignant GOO	21 (84%)
Etiology	
Pancreatic cancer	18 (72%)
Gastric cancer	2 (8%)
Biliary cancer	2 (8%)
Chronic pancreatitis	2 (8%)
Duodenal diverticulum	1 (4%)
Location of the obstruction	
Pre-pyloric/pyloric	3 (12%)
Descending duodenum	17 (68%)
Distal duodenum	5 (20%)
Concomitant jaundice	2 (8%)
Previous duodenal stent	2 (8%)
Stent diameter	
10 mm	5 (20%)
16 mm	20 (80%)
Stent dilation post insertion	1 (4%)

Variables were reported as absolute numbers (percentage) or mean (standard deviation) when appropriate

GOO, gastric outlet obstruction; GOOSS, Gastric Outlet Obstruction Scoring System.

► **Table 2** Baseline patients' and procedural characteristics.

Outcome	Total (n=25)
Technical success	25 (100%)
Total procedure time (min)	35±5
Time to resume oral diet (h)	11.4±5.8
Clinical success*	25 (100%)
GOOSS score at 48 h	
1	18 (72%)
3	7 (28%)
GOOSS score at 7 days	
1	8 (32%)
2	7 (28%)
3	10 (40%)
GOOSS score at 30 days	
2	14 (56%)
3	11 (44%)
GOOSS score at 60 days	
Death	3 (12%)
2	12 (48%)
3	7 (28%)
Adverse event rate	0 (0%)
Stent dysfunction	0 (0%)
Duration of hospital stay	3.1±3.3
Follow-up length	7.6 months (95% CI 4.6-9.2)

Variables were reported as absolute numbers (percentage) or mean (standard deviation) when appropriate

GOOSS, Gastric Outlet Obstruction Scoring System.

*Defined as an implementation of at least one point of GOOSS score within 48 hours

► **Table 3** Treatment outcomes.

eP181 Bleeding varices of the duodenum

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DOI 10.1055/s-0043-1765466

Aims Duodenal varices are a rare an uncommon presentation of portal hypertension that involves massive bleeding, diagnostic difficulties, and a high rate of rebleeding and mortality. Diagnosis can be difficult and therapeutic options limited. We present a case of upper gastrointestinal bleeding in a man aged 51 years with liver cirrhosis.

Methods EGDS-In the descending duodenum, below the papilla, the impression of several subepithelial formations, shine through blue (veins?) without bleeding. MSCT angiography did not show the bleeding site. Capsule enteroscopy: After 27 minutes of ingestion, the capsule enters the duodenum, where the mucous membrane covered with fresh blood is displayed.

Results Varicose veins are connected to the renal vein in the central venous system. Under ultrasound control, the branch of the Vena Porta was entered transhepatically and descended to the Vena Mesenterica from which 2 branches fed the varix around the duodenum. Several microcoils of dimensions 10 mmx60 mm were placed until the feeding vessel was completely occluded. At the exit from the v. porta, the branch in the liver is blocked with a temporary embolization agent spongostam [1–6].

Conclusions Liver's portal blood vessels causes portosystemic collaterals, which most frequently occur at the oesophagogastric junction, the abdominal wall, and the rectum. Ectopic varicose veins account about 17% of all cases, most in the bulb and descending portion of the duodenum. Fatality hemorrhage rate might be as high as 40%. The available clinical therapies include: medical

drug treatment, surgical treatment, endoscopic interventional treatment, and interventional embolization.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP182 Intensive endoscopic intervention could sustain the downstaging of multiple duodenal adenomas in patients with familial adenomatous polyposis

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DOI 10.1055/s-0043-1765467

Aims We previously reported the intensive endoscopic intervention for multiple duodenal adenomas (MDAs) in familial adenomatous polyposis (FAP), integrated with new-generation procedures [cold forceps/snare polypectomy (CFP/CSP) or underwater endoscopic mucosal resection (UEMR)] could decrease the Spigelman Stage (SS) at 1-year follow-up.

Methods This cohort study, conducted at a tertiary cancer center, enrolled FAP patients with MDAs and investigated the long-term follow-up data after intensive endoscopic resection. Follow-up esophagi-gastro-duodenoscopy (EGD) was planned for 2–3 months after initial intervention and then annually. During the follow-up EGD, CFP was permitted for residual diminutive (<5 mm) polyps. When polyps ≥5 mm were detected, additional CSP/UEMR was considered. The visible polyps were removed as much as possible. Spigelman stage (SS) in follow-up colonoscopy at the last EGD before August 23, 2022 were assessed.

Results The SS in 55 patients was significantly reduced at the 1-year follow-up endoscopy ($p < 0.001$), with downstaging observed in 39 patients (71%). 52 patients have undergone one or more EGD after 1-year follow-up with 37 (0–56) months median observation period. During the observation period, each patient underwent a median (range) of 3 (1–8) EGDs, with 37 (0–547) CSPs, 78 (0–400) CFPs, and 0 (0–2) UEMRs. There was no significant change in SS with a median (range) of 37 (3–56) months' observation after 1-year follow-up EGD, but the proportion of SS III and IV patients decreased.

Conclusions Intensive endoscopic intervention, including new-generation procedures, could sustain downstaging of MDAs in patients with FAP, even those with advanced-stage disease.

Conflicts of interest Author Y.T. received honoraria for his lectures from Olympus, Boston Scientific (Japan), Daiichi-Sankyo, Miyarisan Pharmaceutical, Asuka Pharmaceutical, AstraZeneca, EA Pharma, Zeria Pharmaceutical, Fujifilm, Kaneka Medix, Kyorin Pharmaceutical, and the Japan Gastroenterological Endoscopy Society. Author S.S. has received honoraria for his lectures from Olympus, Boston Scientific Japan, Daiichi-Sankyo, EA Pharma, Zeria Pharmaceutical,

The Japanese Society of Gastroenterology, and Japan Gastroenterological Endoscopy Society. Author Y.T. is a current editorial board member of Endoscopy. Author T.K. received honoraria for his lectures from Olympus. Author N.U. received personal fees from Olympus, FUJIFILM, Boston Scientific Japan, 3-D Matrix, Ltd, Daiichi-Sankyo, Takeda Pharmaceutical, EA Pharma, Otsuka Pharmaceutical, AstraZeneca, Top Cooperation, Miyano Medical Machine. Author R.I. has received personal fees from EA Pharma, AstraZeneca, Ono Pharmaceutical, MSD, Olympus, Daiichi-Sankyo, and FUJIFILM. The other authors have no actual or potential conflicts of interest to declare. These organizations had no role in the design, practice, or analysis of this manuscript. This study was supported by a grant from Practical Research for Innovative Cancer Control (22ck0106556h0003) from the Japan Agency for Medical Research and Development (AMED).

eP183 One in Four Patients with Gastrointestinal Bleeding Develops Shock or Hemodynamic Instability: A Systematic Review and Meta-analysis

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DOI 10.1055/s-0043-1765468

Aims Hemodynamic instability and shock are associated with untoward outcomes in gastrointestinal bleeding. However, there are no studies on the proportion of patients who developed these outcomes after gastrointestinal bleeding. We aimed to meta-analyze the available data to determine these proportions in different bleeding sources.

Methods The protocol was registered on PROSPERO in advance (CRD42021283258). A systematic search was performed in three databases (PubMed, Embase, and CENTRAL) on 14th October 2021. Pooled proportions with 95% confidence intervals (CI) were calculated with a random-effects model. A subgroup analysis was carried out based on the time of assessment (on admission or during hospital stay) of the investigated outcomes. Heterogeneity was assessed by Higgins and Thompson's I^2 . The Joanna Briggs Institute Prevalence Critical Appraisal Tool was used for the risk of bias assessment.

Results We identified 11,589 records, of which 220 studies were eligible for data extraction. The overall proportion of shock and hemodynamic instability in gastrointestinal bleeding patients was 0.25 (CI: 0.17–0.36). In non-variceal bleeding, the proportion was 0.22 (CI: 0.14–0.31), whereas it was 0.25 (CI: 0.19–0.32) in variceal bleeding. The proportion of patients with colonic diverticular bleeding who developed shock or hemodynamic instability was 0.12 (CI: 0.06–0.22). The risk of bias was low, and heterogeneity was high in all analyses.

Conclusions One in five, one in four, and one in eight patients develops shock or hemodynamic instability on admission or during the hospital stay in the case of non-variceal, variceal, and colonic diverticular bleeding, respectively.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP184V Malignant duodenal obstruction with obstructive jaundice post PTBD: EUS GJ with interval ERC for blocked PTBD stent

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DOI 10.1055/s-0043-1765469

Abstract Text Endosonography guided gastrojejunostomy is now preferred treatment for malignant gastric outlet obstruction with excellent technical and

clinical success with lesser complications. It not only improves patients tolerance to oral feeds but can also provide an access to reach a block CBD stent in case patient develops cholangitis with obstructive jaundice. We present a case of 84yr gentleman who had obstructive jaundice for which percutaneous transhepatic CBD stenting was done and had presented to us with gastric outlet obstruction for which we did EUS guided gastrojejunostomy. He later presented to us with cholangitis and jaundice for which we did ERC by reaching blocked CBD stent with a colonoscope through GJ stent.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP185 Artificial intelligence-assisted linked color imaging colonoscopy improves adenoma detection rate compared to linked color imaging colonoscopy alone

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DOI 10.1055/s-0043-1765470

Aims Integration of artificial intelligence (AI) into white light imaging colonoscopy improves the adenoma detection rate (ADR). Linked color imaging (LCI) colonoscopy also improves ADR compared to white light imaging. The aim of this study is to compare the ADR of AI-assisted LCI colonoscopy with LCI colonoscopy alone.

Methods Patients undergoing total colonoscopy for the investigation of positive fecal immunochemical tests were included and retrospectively reviewed. AI-assisted colonoscopy (CADEYE, Fujifilm, Tokyo, Japan) was introduced in March 2020 in our institution. Before the introduction of AI, LCI colonoscopy had been performed.

Results A total of 189 patients were divided into AI-assisted LCI (n = 70) and LCI (n = 119) groups. ADR was significantly higher using AI-assisted LCI compared with LCI alone (66% vs 50%, p = 0.041). The mean number of adenomas detected per patient was slightly higher using AI-assisted LCI compared with LCI (1.2 + -1.4 vs 1.0 + -1.2, p = 0.261). There were no significant differences between the two groups regarding age, gender, body mass index, total colonoscopy time, cecal intubation time, non-polyp withdrawal time or Boston Bowel Preparation Scale. Polyps were slightly smaller in AI-assisted LCI compared with LCI alone (mean 5.9 + -2.8 vs 6.4 + -4.4 mm, p = 0.373). The proportion of polyps located in the proximal colon was similar in the two groups. In multivariate analysis, using AI-assisted LCI and advanced age (>60-year-old) were significantly associated with higher ADR.

Conclusions AI-assisted LCI colonoscopy significantly improves the ADR compared to LCI alone colonoscopy. This is the first study reporting the effectiveness of AI integration into LCI.

Conflicts of interest H.S. has received grants from Fujifilm Co. Ltd. H.Y. has consultant relationships with Fujifilm Co. Ltd. and received honoraria, grants, and royalties from the company. The other authors declare no conflicts of interest.

eP186 Are asymptomatic common bile duct stones a risk of post ERCP-pancreatitis or something else under cover points

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DOI 10.1055/s-0043-1765471

Aims Retrospective studies found that endoscopic retrograde cholangiopancreatography (ERCP) in asymptomatic compared with symptomatic common bile duct stones (CBDSS) patients increase the risk of post-ERCP pancreatitis

(PEP). This study aimed to determine the risk of PEP in asymptomatic CBDS patients in association with accidents of difficult cannulation due to diameter of distal part of common bile duct [1–5].

Methods We studied 346 patients with native papilla were invited to participate into the study and divided into two groups. Group 1 (asymptomatic group) includes 68 patients (19.6%; age – 53.93 ± 11.6; males – 44.11%). Group 2 (symptomatic group) consisted of 278 patients (80,3%; age – 52.31 ± 12.6; males – 48.9%). All patients underwent CBDS removal by ERCP. In both group all cases were managed into two subgroups based on CBD diameter (<10mm, and >10mm). All statistical tests were two-sided, and P<0,05 was considered statistically significant. All statistical analyses were performed using SPSS V27.0 software.

Results Occurrence of severe form of acute pancreatitis and other complications was higher in 1-th (asymptomatic) group in general. The number of CBD diameter <10mm cases was higher in 1-th (asymptomatic) group. In both groups there was a higher rate of PEP and difficult cannulation cases in subgroup with CBD diameter <10mm. In the 2d (symptomatic) group had a reduced level of complications in general (p<0,05).

Conclusions ERCP for asymptomatic CBD stones had a high risk of PEP in cases with CBD distal part diameter <10mm. Endoscopists should be experienced and used all prophylactic points by ESGE recommendations.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP187V Unusual case of oesophageal perforation by a toothpick and successful endoscopic treatment

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DOI 10.1055/s-0043-1765472

Abstract Text A 38 years old lady was referred to our hospital due to inadvertent swallowing and penetration of oesophageal wall by a toothpick. Patient experienced mild chest pain and difficulty in swallowing, but no mediastinal free air or fluid was noted in the CT scan. She underwent a gastroscopy intubated in the theatre room, where a toothpick had penetrated the upper oesophageal wall. It was removed with a rat-tooth forcep and the remaining gap was successfully sealed with two endoclips. Post procedural course was uneventful and patient discharged 4 days later. Cases of inadvertent swallow and oesophageal perforation by toothpicks are rare and if non timely diagnosed and treated could be lethal [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP188 Results of a Study on a Water-Soluble Alternative to Simethicone for Visualization of the GI tract

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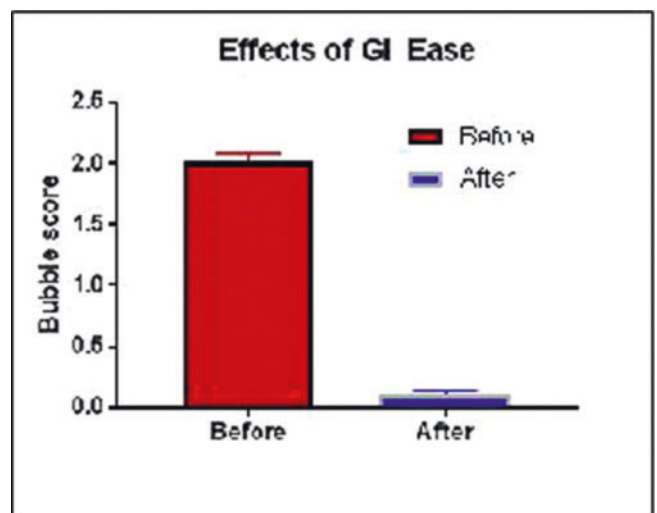
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DOI 10.1055/s-0043-1765473

Aims To identify and evaluate an effective water-soluble alternative to simethicone that aligns with endoscope manufacturer recommendations while eliminating bubbles to improve endoscopic mucosal visualization.

Methods A single-centre, non-randomized, prospective, open-labelled pilot study was designed with 100 subjects. Upper endoscopies and colonoscopies were performed by 7 physicians. 64 mL of the identified alternative was diluted in 100mL of sterile water. Flushes were delivered during the procedure as 60mL injections via the working channel of the endoscopes. A grading scheme was created using a bubble scale scoring system, ranging from grade 3 (bubbles filling the entire lumen) to 0 (no or minimal bubbles). The number of flushes of the simethicone alternative delivered to achieve the desired mucosal visibility was recorded.

Results In 99 out of 100 patients, the bubble scale score improved to a grade 0-1, thereby facilitating improved GI visualization. The pre-post paired t-test of bubble scores showed significant bubble decline (t=27, p<.00001). Multiple regression analyses, using bubble score change as the dependent outcome, showed the number of flushes to be a significant predictor (adjusted R² = .155, p<.001) with no age or sex differences [1–5] (► Fig. 1).



► Fig. 1 Graph of the Reduction of the Bubble Score with use of Alternative Solution.

Conclusions The results indicated that the identified alternative solution was effective at reducing gas bubbles and therefore improving visualization. These study findings are important because the use of a water-soluble alternative to simethicone allows for the safe visualization of the mucosa, diagnosing cancers, and removing polyps while decreasing risks associated with retained simethicone.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP189 Machine learning to predict adverse events of sedatives in gastrointestinal endoscopy by using a random forest model

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DOI 10.1055/s-0043-1765474

Aims Sedation has become standard practice for patients undergoing gastrointestinal (GI) endoscopy. However, considering the serious cardiopulmonary adverse events (AEs) of sedatives, it is important to identify patients at high risk. Nowadays, machine learning across a wide range of medical data can generate reasonable predictions for AEs in the clinical field. This study aims to perform a machine learning using a random forest model to identify predictors of AEs in sedative GI endoscopy.

Methods This observational prospective study enrolled the 462 patients who underwent sedative GI endoscopy in Korea university ansan hospital. The clinical data were used as predictor variables to construct random forest models to forecast the AEs of sedatives.

Results A total of 128 patients (27.7%) showed cardiopulmonary AEs in sedative endoscopy. Among them, 97 had hypoxia (pulse oximetry < 90%) and 31 had tachycardia (heart rate > 100 bpm). Patients group who developed AEs were older, had more male, smokers, heavy drinkers, higher BMI and neck circumference, had longer procedure time, and used propofol alone rather than with midazolam with/without propofol, and needed additional sedatives. The area under the receiver operating characteristic curve for the model based on the random forest for predicting AEs in sedative endoscopy was 0.82 (95% CI: 0.79–0.86).

Conclusions We constructed a random forest model to predict AEs during sedative GI endoscopy with acceptable performance.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP190 The effectiveness of a very low-volume compared to high-volume laxative in colon capsule endoscopy

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DOI 10.1055/s-0043-1765475

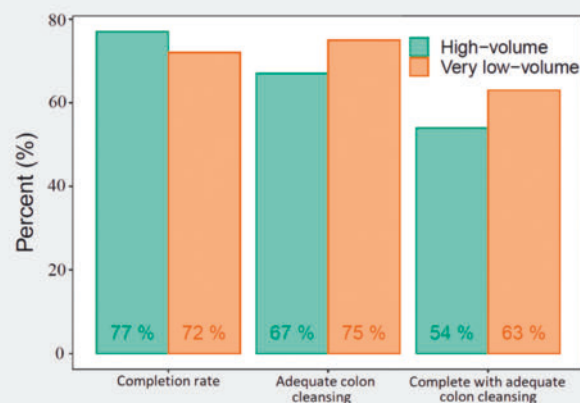
Aims Colon capsule endoscopy (CCE) is an alternative modality for colonic investigations. However, completion and adequate cleansing rates must be improved to meet established standards set for its conventional counterpart (optical colonoscopy). Any proposed improvements must consider patient acceptability. We aimed to compare a very low-volume polyethylene glycol (PEG) laxative to a conventional high-volume laxative preparation in CCE.

Methods We carried out a single-center retrospective comparative cohort study including consecutive patients referred for CCE. One hundred and sixty-six patients were included in the final analysis, 83 patients in each group. The high-volume group received 4L of PEG solution and the very low-volume group received 1L PEG solution with ascorbic acid and 2L of additional clear liquids. A gastroenterologist, with extensive experience in small-bowel capsule & CCE and blinded to the laxative used, evaluated completion of the investigations and cleansing quality of the colon based on the Leighton-Rex scale.

Results We found a completion rate and adequate cleansing rate of 77% and 67% in the high-volume group and 72% and 75% in the very low-volume group, respectively. In the high-volume group, 54% had complete colonic transit and adequate cleansing, whereas this was the case for 63% in the very low-volume group. No statistically significant difference in completion rate, adequate cleansing rate, or a combination of the two was found (► Fig. 1).

Conclusions A very low-volume bowel preparation regimen was non-inferior to a high-volume regimen before CCE in terms of completion rate and adequate cleansing rate.

Conflicts of interest Anastasios Koulaouzis: co-founder & shareholder of AJM Med-i-caps Ltd.; co-director & shareholder of iCERV Ltd.; consultancy fees (Jinshan Ltd.); travel support (Jinshan, Aquilant Ltd., Diagmed Healthcare Ltd., and Dr. Falk Pharma); research support (grant) from ESGE/Given Imaging Ltd. and (material) IntroMedic/SynMed; honoraria (Dr. Falk Pharma UK, Ferring, Jinshan, Medtronic). Advisory board meetings (Dr. Falk Pharma UK, Tilltots Pharma, ANKON). Ervin Toth has received research support and consultancy fee from Medtronic, Olympus, AnX Robotica and Norgine.



► Fig. 1

eP191 Long-term efficacy of metal versus plastic stents in inoperable perihilar cholangiocarcinoma; a multicenter retrospective propensity score matched comparison

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DOI 10.1055/s-0043-1765476

Aims For palliative drainage of inoperable perihilar cholangiocarcinoma (pCCA) uncovered metal stents are preferred over plastic stents [1, 2]. However, data regarding re-interventions in the long-term (>6 months) are lacking. (5)

Methods This retrospective study in two tertiary referral centers comprised patients with pCCA between 2001 and 2021 who survived at least 6 months and underwent plastic stent placement(s) for the full disease period or had metal stent(s) in situ for at least 6 months. Primary outcome was the number of re-interventions per patient-year and need for permanent percutaneous drainage catheters. A propensity score matching (1:1) analysis was performed using age, Bismuth classification, and systemic therapy as variables. [3]

Results Patients in the metal stent group (n = 87) underwent fewer re-interventions compared with the plastic stent group (n = 40) (3.0 vs. 4.7 re-interventions per patient-year; incidence rate ratio (IRR), 0.64; 95% CI, 0.47 to 0.88). When only non-elective re-interventions were included no significant difference was present (2.1 vs. 2.8 per patient-year; IRR, 0.76; 95% CI, 0.55 to 1.08). At final follow-up, 11 patients (12.6%) had a percutaneous drain in situ in the metal stent group versus 5 patients (12.5%) in the plastic stent group (risk ratio (RR), 1.01; 95% CI, 0.38 to 2.72). After propensity score matching, 40 patients were matched in both groups. Results were similar in this dataset.

Conclusions This study shows that, also in patients with inoperable pCCA who survive at least 6 months, the placement of metal stent(s) leads to fewer re-interventions compared with plastic stent(s).

Conflicts of interest Jeska A. Fritzsche, David M. de Jong, Jasmijn J.M.M. Borremans, Otto M. Van Delden, Joris I. Erdmann, Nahid S.M. Montazeri, Peter de Gooyer, Bas Groot Koerkamp, Adriaan Moelker, Lynn E. Nooijen, and Lydi M.J.W. van Driel have no conflicts of interest or financial ties to disclose. Marco J. Bruno reports research grants from Boston Scientific, Cook Medical, Pentax Medical, InterScope, 3M, and Mylan, and performed as a consultant for Boston Scientific, Cook Medical, and Pentax Medical. Paul Fockens performed as a consultant for Olympus and Cook Endoscopy. Heinz-Josef Klümpen performed advisory board to institution for Janssen, Astra-Zeneca, and IPSEN. Speaker fee to institution for CCO and MedTalks. Cyriel Y. Ponsioen reports research grants from Gilead and Perspectum, performed as a consultant for Pliant, Takeda and Shire, and received speaker's fees from Tillotts. Roy L.J. van Wanrooij performed as a consultant for Boston Scientific. Rogier P. Voermans reports research grants from Boston Scientific and Prion Medical, performed as a consultant for Boston Scientific, and received speaker's fee from Mylan and Zambon. All outside the submitted work.

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eP192 Retrograde Tubing as a Rescue Treatment of Megaesophagus: A Case Report

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DOI 10.1055/s-0043-1765477

Aims Describe a method for conservartive endoscopic treatment for megae-sophagus

Methods Case report

Results A 20 y/o boy suffering from familial dysautonomia (FD) has been referred to the clinic due to chronic cough, dyspnea, and desaturation secondary to recurrent aspirations of esophageal content. He developed a megaesophagus, severe food and secretion retention, leading to recurrent pneumonia, cardiac compression on cross-sectional imaging and exertional dyspnea. The patient was obliged to manually remove esophageal secretions, using his own fingers. As a rescue therapy, we replaced the existing gastrostomy tube with a gastrojejunostomy (GJ tube). However, rather than placing the Jejunostomy tube in the small bowel it was placed retrogradely directly to the esophagus, aided by fluoroscopy, demonstrating clearance of esophageal contrast media. The patient tolerated the procedure well and there were not any early or late complications. With passive esophageal drainage through the J port, the patient experienced significant relief. He could stop non-stop antibiotics, desaturation had resolved as well as other respiratory symptoms. He continued to be fed by the GJ gastro route.

Conclusions Reverse esophageal tubing can greatly improve quality of life in patients with FD and megaesophagus, as well as in other, non-FD esophageal dysmotility conditions. Utilizing a pre-existing gastrostomy or even initiating a gastrostomy in order to enable this therapy can provide hope in cases where there are no other solutions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP193 Initial experience of spinal anesthesia for recto-sigmoid endoscopic submucosal dissection: a case series

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DOI 10.1055/s-0043-1765478

Aims Endoscopic submucosal dissection (ESD), considered to be the optimal resection technique for early colorectal cancer, requires the patient to be in still position for a long period of time. While conscious sedation may allow involuntary movements of the patient, deep sedation carries a higher risk of sedation-related adverse events (AEs), especially in frail patients. Spinal anesthesia (SA), a simple analgesic technique providing a deep and fast nerve block, has not been used in gastrointestinal endoscopy so far. We aimed to evaluate the feasibility and performance of SA in large recto-sigmoid lesion ESD [1–12].

Methods In this prospective case series study, we report an initial experience of ESD for large (>35mm) recto-sigmoid laterally spreading tumors (LSTs) using SA. We evaluated technical success, sedation/anesthesia-related periprocedural AEs and pain, measured via visual assessment scale (VAS).

Results Eleven patients were included in the study (Table 1). Technical success was achieved in 100% of cases. No life-threatening sedation-related AEs were observed. Both one case (9.1%) of acute urinary retention and mild acute kidney injury were observed. All patients reported VAS = 0 during procedure. Two out of 11 (18.2%) patients reported pain (VAS = 3 and 7) on the day after the procedure only. No need for additional drug administration including opioids and/or benzodiazepines was needed. Median hospital stay was 1 day (► Fig. 1).

Conclusions This is the first report of the use of SA in gastrointestinal endoscopy. Our initial experience in large recto-sigmoid lesion ESD suggests that SA

is feasible and safe, and may be a valuable option especially for long-lasting procedures in frail patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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No. of patients (n=11)	
Sex (M:F)	3:8
Mean age (range)	67 (49-92)
Mean BMI (range)	24.3 (18.1-31.2)
ASA score	
ASA I	3
ASA II	5
ASA III	3
Mallampati score	
1	5
2	4
3	-
4	2
Mean lesion size (range)	45 (35-80)
Lesion morphology	
LST-G	1
LST-GM	7
LST-NG	3
Histology	
High-grade dysplasia	6
T1 adenocarcinoma	5
Sm1	1
Sm2	3
Sm3	1
Mean procedural time (range)	100 (52-160)

ASA, American Society of Anesthesiologists; BMI, body mass index; F, female; G, granular; GM, granular mixed type; LST, Laterally Spreading Tumor; M, male; NG, non granular; SM, submucosal

► Fig. 1

eP194 Feasibility and safety of endoscopic hand suturing in various applications

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DOI 10.1055/s-0043-1765479

Aims Endoscopic hand suturing (EHS) has been developed and clinically introduced to firmly appose the intraluminal tissue with a surgical suture and a through-the-scope type flexible needle holder. We retrospectively evaluated the feasibility and safety of EHS in various clinical settings.

Methods Between December 2018 and October 2022, EHS was performed in 41 lesions in our hospital. The applications of EHS are; mucosal closure after gastric ESD in 28, defect closure after gastric SMT removal under laparoscopic observation in 9, defect closure after rectal EFTR in 2, mucosal closure for gastric ulcer bleeding in 1, and mucosal closure after POEM in 1, respectively. Technical success, clinical success after the procedure, and severe adverse events related to EHS were assessed [1].

Results EHS was successfully completed in 40 lesions (98%). In one POEM case, EHS was discontinued due to the narrow lumen. Clinical success was achieved in 37 lesions (90%). In 2 gastric ESD cases, the second-look endoscopy on postoperative day 3 revealed that suturing sites were partly reopened. In one remnant stomach ESD case, melena occurred on postoperative day 6 albeit EHS was successful and the defect remained closed. No EHS-related severe adverse event occurred.

Conclusions EHS appears feasible and safe in tissue apposition of the stomach and the rectum regardless of the defect depth, whereas a narrow lumen of the esophagus seems to hamper EHS. Further accumulation should be required to suggest an optimal indication of EHS.

Conflicts of interest Olympus Co., Ltd.

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eP195 Oesophagogastroduodenoscopy in the elderly cohort – a retrospective analysis of observations from a teaching hospital in the United Kingdom

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DOI 10.1055/s-0043-1765480

Aims In absence of guidance or data regarding safety and appropriateness of emergency endoscopy in the elderly, comorbid and frail patients, we aimed to find clinical outcomes in elderly patients who have undergone gastroscopy following an acute UGIB.

Methods We carried out a retrospective observational study of patients aged 70 years and older who had undergone emergency oesophagogastroduodenoscopy (OGD) at the Royal Sussex County Hospital, Brighton, United Kingdom between May 2020 to January 2022. Data collected for analysis included Glasgow Blatchford score, age, gender, endoscopic findings, endoscopic treatments, immediate complications, 30-day complications, 90-day survival, length of hospital stay and re-bleeding.

Results A total of 248 study participants were categorized into two groups; age 70-79 years (102 patients) and ≥80 years (146 patients). Melaena (226, 91%, p=0.0001) was the commonest indication for emergency OGD in both

groups, with majority of patients presenting with Glasgow Blatchford score ≥ 1 (200, 80.6%, $p = 0.2$). Endoscopic findings in both groups showed 30% were normal, with duodenal ulcer, oesophagitis and gastric ulcer as commonest findings, (20%, 11.7% and 11.3% respectively, $p = 0.01$). 93.8% ($n = 212$) of participants in both groups had no immediate complications, bleeding, hypotension and death were 2.7%, 2.4% and 0.9% respectively. Death within 90 days of procedure occurred in 6% of patients aged ≥ 80 years whilst none died in the 70-79 years group ($p = 0.5$) [1–2].

Conclusions We conclude that oesophagogastroduodenoscopy is largely a safe procedure in older adults with acute UGIB. However, patients (≥ 80 yrs) are more likely to suffer from complications.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP196 Analysis of urgent gastroscopies in non-variceal upper gastrointestinal bleeding in a tertiary hospital: a retrospective study

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DOI 10.1055/s-0043-1765481

Aims In the south east of Spain we lack of recent data related to non-variceal upper gastrointestinal bleeding (NUGB). And so, the aims of this study are to evaluate demographic data and the most frequent findings on urgent upper endoscopy.

Methods A retrospective review of our hospital's endoscopy database from January 2011 to March 2022 was conducted.

Results We included 2817 cases of gastrointestinal bleeding out the total of 118726 patients of the database. Sixty-nine percent of all endoscopies were performed in men. Mean age was 68 years. The most frequent indication was melena (48.6%) followed by hematemesis (38.8%) and iron deficiency anemia (9.12%). The average number of endoscopies performed every year was 252, with a slight decline during pandemic to 210. Lesions compatible with Mallory-Weiss syndrome were described in 102 patients (3.62%). Type I Hiatal hernia was described in 348 patients (12.35%), with Cameron's ulcers in 22 patients (6.32%). Acute mucosal injuries were described in 145 patients (5.15%). Gastric ulcer was found in 260 patients while duodenal ulcer (DU) was observed in 416 patients, with an active bleeding (AB) rate of 8% and 20.7% respectively. Gastrointestinal angiodysplasia was found in 75 endoscopies, 55 gastric and 25 duodenal, and an AB rate of 18.2% and 57.4% respectively. Dieulafoy's lesion was described in 23 patients, 15 gastric and 8 duodenal, and an AB rate of 80% and 50% each [1–2].

Conclusions NUGB is more frequent in men and the risk of bleeding increases with age. The most frequent finding was DU. The highest rate of AB was found in Dieulafoy's lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP197 Risk factors of anastomosis related difficult ERCP following EUS-guided gastro-gastrostomy (EDGE) using a standardized protocol

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DOI 10.1055/s-0043-1765482

Aims Little is known about how to perform the endoscopic ultrasound-directed transgastric endoscopic retrograde cholangiopancreatography (ERCP; EDGE) in patients with gastric bypass using lumen-apposing metal stents (LAMS). To assess the risk factors of anastomosis related difficult ERCP (► Table 1).

Methods Observational single-center study. All patients who underwent an EDGE in 2020-2022 following a standardized protocol were included. Risk factors for difficult ERCP, defined as the need of ≥ 3 minutes, LAMS dilation or failure to pass a duodenoscope, were assessed.

Results Forty-one ERCPs were performed in 26 patients (57 ± 7 yr, 57% male). The EUS procedure was done using a wire-guided technique ($n = 23$, 88.5%) for biliary stones ($n = 19$, 73%) in most cases. The location of the anastomosis was gastro-gastric ($n = 19$, 73%) and mainly in the middle-excluded stomach ($n = 18$, 69.2%) with an oblique axis ($n = 17$, 65%). The ERCP technical success was 96.2%. There were 10 difficult ERCPs (39%). By multivariable analysis adjusted by two-stages procedures, the risk factors for a difficult ERCP were the jejunogastro route [85% vs. 21%, $OR_{2s}: 25.05$ (CI95%: 1.2-518)], $p = 0.037$), and the anastomosis to the proximal/distal excluded stomach [87.5% vs. 16.7%, $OR_{2s}: 37.27$ (CI95%: 1.9-711), $p = 0.016$] (Table). There was only 1 complication (4%) and 1 gastro-gastric fistula (4%) in a median follow-up of 4 months.

Conclusions The jejunogastric route and the anastomosis with the proximal/distal excluded stomach during the EDGE procedure increase the difficulty of ERCP.

Conflicts of interest Enrique Perez-Cuadrado-Robles is consultant of Boston Scientific

Table: Univariable and multivariable analyses of risk factors for difficult anastomosis-related ERCP in patients who underwent an EDGE procedure.

Feature	Total cohort (n, %)	Risk of difficult ERCP	Univariable analysis OR (CI95%)	Multivariable analysis OR (CI95%)
Jejunogastric anastomotic location	7 (26.9%)	85.7% vs. 21.1%	22.5 (2.068-244.838)	25.05 (1.2-518)
Proximal/distal excluded stomach	8 (30.8%)	87.5% vs. 16.7%	35 (3.067-399.357)	37.27(1.9-711)
Horizontal/vertical axis	9 (34.6%)	100% vs. 5.9%	(confounder)	(confounder)

► Table 1

eP198 EUS prior to ERCP in cases with dilated CBD on other imaging with normal or borderline deranged LFT- Is it really worth?

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DOI 10.1055/s-0043-1765483

Aims To evaluate the efficacy of EUS prior to ERCP for patients with dilated CBD and other inconclusive imaging with normal or borderline derangement of LFT. **Methods:** A total of 900 patients were referred for ERCP in last 6 years with inconclusive imaging study for dilated CBD and normal to borderline deranged LFT's. EUS was performed in all.

Results 482 –CBD stones, 08 –Pancreatic Malignancy, 12 –Distal Cholangiocarcinoma, 04 – CBD Sludge, 34 –Ampullary Tumor, 30 –Impacted Stone at ampulla, 12 – Distal CBD polyps, 06 –WON Compression, 12 – Chronic Pancreatitis Related Stricture, 86 – Presumed Spontaneous passage of stones, 44-Type 1 Choledochal cyst, 60 –Periampullary diverticulum, 40 – Stones in Hartman's pouch, 34 –Small ampullary adenoma, 16 – Duodenal ulcers with scarring, 20 – Post cholecystectomy dilatation. ERCP was performed in 557 cases (61.9%) and avoided in 38.1%). Pancreatic malignancy, distal cholangiocarcinoma, ampullary tumors, FNA done. No ERC. Subjected to surgery. 2 patients with CBD sludge had cholangitis, ERC done. Distal CBD polyps removed at ERCP, two had intraductal ductal extensions so surgery done. 2 with choledochal cyst and post duodenal ulcer scarring underwent ERC as they had cholangitis.

Conclusions EUS has remarkable diagnostic yield in detecting etiology of dilated CBD and avoids unnecessary ERCP's in patients with unidentified cause on other imaging modality.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP199 New method of Papillectomy maybe decreased recurrence : anchored method versus conventional method

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Aims Endoscopic papillectomy for ampullary tumors has many adverse events and high recurrence rate, but it is widely used because it could avoid surgical resection such as whipple operation. The purpose of this study is to evaluate the usefulness of the anchor method in papillectomy that was similar EMR-P method in colon polypectomy.

Methods The first step of anchor method is performed biliary cannulation via needle knife fistulotomy. The second step is to insert the tip of the snare into the bile duct and then slowly stretch the snare downward to catch the tumor. The final step of anchor method is resection of the tumor caught in the snare. 99 patients were performed papillectomy are reviewed retrospectively in single medical institution from 2009 to 2020.

Results 62 patients underwent anchor method and 37 patients underwent non-anchor method. In baseline characteristics, there was no significant difference such as sex ratio, age, duct invasion in EUS finding. In procedure result, en-bloc resection rate is significantly higher in anchor method group (anchor Vs non-anchor, 95.2% Vs 78.4%, $p = 0.010$), but ratio of margin positive, prophylactic APC, duct invasion and ERPD insertion were not difference. Recurrence is higher in non-anchor method (8.1% Vs 37.8%, $p = 0.000$). The follow-up period (725 Vs 1045 days, $p = 0.109$) and recurrence days (341 Vs 562 days, $p = 0.551$) are not significantly difference between two groups (► **Table 1**).

	Anchor group n=62	non-anchor group n=37	p-value
Sex, male (%)	39 (62.9)	39 (62.9)	0.736
Age	64.8 ± 11.6	65.3 ± 12.7	0.870
EUS finding			
B-inv or p-inv	3/39 (7.7)	1/15 (6.7)	0.814
margin +	16 (39.0)	11 (29.7)	0.896
margin free/lat+/ver+/both/unclear	37(59.7)/9(14.5)/2(3.2)/1/5(8.1)/9(14.5)	23(62.2)/6(16.2)/2(5.4)/1/3(8.1)	0.519
B-duct invasion	2 (3.2)	4 (10.8)	0.075
en-bloc resection	59 (95.2)	29 (78.4)	0.010*
ERPD insertion	43 (69.4)	31 (83.8)	0.112
prophylactic APC	32 (51.6)	19 (51.4)	0.980
bleeding	45 (72.6)	25 (67.6)	0.600
hyperamylasemia/pancreatitis	28 (45.2)/ 9 (14.5)	15 (40.5)/ 6 (16.2)	0.934
duct stricture	0 (0)	2 (5.4)	0.081
perforation	0 (0)	1 (2.7)	0.197
admission days	11.3 ± 4.4	11.9 ± 5.6	0.594

► **Table 1**

Conclusions Although anchor method in papillectomy is simple, but it showed better results than non-anchor method in en-bloc resection and recurrence rate. Except for small ampulla or periampullary diverticulum, we think it would be effective method to papillectomy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP200 Clinical outcomes of colonoscopic polypectomy with strategic surveillance colonoscopies in patients with 10 or more polyps

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DOI 10.1055/s-0043-1765485

Aims The clinical usefulness of repeat colonoscopic polypectomy in patients with numerous polyps has not been sufficiently determined. We aimed to analyze the clinical outcomes of colonoscopic polypectomy with surveillance colonoscopies in patients with ≥ 10 polyps.

Methods We reviewed the medical records of 152 patients who underwent polypectomy of ≥ 10 polyps at the baseline colonoscopy. We investigated polyp number, polyp size, polypectomy method, procedure time, and adverse events of the baseline colonoscopy. We also investigated the frequency and interval of surveillance colonoscopies and their findings.

Results The mean number of polyps detected at the baseline colonoscopy was 20.0, of which 16.0 polyps were endoscopically resected. The mean size of the largest polyp was 13.4 mm. The mean procedure time was 54.9 minutes. Post-polypectomy bleeding occurred in 6 (3.9%) patients, all of whom were treated conservatively. No patients developed perforation. With an increasing number of surveillance colonoscopies, the number of detected polyps and the procedure time decreased. Surveillance colonoscopies identified colorectal cancer only in three patients (2.0%), all of which were mucosal cancers that could be curatively treated by polypectomy.

Conclusions Colonoscopic polypectomy with repeat surveillance colonoscopies is a clinically effective, efficient, and safe management option in patients with ≥ 10 polyps.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP201 Endoscopists' expertise level as a factor influencing clinical outcomes after bridge-to-surgery stenting in obstructive colorectal cancer

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Aims Bridge-to-surgery (BTS) stenting has been adopted for favorable short-term postoperative prognosis in obstructive colorectal cancer (CRC). However, BTS stenting-associated factors influencing clinical outcomes have not been clearly elucidated. Therefore, this study aimed to investigate factors related to clinical course after BTS stenting in obstructive CRC.

Methods We retrospectively identified all patients who underwent BTS stenting in obstructive CRC patients between January 2008 and December 2017 at a tertiary hospital in Seoul, Korea. A total of 233 patients were included in the final analysis. Patients' baseline demographics, stent-related factors, and clinical outcomes after BTS stenting were reviewed. Univariate and multivariate analyses was performed to identify factors associated with clinical outcomes (► **Table 1**).

Univariate analyses for factors influencing postoperative complications			
Bridging interval (≤ 7 days, 1.0(Reference))	>7 days	0.38(0.15-0.97)	0.043
Multivariate analyses for factors influencing clinical success and BTS stenting-related complications			
Stenting experience (≤ 50 , 1.0 (Reference))	>100	5.5(1.45-28.39)	0.02
Stenting experience (≤ 50 , 1.0 (Reference))	>100	0.26(0.07-0.80)	0.03

► Table 1

Results The interval between BTS stenting and surgery was ≤ 7 days in 79 patients (34%) and > 7 days in 154 patients (66%). BTS stenting was performed by endoscopists with ≤ 50 , 51-100, > 100 stent experience in 94, 43, and 96 patients, respectively. BTS stent-related and postoperative complications developed in 19 (8.2%) and 20 (8.6%) patients, respectively. Oncological recurrence occurred in 75 patients (33%) during the follow-up period of 55 ± 32 months. In univariate analyses, BTS interval > 7 days reduced postoperative complications. In multivariate analyses, stenting experience > 100 significantly improved clinical success of stenting and decreased stent-related complications in comparison to stenting experience ≤ 50 .

Conclusions Sufficient endoscopists' expertise level was required for better short-term outcomes such as clinical success of stenting and stent-related complications. Long-term oncological outcome was not affected by BTS stenting-related factors.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP202 Relationship between endoscopic findings, histologic type, and biopsy diagnosis rates in primary small intestinal lymphoma

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DOI 10.1055/s-0043-1765487

Aims Although the importance of endoscopic diagnosis of primary small intestinal lymphoma (PSIL) is widely recognized, a relationship between endoscopic findings and histologic type has not been well demonstrated. This study aims to clarify the relationship between endoscopic findings and histologic type of PSIL and to determine the biopsy diagnostic rate.

Methods One hundred lesions from 49 patients evaluated by double-balloon endoscopy and diagnosed as PSIL between December 2005 and November 2020 were retrospectively reviewed. Endoscopic findings were classified as polypoid, ulcerative, multiple nodules, diffuse, concentric stenosis, or unclassified lesions.

Results Endoscopic macroscopic types included 8 (8%) polypoid, 32 (32%) ulcerative, 47 (47%) multiple nodules, 7 (7%) diffuse, 4 (4%) concentric stenosis, and 2 (2%) unclassified. Diffuse large B-cell lymphoma (DLBCL) was found in 72% (23/32) of ulcerative lesions and 75% (6/8) of the polypoid type, while 98% (46/47) of multiple nodules type were follicular lymphoma (FL). All concentric stenosis types were FL (4/4). The endoscopic macroscopic type showed a moderately significant association with histologic type (Cramer's V coefficient 0.41, $P < 0.001$). The overall biopsy diagnostic rate was 95%, and 100% for ulcerative, polypoid, and diffuse types, 92% for multiple nodules type, and 75% for concentric stenosis type.

Conclusions The results of the present study show a significant relationship between endoscopic findings and histologic type of PSIL and a high diagnostic rate for endoscopic biopsy. Enteroscopy is an indispensable diagnostic modality for the evaluation of patients with PSIL.

Conflicts of interest H.Y. has a consultant relationship with Fujifilm Corporation and has received honoraria, grants, and royalties from the company. H.S., T.Y. and H.Y. has received honoraria and grants from FUJIFILM Medical Co., Ltd. Other authors have no financial conflicts of interest. The funding source had no role in the design, practice or analysis of this study.

eP203 Successful endoscopic treatment of refractory benign esophageal stenosis and chronic gastrocutaneous fistula in combined endoscopic-radiology intervention

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DOI 10.1055/s-0043-1765488

Aims We describe a patient that was successfully treated for refractory esophageal stenosis and chronic gastrocutaneous fistula with combined endoscopic-radiology intervention.

Methods A 75 year old patient was referred to our institution with refractory postirradiation esophageal stenosis and long lasting gastrocutaneous fistula. In 2019 patient was treated with chemo/radiotherapy for locally advanced squamocellular esophageal cancer and was completely in remission. Postirradiation proximal esophageal rigid narrow stenosis (length 2 cm, width 3 mm) occurred. Also, while treated for the primary tumor, surgical gastrotomy was placed but resulted in tegmentum necrosis which ended in formation of chronic gastrocutaneous fistula of 6-7 mm lumen width. We started treating esophageal stenosis with balloon dilatation but after 5 sessions adequate lumen could not be achieved so we decided to place a biodegradable 10 cm ELLA-SX stent. Five days after placing a stent we could pass the scope in the stomach and visualized a chronic wide lumen gastrocutaneous fistula. We assumed that no endoscopic method would be enough to close the fistula so we decided to seal the fistula with Amplatzer vascular plug II (Abbot AVP II 10 mm).

Results After stent placement and fistula closure patient resumed with a mixed diet, and the fistula leak completely stopped. Endoscopy after three months revealed resorption of biodegradable stent, but the esophageal lumen was still passable with the scope and the gastrocutaneous fistula completely closed.

Conclusions Multidisciplinary and slightly unconventional approach resulted in successful endoscopic treatment of refractory esophageal stenosis and chronic gastrocutaneous fistula

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP204 Ultrasound-guided needle biopsy fluorescence spectroscopy with quantitative fluorescence endoscopy for response monitoring in patients with esophageal cancer after neoadjuvant chemoradiotherapy using bevacizumab-800CW

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DOI 10.1055/s-0043-1765489

Aims Ultrasound guided needle biopsy (USNB) reflectance spectroscopy potentially enables assessment of lymph nodes and all esophageal wall layers. This pilot study evaluates the clinical impact of USNB fluorescence spectroscopy using bevacizumab-800CW for the identification of residual tumor in patients with esophageal cancer.

Methods Patients diagnosed with locally advanced esophageal adenocarcinoma (cT1b-4a N0-3 M0) scheduled for neoadjuvant chemoradiotherapy (CROSS) followed by surgery were included. Patients were intravenously injected with either 4.5, 10 or 25 mg bevacizumab-800CW 2-3 days prior to the QFE to establish the optimal dose. FME collected real-time white light and fluorescence images of the tumor bed and normal esophageal tissue. Quantitative fluorescent measurements were acquired luminal using multi-diameter single fiber reflectance / single fiber fluorescence (MDSFR/SFF) and inside the esophageal wall and within lymph nodes using USNB fluorescence spectroscopy

Results Fifteen patients were included in the dose-escalation, where 25mg had the best differentiation between tumor bed and normal tissue (TBR:

2.63 ± 0.60, $p = 0.0002$). USNB was evaluated in 6/8 patients from the 25mg cohort. The tumor bed ($p = 0.059$) and lymph nodes ($p = 0.041$) showed a higher fluorescence intensity compared to normal tissue, as expected. In 33% of patient's residual tumor was found only below a tumor-free mucosa.

Conclusions This study showed the potential of bevacizumab-800CW and QFE for response monitoring in esophageal cancer. QFE allows for both luminal and deeper tissue measurements to determine both the targeted fluorescence tracers and optical properties *in vivo*.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP205 Radiofrequency ablation of large high grade dysplasia lesion (early squamocellular cancer) in the esophagus

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DOI 10.1055/s-0043-1765490

Aims Radiofrequency ablation (RFA) is a well established method for treating Barrett esophagus, gastric antral vascular ectasia and postirradiation proctitis. We describe successful use of RFA in treating large high-grade squamocellular dysplastic lesion in the esophagus.

Methods A 86 year old patient was referred to our institution after been diagnosed with large lesion in the middle part of the esophagus. The lesion was 5 cm in length and occupied 1/2 of the esophageal circumference. Biopsies revealed that it was high grade dysplasia lesion with small areas of early squamocellular cancer. CT scan and EUS were performed and showed just mild mucosal thickening with no signs of disease dissemination or regional enlarged lymph nodes. Due to patient high age, multiple comorbidities, anesthesiology risk and permanent anticoagulant therapy surgical and advanced endoscopic resection were considered as too invasive with high procedural risks. After communicating with the patient we offered RFA as a treatment of choice. In a short sedation with midazolam we performed RFA with HALO 90 catheter in a double-clean-double strategy (all together 22 ablations on the lesion was applied) without short or long term complications. Patient was discharged one day after the procedure.

Results Patient is still in our regular follow-up three years after the RFA treatment with 2x a year endoscopic + lugol staining + biopsy and EUS control and CT scan 1x a year- without signs of local recurrence or disease dissemination.

Conclusions In selected patients, where radical surgery or advanced endoscopic resection of early esophageal cancer is considered too aggressive, RFA could be the preferred treatment option.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP206 Following Peroral Endoscopic Myotomy (POEM) for Achalasia Esophagram is a Reliable Predictor of Esophageal Contents on EGD

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DOI 10.1055/s-0043-1765491

Aims Peroral endoscopic myotomy (POEM) treats achalasia, but patients have higher risk of gastroesophageal reflux (GER) compared to Heller myotomy. Post-POEM endoscopic GER screening is recommended to identify those at risk for reflux-related complications. Due to aspiration risk, endotracheal (ET) intubation is performed on achalasia patients for EGD, though it is unclear if the risk remains after POEM. We aimed to determine if esophagram ≥ 3 months post-POEM could predict the presence of esophageal contents on EGD.

Methods We identified patients who underwent POEM from 01/2021-08/2022 with follow-up EGD ≥ 3 months later. Protocol requires achalasia patients to avoid solids for 2 days and NPO for 8 hours before endoscopy. Demographics were abstracted from the electronic medical record.

Results 33 patients underwent POEM, 25 had follow-up esophagram and EGD. Most had type 2 achalasia (64.0%) with a pre-POEM mean Eckardt score of 6.2 (SD 2.2), indicating moderate to severe disease. Post-POEM mean Eckardt score decreased to 1.5 (SD 1.2). 56% of patients received ET intubation during follow-up EGD. In patients where the 13mm barium tablet passed the GEJ (N = 14), none had esophageal contents (Table 1). In patients whose standing barium column at 5 min was < 10cm, 10.5% (N = 2) had esophageal contents. ROC curve for column height as a predictor of esophageal contents with AUC 0.91.

Conclusions Following POEM, adequate GEJ passage of a 13mm barium tablet and 5 minute standing barium column height of less than 7.1cm, were predictors of an empty esophagus during follow-up EGD. This select group may not require endotracheal intubation on subsequent EGD in the presence of improved dysphagia (► Fig. ► 1).

Table 1. Outcomes after POEM. POEM: Peroral Endoscopic Myotomy; SD: Standard deviation; BMI: Body mass index; IQR: Interquartile range; GEJ: Gastroesophageal junction; EGD: Esophagogastroduodenoscopy

Conflicts of interest Authors do not have any conflict of interest to disclose.

Table 1. Outcomes after POEM	
Median column height at 5 min (IQR)	1.9 (0.0-7.4)
% with fluids/solids in esophagus on follow up EGD	4 (16.0%)
Of those with tablet passing GEJ (N=14), % with fluids/solids in esophagus	0%
Of those with 5-min standing column <7.1 (N=15), % with fluids/solids in esophagus	0%
Of those with 5-min standing column <10.0 (N=19), % with fluids/solids in esophagus	10.5%

POEM: Peroral Endoscopic Myotomy; SD: Standard deviation; BMI: Body mass index; IQR: Interquartile range; GEJ: Gastroesophageal junction; EGD: Esophagogastroduodenoscopy

► Table 1

eP207 Colorectal Cancer among young adults beyond the age

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DOI 10.1055/s-0043-1765492

Aims Colorectal cancer (CRC) prevalence is increasing among young adults. We aimed to investigate the change in age at diagnosis and the risk factors for CRC [1–5].

Methods Patients diagnosed with CRC were retrospectively included (years 1999 and 2021). Data regarding demographics, age at diagnosis, comorbidities, and mortality were collected, and compared between young adults (≤ 50 years) compared to those diagnosed at age 51 or older. Data were retrieved using the MDClone platform from Clalit (a large Health Maintenance Organization).

Results 61,679 patients diagnosed with CRC were included in our analysis, 30,456 (49.4%) males, age at diagnosis 70.1 ± 13.1 years and Arab 4891 (7.9%). 5561 (9%) diagnosed at age ≤ 50 years. In the last decades, higher rates of young patients were diagnosed compared to previous decade, 9.8% vs 8.3%, $p < 0.001$. Young adults patients diagnosed with CRC had higher rate of females, 52.8% vs 50.4%, family history of CRC 9.9% vs 5.5%, Arab ethnicity 18.7% vs 6.9%, smoking rate 32.7% vs 30.2% compared to patients diagnosed at age ≥ 51. Significant lower rates of comorbidities such as ischemic heart disease, diabetes mellitus, hypertension, obesity and iron deficiency anemia were found among young adults with CRC. The all-cause mortality was lower among young adults, 27.7% compared to 63.1% among patient at age 51 and older.

Conclusions Young adults with increased risk for CRC need special consideration and should be referred early to endoscopic investigation, particularly those with family history of CRC, smoker or of Arab ethnicity.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP208 A new tool for rapid evaluation of endoscopic ultrasound through the needle biopsy in pancreatic cystic neoplasm: a pilot study

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DOI 10.1055/s-0043-1765493

Aims Fluorescence Confocal Laser Microscopy (FCM) allows imaging of tissues in the fresh state, requiring minimal preparation without damage or loss of tissue. We aimed to assess the feasibility of FCM with MAVIG VivaScope microscope on EUS-TTNB fragment and to assess the concordance between the diagnosis with VivaScope and the standard technique.

Methods Single centre prospective study. Obtained EUS-TTNB samples were evaluated at FCM and classified as "Inadequate" or "Adequate". Adequate samples were classified as serous, mucinous or other according the morphological characteristics of the epithelial lining.

Results From June 2021 to September 2022, 15 patients were enrolled. The mean size of PCNs was 39.2 ± 8.8 mm. At VivaScope evaluation, the sample was defined adequate in 14/15 (93.3%). Among the adequate samples, 71.4% was defined mucinous, 14.3% serous cystoadenoma, 7.1% pseudocyst and 7.1% neuroendocrine cystic tumour. There was a good agreement between the VivaScope diagnosis and the final histological diagnosis (kappa Cohen's coefficient 1, p = 0.001). The VivaScope's Sensitivity was 100%, 95% CI 76.8–100%, the Specificity 100%, 95% CI 2.5–100% and Accuracy 100% 95% CI 78.2–100%.

Conclusions FCM represents a new technique successfully applicable to micro-histological specimens. It provides fast information about sample adequacy and diagnosis in small specimens with good agreement with the final histology.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP209 At admission hemodynamic instability is associated with increased mortality and rebleeding rate in acute gastrointestinal bleeding: A systematic review and meta-analysis

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DOI 10.1055/s-0043-1765494

Aims Acute gastrointestinal bleeding (GIB) is a life-threatening event. Around 20–30% of patients with GIB will develop hemodynamic instability (HI). We aimed to quantify HI as a risk factor in developing relevant endpoints in acute GIB.

Methods PROSPERO registration number: CRD42021285727. We systematically searched three medical databases in October 2021. Studies of GIB patients detailing HI as a risk factor for the investigated outcomes were selected. For the overall results, pooled odds ratios (ORs) with 95% confidence intervals (CIs) were calculated based on a random-effects model. Subgroups were formed

based on the source of bleeding. Quality of Prognostic Studies tool was used to assess the risk of bias.

Results A total of 62 studies were eligible, and 39 were included in the quantitative synthesis. HI was found to be a risk factor for both in-hospital (OR: 5.48; CI: 3.99–7.52) and 30-day mortality (OR: 4.15; CI: 3.18–5.42) in upper GIB (UGIB). HI was also associated with a higher in-hospital (OR: 3.68; CI: 2.24–6.05) and 30-day rebleeding rate (OR: 4.12; 1.83–9.31) among patients with UGIB. The need for surgery was also more common in hemodynamically compromised UGIB patients (OR: 3.65; CI: 2.84–4.68). In the case of in-hospital mortality, from the included 27 studies, one (4%) carried a high, 13 (48%) a medium, and 13 (48%) low risk of bias.

Conclusions Hemodynamically compromised patients have increased odds of all relevant untoward endpoints in GIB. Therefore, to improve outcomes, adequate emergency care is crucial in HI.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP210 Coexisting common bile duct stones in patients with acute cholecystitis – predictors and the role of current guidelines

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DOI 10.1055/s-0043-1765495

Aims To evaluate the utility of the main international guidelines and proposed algorithms for the prediction of concurrent choledocholithiasis in patients with acute cholecystitis

Methods An observational retrospective study including hospitalized patients admitted with acute cholecystitis between January 2016 and December 2020 at Edith Wolfson Medical Center.

Results A total of 155 patients with AC, mean age 67.73 ± 15.86 years were included. Fifty patients (32.2%) had confirmed CDL. The criteria for high likelihood of CDL according to the ASGE guidelines had a sensitivity and specificity of 61.9% (95% confidence interval [CI] 48.8–73.9) and 83.4% (95% CI 75.4–90.0) for predicting CDL. The high likelihood criteria according to the ESGE guidelines had sensitivity and specificity of 49.2% (95% CI 36.4–62.1) and 87.3% (95% CI 79.6–92.9). On logistic regression analysis, an alkaline phosphatase level above the upper limit of normal (P = 0.003) and a dilated common bile duct on ultrasound (P = 0.001) were independent positive predictors for choledocholithiasis, while acute biliary pancreatitis was an independent negative predictor (P = 0.030) [1–12] (► Fig. 1).

Conclusions The performance of the ASGE and ESGE guidelines' risk stratification criteria for predicting CDL specifically in patients with AC is lacking. Further studies are needed in order to create a more specific predictive model in this selected group of patients

Conflicts of interest Authors do not have any conflict of interest to disclose.

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Age in years (mean ± SD)	67.73±15.86
Female Gender, n (%)	85 (54.8%)
Comorbidities, n (%)	
Hypertension	64 (41.2%)
Diabetes Mellitus	27 (17.4%)
Obesity	2 (1.2%)
Acute biliary pancreatitis	11 (7.1%)
Confirmed choledocholithiasis	50 (32.2%)
Imaging, n (%)	
US	130 (83.8%)
CT	58 (37.4%)
MRI	4 (2.5%)
EUS	65 (41.9%)
ERCP	48 (30.9%)
Dilated CBD on US	49 (31.6%)
CBD stone/sludge on US	47 (30.3%)

▶ Table 1

eP211 Underwater technique in complicated diverticular disease: initial experience

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DOI 10.1055/s-0043-1765496

Aims the underwater technique (UWT) has so far been used for the resection of sessile polyps, with satisfactory results in terms of efficacy and complications. The aim of this work is to demonstrate the effectiveness of the underwater technique for diagnostic purposes, in patients suffering from diverticular disease with insurmountable stenosis at traditional colonoscopy.

Methods A cohort of 50 patients (20 D and 30 U – mean age 72 years) with incomplete colonic due to stenosing diverticular disease (DICA 4) confirmed by CT colon examination was enrolled. virtual colonoscopy performed as a diagnostic completion. All the patients had been evaluated at other endoscopy clinics and subsequently studied at the Endoscopy Center of the Benevento ASL, for the detection, in at least 15 patients, of lesions compatible with polyps > 6 mm on the colon CT scan. All patients underwent colonoscopy under conscious sedation with a thin colonoscope (Olympus PTH PF 190), filling the stenotic lumen with UWT [1–3].

Results In 41 patients, the use of the UW technique allowed the stenotic section to be overcome, allowing the examination to be completed; in the remaining 9 the stenosis was insurmountable. In the 15 patients with lesions compatible with polyps > 6 mm on colon CT, only 5 were positive, 2 of which with the finding of polypoid formations > 1 cm in sections other than those reported on colon CT. No complications were recorded both in the diagnostic phase and in the operative phase.

Conclusions The UW technique can represent an alternative method in the diagnosis of certain pathological and inflammatory conditions with a high risk of perforation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP212 Difficult cannulation criteria for ERCP procedures with or without trainee involvement

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DOI 10.1055/s-0043-1765497

Aims The criteria for difficult cannulation were proposed by the European Society of Gastrointestinal Endoscopy to define difficult biliary cannulation. Our study aimed to show correlation between time for cannulation and adverse events in trainee-involved procedures.

Methods For study were selected cases with biliary cannulation with or without trainee involvement. Assessment outcomes studied for cannulation time, attempts, inadvertent pancreatic duct (PD) cannulation, adverse events rates. All statistical analyses were performed using SPSS V27.0 software, P<0,05 was considered statistically significant.

Results We studied 586 cases with native papilla selected for ERCP (eligible for trainee-involved procedures) divided into two groups. Group 1 – trainee-procedure (293; age – 52.68 ± 8.6), Group 2 – non-trainee-procedures (293; age – 51.48 ± 9.5). Main part of these with biliary cannulation for biliary stones extraction (75%). According to study trainee-involved procedures had longer cannulation time (8.4 [3.1–18.8] vs. 2.3 [0.8–5.4] minutes), and more attempts (6 [2–11] vs. 2 [1–4]). The numbers of attempts and needle-knife pre-cut were restricted by trainers in difficult cases. In Group 1 were higher rate of inadvertent PD cannulation and pancreatic stent placement vs. procedures without trainee involvement (P<0.05). Incidences of post-ERCP pancreatitis following difficult cannulation were comparable [1–9].

Conclusions Performing cannulation trainee needs more time to choose right method and do it accurately. However, it has no correlation with rates of post-ERCP pancreatitis. The criteria for difficult cannulation could be changed in trainee-involved procedures.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP213 High-risk polyps at screening colonoscopy are associated with upper gastrointestinal cancer mortality

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DOI 10.1055/s-0043-1765498

Aims Currently, gastric cancer screening is only cost-effective in countries with high incidence. Colorectal cancer screening is an effective method for the reduction of CRC incidence and receives high attendance rates. Integrated screening, where gastroscopy is performed in conjunction with colonoscopy, could help reduce the gastric cancer screening procedure burden in countries with low or intermediate incidence. However, there is a lack of population-based studies providing data on groups at high risk for mortality from gastric malignancies that might benefit from this approach.

Methods We used Cox proportional hazards model to identify an association of high-risk and low-risk finding (polyps ≥ 10 mm or with high-grade dysplasia vs < 10 mm and no high-grade dysplasia or advanced adenoma vs non-advanced adenoma) with time to death from upper gastrointestinal (esophageal and gastric) cancer using Cox Proportional Hazards model.

Results In participants with non-advanced adenomas, hazards for upper GI cancer death were similar compared to participants with advanced adenomas (HR 1.37, 95% CI 1.01-1.72 and HR 1.35, 95% CI 0.94-1.95). However, in participants with polyps ≥ 10 mm or HGD, hazards for upper GI cancer death were higher (HR 1.70, 95% CI 1.07-1.66).

Conclusions CRC screening participants with polyps < 10 mm and no HGD have a lower risk for mortality from upper gastrointestinal cancers compared to participants with polyps > 10 mm and HGD. Future studies will demonstrate whether integrated screening with additional gastroscopy is effective in CRC screening participants with large or highly dysplastic polyps.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP214 Feasibility, safety and efficacy of partially covered self-expandable metal stents for leaks after esophageal or gastric resection for malignancies: a single center experience

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DOI 10.1055/s-0043-1765499

Aims to assess the feasibility, safety and efficacy of partially covered self-expandable metal stents (PC SEMS) for leaks after esophageal or gastric resection for malignancies

Methods we retrospectively collected data of patients from November 2018 to October 2022

Results 23 patients (18 M, median age 70 yrs) were included. 11 patients had an esophagogastric anastomosis, 11 an esophagojejunal anastomosis and 1 an esophago-colonic anastomosis. 22 defects were anastomotic leak, 1 was a leak of the jejunal cul-de-sac. The median time between surgery and leak diagnosis was 8 (3-44) days. 20 (87%) patients received Boston Ultraflex partially covered stent (100/120/150 mmx18/23 mm) and 3 (13%) patients Boston Agile par-

tially covered stent (120/150x23 mm). Stent placement was technically successful in all patients. The median time between stent placement and removal was 29 (4-52) days. One patient died for other causes with stent in place. PC SEMS retrieval was safe and easy, except for one patient who needed stent-in-stent technique for the subsequent successful removal. 15/22 and 2/22 patients obtained leak resolution after one and two stent placement respectively, with an overall success rate of 77%. Concerning patients with persistent leak, 1 patient achieved defect healing with Esosponge, 4 (17%) patients needed re-intervention. During a median follow-up time of 4.4 (1.1-35.2) months, complications were observed in 4/22 (18%) patients: 2 migrations, 1 stricture at the level of the proximal stent margin, 1 self-limiting haemorrhage

Conclusions PC SEMS placement is a feasible, safe and effective technique for leak treatment after esophageal or gastric surgery for malignancies

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP215 "Modified-Endoshield": A negative pressure box with a ventilation system to improve the safety of pediatric endoscopy during the COVID-19 pandemic

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DOI 10.1055/s-0043-1765500

Aims To increase the safety of endoscopy in the era of the COVID-19 pandemic, we described a negative airflow box with a leak-proof system.

Methods A transparent box was connected to a High Efficiency Particulate Air (HEPA) filter to create the negative pressure room and was placed over the patient's head and shoulders. A rubber glove was fastened to the endoscopic port to avoid aerosol leakage. For a 90-second interval, incense sticks were used to create fine particulate matter (PM), which was intended to resemble virus particles. The front and right sides and inside of the box were chosen as the locations for the PM 2.5 sensors. As control and test circumstances, respectively, the effectiveness of the negative pressure and leak-proof systems was qualified with and without negative pressure.

Results In control conditions, PM 2.5 gradually grew at the front side (493.2 + 208.9 mcg/m³), moved to the right side (185.1 + 118.4 mcg/m³), and then within the box (296.9 + 266.6 mcg/m³), reaching a stable state at the front side by 600 mcg/m³ in 11 seconds. While in test condition, PM 2.5 was rapidly moved to the inside (544.7 + 164.1 mcg/m³; $p < 0.001$) and reached a steady state in 10 seconds, with only a small number of particles detected outside (22.1 + 1.4 mcg/m³; $p < 0.001$ and 18.3 + 0.7 mcg/m³; $p < 0.001$ at the front and right side, respectively) (► **Table 1**).

Conclusions The negative pressure and glove leak proof had an efficacy to reduce aerosol transmission.

Conflicts of interest Authors do not have any conflict of interest to disclose.

PM 2.5 (mcg/m ³) / Conditions	Control	Test	p-value
Front	493.2 ± 208.9	22.1±1.4	< 0.001
Right	185.1 ± 118.4	18.3±0.7	< 0.001
Inside	296.9 ± 266.6	544.7±164.1	< 0.001

► **Table 1**

eP216V Endoscopic Videolaparoscopic-assisted duodenal polypectomy: a case-video

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DOI 10.1055/s-0043-1765501

Abstract Text A 42-years-old woman, due to sideropenic anemia and melena, underwent an esophagogastroduodenoscopy in which was found a large pedunculated polyp with the base in the duodenal bulb, whose head, measuring approximately 45 mm, could not be pull in the antrum for a safer polypectomy due. An Endoscopic VLS-assisted polypectomy was performed in which the surgeon press on the stomach and duodenal bulb under endoscopist instruction to push the polyp's head in the antrum. Then a standard piecemeal hot snare polypectomy was performed. The pathologist analyses reveal an hamartomatous polyp without dysplasia and the patient underwent Peutz–Jeghers syndrome genetic test.

Conflicts of interest Claudio Giovanni De Angelis is a consultant for Med-Globe, Olympus and Boston Scientific

eP217 Evaluation of complications in patients with Inflammatory Bowel Disease and Primary Sclerosing Cholangitis following Total Proctocolectomy with Ileal Pouch-Anal Anastomosis versus Subtotal Colectomy

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DOI 10.1055/s-0043-1765502

Aims Patients with inflammatory bowel disease (IBD) and primary sclerosing cholangitis (PSC) have higher colorectal cancer risk. Total proctocolectomy with ileal pouch-anal anastomosis (IPAA) is the preferred surgery for medically refractory disease or dysplasia/neoplasia. It is unclear if subtotal colectomy with ileocolonic or ileorectal anastomosis is a safe alternative with comparable complications. We aimed to describe inflammatory, surgical, and neoplastic outcomes following IPAA vs. subtotal colectomy in IBD-PSC patients.

Methods Retrospective EMR review of tertiary care center patients diagnosed with IBD-PSC status post total proctocolectomy with IPAA or subtotal colectomy from Jan 1972 to Jan 2022.

Results 125 patients met inclusion criteria (99 IPAA; 26 subtotal colectomy) (Table 1). Among 87 (87.9%) IPAA patients who developed pouchitis, 18.4% (n = 16) required biologic therapy. Sixteen (61.5%) subtotal colectomy patients developed proctitis, of whom 50% were treated with biologics. IPAA patients experienced 7.5 surgical complications per 100 years (11.8 median follow-up years). Subtotal colectomy patients experienced 2.7 surgical complications per 100 years (13.8 median follow-up years). Seven (7.1%) IPAA patients required pouch excision. On endoscopic surveillance of IPAA patients, 2 (2.0%) had ileal pouch low grade dysplasia (LGD), and 2 (2.0%) had rectal cuff LGD. One (1.0%) IPAA patient developed neoplasia of the rectal cuff. No subtotal colectomy patients had dysplasia or neoplasia.

Conclusions In this report, inflammatory, surgical, and neoplastic complications were numerically lower in subtotal colectomy compared to IPAA. Therefore, subtotal colectomy is a safe option in patients with IBD-PSC and could be offered first line when deemed appropriate (► Table 1).

Table 1. Demographics of patients with IBD-PSC following total proctocolectomy with ileal pouch-anal anastomosis versus subtotal colectomy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Total Proctocolectomy with ileal pouch-anal anastomosis (n=99)	Subtotal colectomy with ileorectal or ileocolonic anastomosis (n=26)	P-value
Sex, Female	37 (37.4%)	11 (42.3%)	0.7100 ¹
Race, White	96 (97.0%)	26 (100%)	0.6679 ¹
Smoking status			0.4854 ¹
Never	84 (84.8%)	20 (76.9%)	
Former	14 (14.1%)	6 (23.1%)	
Current	1 (1.0%)	0 (0%)	
IBD Diagnosis			<0.0001 ¹
Ulcerative Colitis	93 (93.9%)	13 (50.0%)	
Crohn's Disease	6 (6.1%)	13 (50.0%)	
Age at IBD Diagnosis, median (range)	22.7 (2.3 – 56.3)	26.3 (7-53)	0.1636 ²
Ulcerative colitis			
Location			
- E1	0 (0%)	0 (0%)	
- E2	9 (9.7%)	7 (53.8%)	
- E3	84 (90.3%)	6 (46.2%)	
Crohn's disease			
Location			
- L1	0 (0%)	0 (0%)	
- L2	3 (50.0%)	0 (0%)	
- L3	3 (50.0%)	13 (100%)	
Behavior			
- B1	4 (66.7%)	8 (61.5%)	
- B2	1 (16.7%)	2 (15.4%)	
- B3	1 (16.7%)	1 (7.7%)	
- B2 & B3	0 (0%)	2 (15.4%)	
Perianal disease	2 (33.3%)	5 (38.5%)	
Extra-intestinal manifestations	14 (14.1%)	7 (53.8%)	
Age at PSC Diagnosis, median (range)	34.7 (13.5-71.3)	47.8 (19.8-69.8)	0.0118 ²
Liver transplant	33 (33.3%)	8 (30.8%)	
Recurrence of PSC	9 (27.3%)	2 (25.0%)	
Cholangiocarcinoma	31 (31.3%)	10 (38.5%)	
Indication for Colectomy			0.1640 ¹
Medically Refractory	51 (51.5%)	11 (42.3%)	
Dysplasia	24 (24.2%)	6 (23.1%)	
Cancer	9 (9.1%)	7 (26.9%)	
Medically refractory & dysplasia	13 (13.1%)	2 (7.7%)	
Medically refractory & cancer	2 (2.0%)	0 (0%)	
Surgery Type			
IPAA	96 (97.0%)		
Ileorectal		13 (50.0%)	
Ileocolonic		13 (50.0%)	
Sigmoid		5 (38.5%)	
Right		7 (53.8%)	
Left		1 (7.7%)	

¹Chi-square; ²Wilcoxon rank sum test

IBD = inflammatory bowel disease; PSC = primary sclerosing cholangitis; IPAA = ileal pouch-anal anastomosis

► **Table 1** Demographics of patients with IBD-PSC following total proctocolectomy with ileal pouch-anal anastomosis versus subtotal colectomy.

eP218 Accuracy of endoscopic ultrasound-guided fine needle biopsy for the diagnostic work-up of deep-seated lymphadenopathies and splenic lesions: an observational, retrospective, single-center experience

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DOI 10.1055/s-0043-1765503

Aims Endoscopic ultrasound-guided fine needle biopsy (EUS-FNB) is a less invasive approach for tissue acquisition of solid lesions when compared to surgical biopsy, and allows easier access to deep masses than external CT- or ultrasound-guided biopsy. Our aim was to establish the accuracy of EUS-FNB as a diagnostic tool for deep lymphadenopathies and splenic lesions.

Methods We retrospectively collected data from all consecutive patients with deep lymph nodes, splenic and extranodal lesions that underwent EUS-FNB in our Institution from June 2017 to December 2021. Three to four core biopsy samplings were performed using 22G needles (155 cases) and 19G needles (5 cases). The primary outcome was the diagnostic accuracy of EUS-FNB. Secondary outcomes were diagnostic sensitivity and specificity [1–2].

Results 160 patients (M:F 94:66, median age 63 years, range 19-88) were included. All histopathologic features are detailed in (► Table 1). The overall

diagnostic rate was 75.6%. 39 samples were not diagnostic due to insufficient material, reactive tissue, or extensive necrosis without atypical cells. Diagnostic accuracy resulted in 93.1% of cases. Overall EUS-FNB sensitivity and specificity were 93.4% and 100%, respectively. In case of suspected lymphoproliferative diseases, the sensitivity was 90.1%. Out of 48 samples analysed with cytofluorimetry, only 21 were diagnostic, allowing the start of proper treatment in 6 patients.

Conclusions EUS-FNB is an effective procedure for the histological characterization of deep lymphadenopathies and parenchymal lesions, and allows an accurate diagnosis in more than 90% of cases, providing sufficient material for both histology and cytofluorimetry.

EUS-FNB: endoscopic ultrasound-guided fine needle biopsy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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Site of EUS-FNB	Patients, n	Histopathologic results	Patients, n
Supra-diaphragmatic lymph nodes	63	Lymphoma	53
Sub-diaphragmatic lymph nodes	73	Solid neoplasm	46
Splenic lesions	13	Chronic granulomatous nodal inflammation	21
Extranodal lesions	11	Granulocytic sarcoma	1

► Table 1

eP219 New concept of colonoscopy assisted by microwave-based accessory device: first clinical experience

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DOI 10.1055/s-0043-1765504

Aims Microwave imaging has demonstrated to detect polyps based on their dielectric properties in ex-vivo colon tissues and in-vivo porcine model. The aim of this study is to evaluate the feasibility and safety of microwave-based colonoscopy for diagnosis of polyps in humans [1–2].

Methods single-center, prospective, observational, feasibility case series. Non-consecutive patients older than 50 years referred for elective outpatient diagnostic colonoscopy were explored at a tertiary referral academic endoscopy unit. A device provided with microwave antennas was attached to the tip of a conventional colonoscope

Results 9 men and 6 women (mean age 59.5 years, range 51–73) were enrolled; 3 (20%) had diverticula. Cecal intubation rate was 100%. Mean cecal intubation and total time were 12.7 ± 4.9 min (range 4–22) and 26.6 ± 6.7 min (range 16–40). Adenoma detection rate was 87% (13/15) with a total of 44 polyps (mean 2.9 ± 2.4, range 0–7). By microwave imaging adenomas were seen as regions with brighter pixels. In 10 patients (67%) superficial hematomas at rectosigmoid junction were recorded. 14 patients (94%) referred no discomfort or mild discomfort (Gloucester score 1 and 2, respectively) before discharge. No dislocation of the device occurred in any of the examinations. In a scale from 0 (not difficult) to 4 (very difficult), endoscopists considered that the maneuverability during the insertion was < 2 in the 86% of colonoscopies.

Conclusions Microwave-based colonoscopy is safe and feasible and has the potential of detecting polyps.

Conflicts of interest GFE, JLI, MP and MG are shareholders of MiWendo Solutions

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eP220 Bowel preparation for colonoscopy in private practice: Which factors are influencing this quality?

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DOI 10.1055/s-0043-1765505

Aims This study aims to determine the factors influencing the quality of bowel preparation in Moroccan private hospitals.

Methods We conducted a prospective bi-centric study, including all patients admitted for colonoscopy at two private University Hospitals in Morocco. We collected data using a specific questionnaire and from medical reports.

Results 220 patients were included. The average age of the patients was 50 years and 58.6% were female. Colonoscopy was performed for diagnostic purposes in 57% of cases, 26% for screening purposes, and 15% for surveillance. Only in 2% of cases, colonoscopy was used for therapeutic purposes. The preparation was exclusively done with Polyethylene Glycol.

The low residue diet was respected in 95% of cases and 74% of patients took the entire preparation. 185 preparations were considered "good" (Boston Bowel preparation scale > 6). Colonoscopy was complete in 94.1% of the cases. Adenoma detection rate was 23.97%.

The statistical analysis found several factors influencing the quality of the colonic preparation. The main factors were: the amount of preparation taken ($p = 0,001$) as well as the completeness of the intake ($p = 0,001$), the delay between the last intake and the coloscopy ($p = 0,001$), the acceptability of the taste ($p = 0,001$), the explanation by the physician itself ($p = 0,019$) as well as the fractioned intake of the product ($p = 0,026$).

Conclusions Our study allowed us to identify various factors related to good preparation for colonoscopy. Considering these factors, each endoscopy unit can optimize bowel preparation through better personalization of the protocol.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP221 Heterogeneous impact of coronavirus pandemic on gastroscopy services in the Czech Republic

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DOI 10.1055/s-0043-1765506

Aims To analyse an impact of coronavirus pandemic on gastroscopy service in the Czech Republic (CZ), including subanalyses of segments of diagnostic and therapeutic procedures.

Methods Analysis from the National Registry of Reimbursed Health Services was performed with focus on the COVID-19 pandemic period (2020–2021) in comparison to 10 years of historical data.

Results 277,277 gastroscopies were performed in the CZ in 2019, which represents 26 gastroscopies per 1,000 inhabitants per year. This amount was stable during the last 10 years (25.6-26.6 cases per 1000 inhabitants per year). Overall volume of gastroscopy procedures dropped by 15 % and 9 % during pandemic years 2020 and 2021, respectively (in comparison to 2019). This drop was regionally variable with wide ratios of 9-22 % (2020) and 5-10 % (2021) in individual regions. Number of haemostatic procedures is stable at around 5,000 per year and did not fall during the pandemic. The number of resections performed by endoscopic polypectomy, mucosal resection (EMR) and submucosal dissection (ESD) has doubled from 3,290 in 2010 to 6,514 cases in 2021 with no significant decrease during the pandemic. The ascending curve of yearly performed gastrotomies flattened during 2016-2018 on 4,300 procedures (4 gastrotomies per 10,000 inhabitants per year). The pandemic led to a moderate decline by 7 % and 6 % during 2020 and 2021, respectively, compared to 2019.

Conclusions Coronavirus pandemic led to a significant reduction of gastroscopy service in the CZ. This reduction varied significantly between regions. Impact of pandemic on gastroscopy services was heterogenous with relative sparing of the main interventional procedures (gastrotomies, haemostatic and resection procedures).

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP222V Single-session EUS-Directed trans-Gastric Intervention (EDGI) through a lumen apposing metal stent (LAMS) for polypectomy in the excluded stomach in Roux-en-Y gastric bypass (RYGB)

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DOI 10.1055/s-0043-1765507

Abstract Text CT revealed a large pre-pyloric polyp in a 56-year-old male with RYGB. The excluded stomach was identified with a linear echoendoscope and EUS-punctured with a 19-G needle followed by saline injection for distension. A 20x10 LAMS was deployed across the gastric wall, followed by 18-mm balloon dilation. Through-the-LAMS gastroscopy revealed a 30-mm polyp (Paris 0-Is). Piece-meal endoscopic resection was performed using a double channel gastroscope. The large mucosal defect was closed using two Over-The-Scope-Clips. Pathology revealed a Brunner gland tumor. Single-session EDGI conveniently allows therapy in the excluded stomach.

Conflicts of interest Dr. Manuel Perez-Miranda is a consultant for Boston Scientific, Olympus, Medtronic and M.I.Tech.

eP223 A novel electrically controlled endoscopy system for upper gastrointestinal endoscopy: preliminary experience

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DOI 10.1055/s-0043-1765508

Aims This study aimed to identify the feasibility of a novel electrically controlled upper gastrointestinal endoscopy system in live swine.

Methods The novel endoscope is an electrically controlled endoscopy system developed to improve user convenience and system stability. It aims to minimize musculoskeletal burden of the examiner through lightening of the endoscope, and enables direct application of image processing and artificial intelligence functions to assist detection and diagnosis. Upper gastrointestinal endoscopy was performed by five endoscopists using both the novel endoscope

and conventional endoscope (GIF-HQ290, Olympus, Tokyo, Japan), which was repeated in two live swine. The inspection time, maneuverability score (range 1-5), NASA task load index (range 1-10), and Van der Laan's technology acceptance score (range -2-2) was identified and compared between the novel endoscope and conventional endoscope.

Results The mean inspection time was longer (312.50 vs 192.50 seconds, $p < 0.01$), and the mean maneuverability score was higher (3.43 vs 1.76, $p < 0.01$) in the novel endoscope, compared to the conventional endoscope. NASA task load index did not show significant difference between the novel endoscope and the conventional endoscope (4.37 vs 2.64, $p = 0.06$). Van der Laan's technology acceptance score of the novel endoscope showed positive usefulness (mean = 0.02) and satisfaction scores (mean = 0.51).

Conclusions The electrically controlled endoscopy system is a novel endoscope developed to improve user comfort and performance of upper gastrointestinal endoscopy. Although it seems acceptable as a new technology, further improvement is required for user maneuverability (► Table 1).

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Novel endoscope	Conventional endoscope	p value
Time (sec), mean ± SD	312.50 ± 15.99	192.50 ± 25.19	<0.01
Maneuverability, mean ± SD	3.43 ± 0.14	1.76 ± 0.14	<0.01
NASA task load index, mean ± SD	4.37 ± 0.82	2.64 ± 0.27	0.06

SD, standard deviation

► Table 1 Comparison of the novel endoscope and conventional endoscope system.

eP224 One-Stop-Shop Functional Endoscopy Allows Insights for ENT and GI Alterations in GERD-Patients – A Prospective Study

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DOI 10.1055/s-0043-1765509

Aims Development of an endoscopic technique entitled functional endoscopy to evaluate alterations in the laryngopharynx as well as in the esophagus simultaneously.

Methods In a prospective study, 85 patients suffering from gastroesophageal reflux disease (GERD) were included for transnasal endoscopy. The included patients dealt with a variety of diverse complaints such as dysphasia, heartburn, hoarseness, or laryngitis. In unsedated patients, functional endoscopy was performed applying an ultrathin endoscope to evaluate pathologies within the laryngopharynx and esophagus.

Results Endoscopic findings in the laryngopharynx included hyperplastic tonsils, posttraumatic edema, hyperplastic dorsal end of the turbinates, sinusitis, and pathologies of the vocal folds. Pathologies of the esophagus comprised insufficiency of the lower esophageal sphincter (in 85 % of the cases), of the upper esophageal sphincter (seen in retroflex view, in 15 % of the cases), gas reflux (in 75 % of the cases), disturbed esophageal clearance for solid or liquid food at swallowing during functional endoscopy (in 10 % of the cases). No complications were documented during the endoscopic procedure or at follow-up.

Conclusions We were able to show that functional endoscopy is a feasible and safe technique to evaluate patients with various GI- or ENT-symptoms being suggestive for gastroesophageal reflux disease. In a one-stop-shop-mode, laryngopharyngeal as well as esophageal findings may be found during the same procedure allowing the endoscopist to comprehend pathophysiological interactions in GERD-patients. In non-sedated patients, this technique is a valuable tool for the understanding of dysphasia and reflux-induced alterations.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP225 Efficacy evaluation of Hemostatic powder (UI-EWD) for reduction of re-bleeding rate in patients treated with endoscopic therapy for lower gastrointestinal hemorrhage

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DOI 10.1055/s-0043-1765510

Aims A novel endoscopic hemostatic powder (UI-EWD/Nexpowder, Nextbio-medical, Incheon, South Korea) was applied for the control of Acute gastrointestinal bleeding (GIB). Although UI-EWD has been demonstrated to be effective in hemostasis in upper-GIB, it is still unclear in lower-GIB. The aim of this study was to evaluate the hemostatic efficacy and safety of UI-EWD applied to Lower-GIB.

Methods We evaluated the effect of UI-EWD in a cohort of Lower-GIB at a single tertiary center in south Korea. One hundred and ninety-eight patients with Lower-GIB who were enrolled from 2017 through 2022 and divided into the conventional treatment group (n = 112) and the UI-EWD treatment group (n = 86). The success rate of immediate hemostasis, re-bleeding rate, and adverse events related to hemostasis were evaluated.

Results Immediate hemostasis was successfully achieved in all patients in both groups. The cumulative re-bleeding rate within 28 days was significantly lower in the UI-EWD treatment group than in the conventional treatment group. (7.0% vs. 17.9%, p = 0.033) There were no UI-EWD related adverse events, such as perforation or embolism was recognized. On the other hand, complications due to mechanical damage of mucosa were observed in the conventional treatment group.

Conclusions Our results showed that the application of UI-EWD in Lower-GIB was safe, effective for immediate hemostasis, and useful for reducing re-bleeding. UI-EWD can be considered as one of the feasible bleeding control modality in Lower-GIB.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP226V Curative ESD of a dysplastic depressed gastric lesion

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DOI 10.1055/s-0043-1765511

Abstract Text An 80-year-old male was found to have a depressed gastric lesion in the antrum measuring 2cm. The lesion was marked, and a submucosal injection was followed by a proximal mucosal incision. Submucosal tunneling was performed creating a pocket. The lateral mucosal incisions were performed using an SB knife. Traction was applied utilizing two clips connected by an 8-shaped string. The distal mucosal incision was completed and the specimen was retrieved.

The defect was closed using a suturing device. The pathology was high-grade dysplasia with free margins. Endoscopy 5 months later showed no residual dysplasia.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP227V ERCP and ancillary techniques: partners in crime

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DOI 10.1055/s-0043-1765512

Abstract Text We present a 65 years-old-man case with upper abdominal pain and mild elevation of transaminases and cholestasis. He performed Abdominal-CT and CPMR that showed distal CBD stricture. A first EUS-ERCP was performed; EUS-FNB was done on 17x12 mm solid lesion in the pancreatic head, histology showed mild cytological atypia. Consequently, a new procedure (EUS-FNB and ERCP with ancillary techniques) was planned in order to reach a more defined diagnosis. FNB histology showed fibrosclerotic tissue. Cholangioscopic guided biopsies histology showed ductal epithelium with high grade atypia. Therefore, patient underwent pancreaticoduodenectomy. Histology on surgical specimen revealed pancreatic ductal carcinoma.

Conflicts of interest Claudio Giovanni De Angelis is a consultant for Med-Globe, Olympus and Boston Scientific

eP228 Diagnostic Efficacy of EUS FNA Combined with FNB In Diagnosis Of Submucosal Ampullary Tumors

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DOI 10.1055/s-0043-1765513

Aims To have a tissue diagnosis in submucosal ampullary tumors using EUS FNA and FNB.

Methods During a period of 7 years, January 2016 to November 2022 we came across 43 cases of submucosal ampullary masses. Cytology & histopathology of EUS FNA & FNB were analyzed.

Results All lesions hypoechoic on EUS & size 6mm to 24mm. Of 43 cases FNB in 21 cases after 2019. Resection HPE available in 9 cases. 27 cases malignant on FNA, of which 24 were adenocarcinoma, 2 NET, 1 poorly differentiated carcinoma. 6 cases low grade dysplasia only, 7 cases suspicious for malignancy, 1 confirmed non malignant. 2 non diagnostic low cellularity. FNA alone diagnostic in 28 of 43 (65%); 2 nondiagnostic on FNA -scanty cellularity 4.6% & 13 (30%) showed low grade dysplasia on FNA. Adding FNB increased diagnostic yield. Of two nondiagnostic cases on FNA one was well differentiated adenocarcinoma & follow up not available for other. 3 of 7 suspicious carcinoma were carcinoma on FNB & 4 LGD were confirmed LGD on FNB. 9 of 15 which could not be definitely diagnosed on FNA were diagnosed on FNB. Adding FNB to FNA has increased the diagnostic yield of from 65% to 86%. Suspicious cases were taken as positive for statistical analysis purpose. True positive 24, true negative 1, false positive 0, false negative 2. Sensitivity 92.3%, specificity 100%, positive predictive value 100%, negative predictive value 33.33% accuracy 92.59%

Conclusions EUS FNA combined with FNB is accurate, sensitive and specific in submucosal ampullary masses. Low grade dysplasia on FNA challenging. FNB addition is always recommended.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP229 Aceto-electrical chromoendoscopy and Linked Color Imaging for determining treatment indication for colonic T1 suspected lesions

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DOI 10.1055/s-0043-1765514

Aims Extra chromoendoscopy is recommended to choose endoscopic resection (ER) or surgical resection (SR) for colonic lesions suspected of T1. Although chromoendoscopy with crystal violet has been established, it is not common outside Japan. We aimed to analyze the feasibility of more convenient method using acetic acid (aceto-electrical chromoendoscopy; AEC) and Linked Color Imaging (LCI) [1–2].

Methods This is a retrospective analysis of a prospectively maintained database between April 2020 and July 2021. Lesions assessed as Japan NBI Expert Team (JNET) classification 2B (low/high irregular) or 3 were included. We used 1.5% acetic acid. AEC findings were divided into clear pits (AEC-C) and unclear

pits (AEC-U). For each lesion, NBI or BLI, and AEC were used to determine the indication, and the results were compared with pathology.

Results Nineteen patients underwent AEC. The median size was 20 mm. ER was performed in 12 cases and SR in 7 cases. All JNET-2Blow lesions (N=6) underwent ER, including one pTis and pT1a. In JNET-2Bhigh (N=7), 85.7% (6/7) was cancer, and 2 were T1b. All JNET3 (N=6) lesions were cancer, and the half of them were T1b. In AEC-C, 86.7% (13/15) were \leq T1a, while 75% (3/4) in AEC-U were T1b. In 7 cases in which LCI was performed, 75% (3/4) showed purple color (LCI-PC) in T1b \leq lesions, while no such finding was observed in Tis and T1a cases. When lesions showing both AEC-U and LCI-PC, all of them were T1b or over.

Conclusions In colonic lesions where T1 is suspected, pretreatment evaluation including AEC and LCI is easy and may be useful for extracting T1b.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP230 Premalignant gastric conditions related to Helicobacter Pylori (HP) chronic gastritis : fact or fiction ?

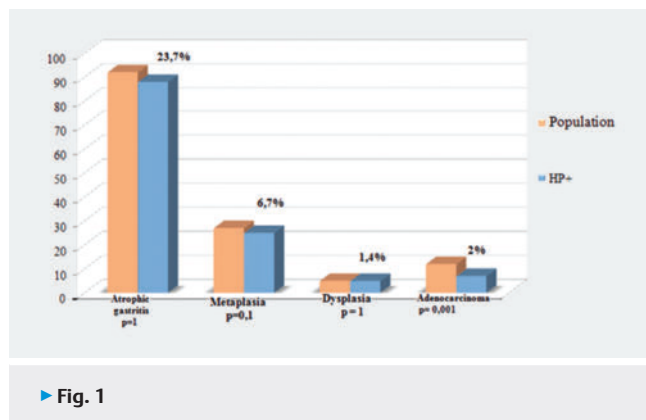
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DOI 10.1055/s-0043-1765515

Aims Determine for the first time the prevalence of HP in gastric specimens and evaluate the rate of premalignant lesions in a population from south of Morocco.

Methods This is a retrospective study where we included patients who had gastroscopy with 5 biopsies at Agadir's hospital between January 2016 and May 2022. Statistical analysis was performed by Jamovi software.



► Fig. 1

Results Four hundred and seven patients were included (n=407). HP was present in 91.5% of cases (group 1: HP positive, n=372) versus 8.6% (group 2: HP negative). Prevalence of HP in our study was 37.2%, IC 95% [34,3 ; 40,3]. Sex ratio was 0.9 in both groups (p=1). Mean age was 47.8 years +/- 16 in group 1 versus 49.6 years +/- 15.4 in group 2 (p=0.5). Gastroscopy revealed in group 1: erythematous gastritis in 56% (n=208), bulbar ulcer in 10,2%; gastric ulcer and gastric tumor respectively in 2% of cases, p<0.001. Concerning pathological analysis: chronic gastritis was atrophic in 23,7% (n=88), metaplasia was noticed in 6,7% (n=25), dysplasia in 1,4% (n=5) and adenocarcinoma in 2%. In univariate analysis by χ^2 test, only gastric adenocarcinoma correlated with the presence of HP, there was no correlation between preneoplastic lesions including diffuse intestinal metaplasia and dysplasia, which may be due to the retrospective nature of our study and the number of our sample.

Conclusions Further studies are to come to evaluate impact of socioeconomic factors and eradication therapy of HP (► Fig. 1).

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP231 Exploring a Novel Composite Diagnostic Tool Using Non-contrast EUS Enhanced Cyst Wall Microvascular Imaging and Cyst Fluid Analysis to Differentiate Pancreatic Cystic Neoplasms

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DOI 10.1055/s-0043-1765516

Aims Differentiating pancreatic cystic lesions (PCLs) still remains a diagnostic challenge. The use of high-definition imaging modalities which detect blood flow in tumor microvasculature have been described in solid lesions. We aim to evaluate the usefulness of cystic wall microvasculature when used in combination with cyst fluid biochemistry to differentiate PCLs [1–25].

Methods We retrospectively analyzed 110 patients with PCLs from 2 Italian Hospitals who underwent EUS with H-FLOW and EUS fine needle aspiration. The accuracy of fluid biomarkers was evaluated against morphological features on radiology and EUS. Gold standard diagnosis was surgical resection; for all the other patients a radiological or endosonographic follow up was performed. Cysts fluid cut-off were assigned from previous literature: CEA>192(ng/ml), CA19.9>37(U/L), amylase>250(U/L), lipase>336(U/L), glucose<50(mg/dl).

Results Of 110 patients, 65 had mucinous, 41 had non-mucinous neoplasms and 4 patients were excluded. Fluid analysis alone yielded 76.7% sensitivity, 56.7% specificity, 77.8 positive predictive value (PPV), 55.3 negative predictive value (NPV) and 56% accuracy in diagnosing pancreatic cysts. Our composite method yielded 97.3% sensitivity, 77.1% specificity, 90.1% PPV, 93.1% NPV, 73.2% accuracy.

Conclusions Our composite method which utilizes high-definition microvasculature imaging on EUS is superior to that of the stand-alone analysis of cystic fluid. It can be applied to a holistic approach combining cyst morphology, vascularity and fluid analysis alongside endoscopist expertise (► Fig. 1).

	SENSITIVITY %	SPECIFICITY %	PPV %	NPV %	ACCURACY %
H-FLOW ONLY	36.99	94.59	93.10	56.79	66.36
FLUID ANALYSIS ONLY	76.71	56.76	77.78	55.26	56.19
COMBO TECHNIQUE	97.33	77.14	90.12	93.10	73.25

PPV = POSITIVE PREDICTIVE VALUE; NPV = NEGATIVE PREDICTIVE VALUE

► Fig. 1

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP232 Always look behind the rock: a case of an insulinoma hidden by a pancreatic stone

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DOI 10.1055/s-0043-1765517

Aims Among pancreatic neuroendocrine tumors insulinomas are the most insidious to diagnose because of their small size and lower expression of somatostatin receptors. We describe a challenging case of an insulinoma hidden behind a stone in the pancreatic tail.

Methods A 59-years-old woman presented with symptomatic hypoglycaemia with increased plasma insulin level ($\geq 6 \mu\text{U/ml}$) and increased C peptide level ($\geq 0.2 \text{ nmol/l}$) suggesting an insulinoma. Imaging studies performed to localize the tumor (CT scan, MRI and 68Gallium-PET) were all negative only showing two millimetric cystic lesions in the body of the pancreas and a stone in the tail [1–10].

Results An EUS was performed without evidence of focal lesions. However, looking at the tail of the pancreas, a shadow cone revealed a calcific area of about 10 mm which, after contrast administration and Hi-Flow magnification, showed itself surrounded by unusual rich vascularization. An EUS-guided fine needle biopsy (FNB) on this area was performed. The histologic report described many cells aggregates with chromatin granules and immunohistochemistry positive for synaptophysin. A laparoscopic distal splenopancreatectomy was performed and final histology confirmed the diagnosis of a functional insulinoma (G1, Chromogranin A +, Synaptophysin +, Insulin +).

Conclusions Calcifications in pancreatic neuroendocrine tumors are rarely seen radiologically but this finding should be watched carefully especially when searching for very small tumors like insulinomas.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP233 Intra-gastric Balloon Complications: A Case Series

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DOI 10.1055/s-0043-1765518

Aims Intra-gastric balloons (IGB) are used for weight loss management. They are safe, but sometimes they can cause life-threatening complications. We aim to evaluate serious complications following this treatment modality.

Methods We present five cases presented in the emergency department with symptoms of acute abdominal pain related to IGB during November 2019-June 2021. We treated serious complications after IGB placement accordingly. Clinical, lifestyle, anthropometric and laboratory data were collected for each patient. Endoscopic and/or laparoscopic way of resolving complications were described [1–3].

Results Two cases developed gastric perforations of the anterior wall of the stomach on the 3rd and 15th week after balloon placement respectively, which were treated laparoscopically. Both these patients, stopped taking proton pump inhibitors (PPI), and the second one was under non-steroidal inflammatory drugs (NSAID) treatment. In the third case, a deep ulcer was seen in the greater curvature after balloon removal and was treated conservatively. The fourth case was presented on the 4th week as ileus due to balloon impingement in terminal ileum. We managed to remove it endoscopically. The fifth case was presented four weeks after placement with acute pancreatitis and was treated conservatively after balloon removal.

Conclusions Obese patients treated with IGB are exposed to several complications, which may be resolved endoscopically and/or laparoscopically. PPI treatment and NSAID avoidance is recommended for all patients with IGB. It is important to closely monitor the symptoms once IGB is placed (► **Table 1**).

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Al Shammari NM, Alshammari AS, Alkandari MA, Abdulsalam AJ. Migration of an intra-gastric balloon: A case report. *Int J Surg Case Rep* 2016; 27: 10–12

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	Age/ Gender	Time of complication	The suspected cause of complication	Clinical Presentation	Treatment
Patient 1	22/M	3 rd week	Alcohol and drugs use after IGB placement, stopping PPI	Abdominal pain, stomach perforation	Primary laparoscopic repair after IGB removal
Patient 2	37/F	4 th month	Taking NSAIDs for other causes, stopping PPI	Abdominal pain, stomach perforation	Primary laparoscopic repair after IGB removal
Patient 3	30/F	3 rd month	Stopping PPI	Abdominal pain	IGB removal, conservative treatment (high dose of PPI)
Patient 4	52/F	2 nd week	Balloon partially deflated, migrated in small intestine	Bowel obstruction (terminal ileum)	Endoscopic IGB removal
Patient 5	40/M	2 nd month	Pancreas compressing from IGB	Abdominal pain	IGB removal, conservative treatment

► **Table 1** Patients characteristics and relevant treatment of complication.

eP234 The role of small bowel capsule endoscopy as a diagnostic tool in isolated complex perianal disease

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DOI 10.1055/s-0043-1765519

Aims Isolated complicated perianal disease (cPD) might be the sole representation of Crohn's disease (CD). We aimed to evaluate the impact of small bowel capsule endoscopy (SBCE) as a diagnostic tool for CD in this population.

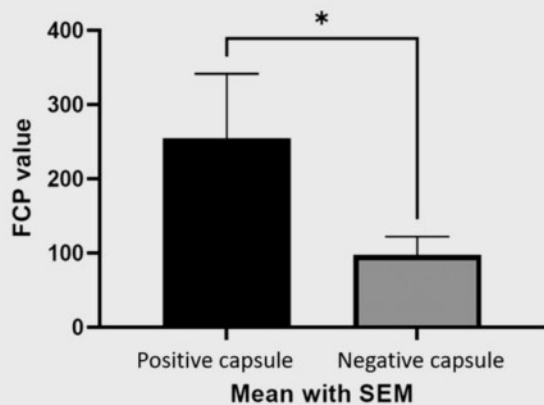
Methods A multicenter, retrospective cohort study from three tertiary centers. Patients with cPD who had a negative workup for CD (ileocolonoscopy and cross-sectional imaging) and underwent evaluation with SBCE were included. Demographics, biomarkers, and the Lewis inflammatory score (LS) were recorded and analyzed. A LS ≥ 135 was considered a positive SBCE.

Results Ninety-one patients were included: 65 males (71.4%), mean age 40 (14) years, median duration of cPD 25.13 months (12.53-66.1). SBCE was positive in 24 patients (26.37%). Median LS was 675 (222-1518). Fecal calprotectin (FC) positively correlated with LS ($r = 0.81$; $p < 0.0001$): patients with a positive vs. negative SBCE had a significantly higher mean FC level (255 [389] vs 97 [180], $p = 0.02$), (► **Fig. 1**). Correspondingly, a FC level ≥ 300 mg/kg had a specificity of 90% for a positive SBCE, while a cutoff of FC level < 100 mg/kg or < 50 mg/kg had a sensitivity of only 40% or 50% to rule out small bowel CD, respectively.

Conclusions SBCE was positive in over a quarter of patients with cPD and a negative workup for CD. FC levels correlated with the degree of inflammation defined by the LS. However, the sensitivity of low FC to rule out CD was low. These results suggest that SBCE is an essential diagnostic tool for patients with cPD even after negative workup.

Conflicts of interest Authors do not have any conflict of interest to disclose.

FCP values according to the presence of a positive SBCE (LS≥135)



► Fig. 1

eP235 Conscious Sedation (CS) standardisation for patients receiving endoscopy procedures: A Quality Improvement

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DOI 10.1055/s-0043-1765520

Aims To standardise the process of conscious sedation in the endoscopy services for 100% of patients ≥ 70 years of age receiving elective colonoscopy procedures by August 2022 in an acute regional hospital.

Methods Plan, do, study, act (PDSA) cycles using the 'Model for Improvement framework were used. Using the PDSA cycles a conscious sedation (CS) assessment tool with an interventional guide, a CS medication administration guide, a CS blurb for staff to facilitate consistent information to patients, a CS patient information leaflet and reducing midazolam concentration availability to 5mg/ml per vials were introduced [1].

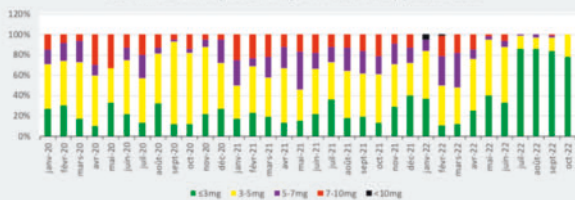
Results These PDSAs resulted in a significant increase from 19% (Sept 2021) to over 78% (October 2022) of patients receiving ≤ 3mg of midazolam per procedure (Table 1). This QI also resulted in improved knowledge & adherence to the National GI Endoscopy Quality Improvement Programme (2021), no patients required CS reversal agents, patients' CS perceptions & knowledge improved for patients and anecdotally, patients repositioned more independently.

Conclusions CS is no longer a 'one dose fits all' event. This QI created a standardised yet personalised and safer approach to CS, while also administering CS based on national standards (NEQI Programme)(2021) (► Fig. 1).

SES Midazolam by Dose Range NGH Endoscopy 2021-2022

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] National GI Endoscopy Quality Improvement Programme (NEQI Programme) (2021) National GI Endoscopy 6th National Data Report, HSE, Dublin.

SED Midazolam by Dose Range NGH Endoscopy 2021-2022



► Fig. 1

eP236 Impact of biliary stent on Endoscopic ultrasound fine needle biopsy (EUS-FNB) performance in pancreatic solid lesions diagnosis

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DOI 10.1055/s-0043-1765521

Aims To assess whether the presence of plastic or metal stents impairs the diagnostic performance of EUS-FNB in patients with mass in the head/uncinate process of the pancreas.

Methods Retrospective study on consecutive patients who underwent EUS-FNB between January 2021 to November 2022 for pancreatic solid lesion located on the head/uncinate process.

Data about sex, age, lesion site and size, type and caliber of needle used, number of passes, sampling technique, presence and type of biliary stent were collected.

Results 146 patients were enrolled. The mean size of lesion was 29 ± 11 mm. In the 50.8% a 22 G Acquire needle was used. Forty-two patients had biliary stents at time of the EUS-FNB and 50% had metal biliary stent. Overall the EUS-FNB was diagnostic in 146/167 (87.4%) lesions. There was no difference in term of mean age (70 ± 13 vs 68 ± 11 p 0.19), lesion's size (29 ± 7 vs 28 ± 12 p 0.64), use of 22 G needle (20/42 vs 65/125 p 0.7) and number of passes (2 ± 1 vs 2 ± 1 p 0.2) between patients with or without biliary stent. The use of a 22 G needle was associated with a higher rate of diagnostic sample (80/146 vs 5/21 p 0.02). The rate of diagnostic biopsy in the group without stent was 87.2% while in the group with biliary stent was 88.1% with a difference not statistically significant (p 1). At the univariate and multivariate regression analysis the presence of biliary stent didn't influence the EUS-FNB performance (OR 1.95 CI 0.3-3.1).

Conclusions The presence of biliary stent doesn't influence the diagnostic performance of EUS-FNB in pancreatic solid lesion thanks to the introduction of this new FNB needle.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP237 Peroral endoscopic myotomy in the management of Zenker's diverticulum (Z-POEM): clinical outcomes of a retrospective single centre study

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DOI 10.1055/s-0043-1765522

Aims Zenker's diverticulum (ZD) may be responsible of dysphagia, regurgitation, cough and potentially life-threatening conditions, such as ab-ingestis pneumonia. Peroral endoscopic myotomy (Z-POEM) has been recently used for the management of ZD as an alternative to flexible endoscope septotomy and to the open or transoral surgery. We report on the results of Z-POEM in a consecutive series of patients treated in a single tertiary-referral centre.

Methods All the patients who underwent Z-POEM in our department between October 2020 and November 2022 were retrospectively identified. Demographics, clinical and technical aspects were retrieved from a prospectively collected database. After treatment, patients underwent a close clinical and endoscopic follow-up: technical success, incidence of adverse events and symptoms recurrence were calculated 1, 6 and 12 months after treatment.

Results 41 Z-POEM were performed on 40 patients (mean diverticulum size 15.4 ± 9.1 mm, mean procedure time 17.6 ± 6.6 minutes). Technical success rate was 95.1% (39/41). Intraoperative mild complications occurred in two patients (one bleeding and one mucosal perforation) and were treated intra-operatively. A severe complication (oesophageal perforation) occurred in one patient (2.4%) and required surgery. A substantial decrease in Kothari-Haber score was observed 1, 6 and 12 months after treatment. Clinical success was achieved in

85.3% of patients. Three patients underwent a successful endoscopic retreatment (2 septotomies and 1 Z-POEM) after a mean of 7.7 ± 1.7 months.

Conclusions Z-POEM is a promising technique for the treatment of ZD. Larger studies with a long follow-up and comparative trials are necessary to assess its role in the management of ZD.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP238 Impact of the teamwork expertise in the incidence of post-ERCP pancreatitis: a single center experience

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DOI 10.1055/s-0043-1765523

Aims Post-endoscopic retrograde cholangiopancreatography pancreatitis (PEP) is a common complication. In this study, we aimed to evaluate whether the implementation of a well-trained and dedicated nursing staff could reduce the incidence of PEP.

Methods We retrospectively included all patients with naïve papilla who underwent ERCP by a single operator in our department, between January 2021 and April 2022, divided into two groups before and after the implementation of a dedicated nursing staff ($n = 110$ and $n = 116$, respectively). We considered the development of PEP (defined by hyperamylasemia and/or hyperlipasemia $> 3 \times$ ULN with typical abdominal pain and/or characteristic findings on imaging) as primary outcome and hyperamylasemia or hyperlipasemia alone and the need for ancillary techniques for biliary cannulation as secondary outcomes.

Results Overall, 17 patients developed PEP. Although not statistically significant, there was a lower percentage of PEP in the second period (10% vs. 5.2%; $p = 0.13$). The incidence of both hyperamylasemia and hyperlipasemia was significantly higher in the first period (35% vs. 27%, $p = 0.05$, and 32% vs. 19%, $p = 0.05$, respectively) together with higher rates of difficult biliary cannulation and precut (24% vs. 12%, $p = 0.01$, and 18.8% vs. 8%, $p = 0.02$, respectively).

Conclusions PEP is a common and not completely preventable complication. Nevertheless, our preliminary results seem to suggest the importance of a dedicated and well-trained nursing staff to reduce the rate of this complication.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP239V ERCP-directed electrohydraulic lithotripsy for treatment of cystic duct remnant lithiasis

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DOI 10.1055/s-0043-1765524

Abstract Text A 62 year old male with past history of laparoscopic cholecystectomy due to a perforated acute cholecystitis presents to the ER due to abdominal pain and coluria. Laboratory work revealed elevated inflammatory markers with hyperbilirubinemia and cythocolicostasis. Abdominal CT showed a 9mm biliary stone in the confluence of the cystic with the main biliary duct, with a sacular cystic duct dilatation upstream. The diagnosis of acute cholangitis due to residual cystic lithiasis was made. After a failed attempt of stone removal by extraction ballon via ERCP, the patient underwent cholangioscopy. Stone fragmentation with electrohydraulic lithotripsy and cholangioscopy-guided basket retrieval of the fragments were performed [1–2].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Wang K, Dam A, Taunk P. ERCP for Cystic Duct Stones After Cholecystectomy. *Am J Gastroenterol* 2015; 111: 2015

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eP240 Endoscopic prediction of depth of tumor invasion in early gastric cancer in the upper third of the stomach

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DOI 10.1055/s-0043-1765525

Aims The endoscopic features of early gastric cancer (EGC) arising from the upper third of the stomach (upper body, fundus, and cardia) has not been well studied. If EGC in the upper third of the stomach can be predicted to have invaded the mucosal (M) or submucosal (SM) layer, endoscopic or surgical treatment can be determined. This study evaluated the endoscopic features of EGC in the upper third of the stomach as well as risk factors for SM invasion.

Methods We retrospectively reviewed patients' medical records from a single tertiary hospital (Daejeon) and investigated endoscopic findings and clinical data. Patients with EGC in the upper third of the stomach who underwent surgery or endoscopic resection between January 2016 and April 2022 were included. Logistic regression was used to determine the risk factors of the SM cancer group.

Results In total, 173 patients were enrolled in this study: 94 with SM cancer and 79 with M cancer. Risk factors for SM invasion determined by univariate logistic regression were clubbing of converging folds (OR 6.279, $p = 0.000$), fusion of converging folds (OR 9.179, $P = 0.000$), irregular nodule in the central lesion (OR 2.336, $p = 0.016$), margin with elevation (OR 2.520, $P = 0.031$), and ulceration (ORs 9.686, $p = 0.000$). However, in the multivariate logistic regression analysis, only ulceration was identified as a risk factor (OR 6.598, $p = 0.007$).

Conclusions In EGC occurring in the upper third of the stomach, ulceration is a risk factor for SM invasion. Surgical treatment should be considered if this characteristic is present.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP241 Which scoring system can accurately predict the prognosis of patients for lower gastrointestinal bleeding?

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DOI 10.1055/s-0043-1765526

Aims Most patients with lower gastrointestinal bleeding (LGIB) stop bleeding spontaneously, but in some patients it can be fatal. Therefore, it is important to predict the prognosis of patients with LGIB.

Methods we reviewed the medical records of patients who visited the emergency room (ER) with hematochezia between January 2016 and December 2021. The areas under the receiver operating characteristic curve (AUROCs) were calculated for ABC, AIMS65, Oakland, SHA2PE and other scores to compare their predictive accuracy for 30-day mortality, prolonged hospital stay (≥ 10 days). Variables related to 30-day mortality and prolonged hospital stay were analyzed by regression analysis.

Results The AIMS65, ABC scores were similarly better than other scorings in predicting 30-day mortality (AIMS65 AUROC : 0.845; ABC AUROC : 0.835; both $p < 0.001$). SHA2PE score was the most accurate predictor of prolonged hospital stay (AUROC : 0.728, $p < 0.001$). Through multivariate regression analysis, 30-day mortality was correlated with variables such as systolic blood pressure (SBP) < 100 mmHg, blood urea nitrogen (BUN) level ≥ 30 mg/dL, international normalized ratio (INR) > 1.5 , albumin level ≤ 3.0 g/dL. Prolonged hospital stay was correlated with variables such as SBP < 100 mgHg, hemoglobin ≤ 10 g/dL, albumin level ≤ 3.0 g/dL, liver cirrhosis.

Conclusions The recently developed scoring systems accurately predicted the prognosis of patients with LGIB and confirmed its usefulness in clinical decision-making.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP242V Unpassable malignant duodenal stricture successfully managed with EUS-guided gastroenteric anastomosis and the “free hand” technique

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DOI 10.1055/s-0043-1765527

Abstract Text We present the case of a 55 years old man with stage IV pancreatic cancer who developed gastric outlet obstruction (GOO) symptoms; two attempts of duodenal stenting failed due to an unpassable stricture of the second duodenum. The patient was then referred to our unit for an EUS-guided gastroenteric anastomosis (GEA) [1].

Since it was impossible to overcome the stricture with the wire, the classic technique (advancing a balloon through the stricture for a better visualization of the jejunal loop) was not feasible; we went for a “free hand” direct puncture of the jejunal loop and subsequent EUS-guided GEA.

Conflicts of interest CDA is a consultant for Boston Scientific, Olympus and MediGlobe

[1] van Wanrooij RLJ, Vanella G, Bronswijk M et al. Endoscopic ultrasound-guided gastroenterostomy versus duodenal stenting for malignant gastric outlet obstruction: an international, multicenter, propensity score-matched comparison. *Endoscopy* 2022; 54: 1023–1031

eP243 Accuracy of polyp characterization by artificial intelligence and endoscopists: a prospective, non-randomized study in a tertiary endoscopy center

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DOI 10.1055/s-0043-1765528

Aims The early data from CADx image and video studies are encouraging. However, there are only few studies from clinical daily practice. Primary outcome of this study was the accuracy of the AI classifying the polyps into “neoplastic” and “non-neoplastic”. Secondary outcome was the accuracy of the classification by the endoscopists.

Methods This prospective, non-randomized study was performed at a tertiary academic endoscopy center from March to August 2022. We included patients receiving a colonoscopy. Polypectomy had to be performed in all polyps. Nine endoscopists with varying experience performed the procedure in a blinded setting. Every patient was examined concurrently by an endoscopist and AI using two opposing screens. SSP were classified as neoplastic.

Results We included 156 patients (mean age 65, 57 woman) with 262 polyps \leq 10mm. 84 (32,1%) hyperplastic polyps, 158 (60,3%) adenomas, 7 (2,7%) SSP and 13 (4,9%) other entities (normal/inflammatory mucosa, lymphoid polyp) on histological diagnosis. Sensitivity, specificity and accuracy of AI was 89.70% (95% CI: 84.02% – 93.88%), 75.26% (95% CI: 65.46% – 83.46%) and 84.35% (95% CI: 79.38% – 88.53%), respectively. Sensitivity, specificity and accuracy for less experienced endoscopists (2-5 years of endoscopy) were 95.56% (95% CI: 84.85% – 99.46%), 61.54% (95% CI: 40.57% – 79.77%) and 83.10% (95% CI: 72.34% – 90.95%) and for experienced endoscopists 90.83% (95% CI: 84.19% – 95.33%), 71.83% (95% CI: 59.90% – 81.87%) and 83.77% (95% CI: 77.76% – 88.70%).

Conclusions Accuracy for polyp characterization by a new commercially available AI system is high, but doesn’t fulfil the PIVI criteria for a “resect and discard” strategy.

Conflicts of interest Oliver Pech has received speaker honorarium from Medtronic Norgine, Olympus and Fujifilm. The remaining authors declare that they have no conflict of interest.

eP244 Endoscopic ultrasound- guided biliary drainage- initial experience with 112 patients

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DOI 10.1055/s-0043-1765529

Aims We aimed to evaluate the efficacy and safety of the first endoscopic ultrasound-guided biliary drainage procedures performed in our unit while evaluating the technical and clinical success, procedure time, hospital stay, and adverse events.

Methods A retrospective study was performed between March 2020 and November 2022 in all EUS-BD procedures performed by a single endoscopist in a tertiary referral center.

Results During the study period 112 patients underwent EUS-BD – 104 (92.8%) for malignant disease and 8 (7.14%) for benign. In 47% EUS-BD was chosen as a primary drainage modality without attempting ERCP. In all other cases the procedure was performed after unsuccessful ERCP. Technical success was achieved in 96,6% of the patients, clinical success- in 89,19%. The medium procedure time was 54,8 min. The mean hospital stay was 5 days. Intra-procedural complications were experienced in 6 cases- 3 of them required conversion to PTBD, performed immediately by the same team. Postprocedural adverse events in the first 7 days were noted in 15 patients (13,5%). Only one required admission in intensive care unit.

Conclusions EUS- BD is a safe and effective procedure to achieve biliary drainage and in many clinical scenarios could be chosen as a primary drainage modality. Lowering the threshold to perform EUS-BD, doing it in the same session when ERCP has failed or as an adjunct to transpapillary drainage demonstrates best results and shortens hospital stay. Mastering PTBD by the same team also improves the outcomes and could avoid fatal complications.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP245 Biliary tract tuberculosis mimicking cholangiocarcinoma

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DOI 10.1055/s-0043-1765530

Aims Primary biliary tuberculosis (TB) is difficult to diagnose and treat. It often mistaken with malignancy.

Methods We report two cases of biliary tuberculosis

Results Case 1: A 42-year-old man who presented with a 5 months history of obstructive jaundice, associated with weight loss and anorexia. Magnetic resonance cholangiopancreatography (MRCP) and Computed tomography (CT) shows infiltrating look at the middle third of the common bile duct (CBD) and the pyloro bulbar region with portal cavernoma. EUS-FNB of the fibrous thickening englobing the hepatic pedicle confirmed the presence of TB. The patient also had other locations. The patient benefited from a feeding gastro-entero-anastomosis and anti-TB drugs. The outcome was good with clinical and biological improvement. Case 2 : A 36 year old woman presented with symptoms and biochemical evidence of biliary tract obstruction associated with significant weight loss and anorexia. (MRCP) shows a stenosis of the middle part of the (CBD) with dilation of the intra and extra-hepatic biliary ducts upstream associated with adenopathies which a portal cavernoma. EUS-FNB of the lymphadenopathy confirmed tuberculosis. The patient had no other localization. The patient had an (ERCP) with the Placement of a plastic biliary stent

and treated with anti-TB drugs. The outcomes was good with improvement of the cholestasis 03 weeks later.

Conclusions This report highlight TB as a possible cause of biliary stricture and cholangitis , especially in endemic countries. ytoponcyton with EUS is a good help for diagnosis. The treatment of the obstruction by a temporary biliary stent by ERCP may improve the management

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP246 Same-session endoscopic ultrasound-guided fine needle biopsy and endoscopic retrograde cholangiopancreatography “one stop shop” in the management of malignant distal bile duct obstruction – single center experience

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DOI 10.1055/s-0043-1765531

Aims Endoscopic ultrasound(EUS) and endoscopic retrograde cholangiopancreatography (ERCP)are the two mainstream modalities for diagnostic and therapeutic approach for patients with pancreatobiliary diseases.Our aim was to evaluate same-session EUS-FNB/ERCP in terms of technical success, adequacy of histology and adverse events.

Methods We retrospectively analyzed patients with distal biliary obstruction who underwent same-session EUS-FNB/ERCP between January 2021 and September 2022.The primary endpoints were diagnostic sensitivity of histology and technical success,secondary endpoints- adverse events and procedure time.

Results For the study period 120 patients were identified.Procedures were performed by single endoscopist under propofol sedation.Sensitivity of EUS-FNB was 94.17 %,sample adequacy – 95,83 %. Effective biliary drainage was achieved in all cases- in 93,3 % by ERCP, in 5% by EUS-guided biliary drainage(EUS-BD),in 0,83 % by combination of ERCP and EUS-BD and in 0,83 %by combination of EUS-BD and percutaneous biliary drainage.Adverse events occurred in 4.17 %(n = 5)-post-ERCP pancreatitis–all cases classified as mild.No patients were admitted to the ICU. The mean procedure time was 57,5 minutes

► **Fig. 1**.

Histology n=120	Type of biliary drainage n=120
Pancreatic adenocarcinoma n=83(69%)	ERCP only drainage n=112(93.3%)
Cholangiocarcinoma n=19(15.83%)	ERCP unsuccessful only EUS – biliary drainage n=6(5%)
Adenocarcinoma of the ampulla of Vater n=6(5%)	Combined ERCP+EUS – BD n=1(0.83%)
Other : -B-lymphoma 2(1.67%) -RCC 1(0.83%) -Dysplasia 2 (1.67%)	EUS – BD +PTBD n=1(0.83%)
Negative histology 7(5.83%)	

► **Fig. 1**

Conclusions Same-session EUS- FNB/ERCP is safe and effective approach in cases with suspected malignant distal bile duct obstruction.It combines high technical success in achieving biliary drainage and high diagnostic sensitivity of obtained histology.Mastering EUS and ERCP and performing them in the same session demonstrates best results and allows re-conversion to EUS and biliary drainage when ERCP fails

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP247 Microscopic Colitis Is a Risk Factor for Low Bone Density: A Systematic Review and Meta-Analysis

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DOI 10.1055/s-0043-1765532

Aims Microscopic colitis (MC) is a chronic inflammatory disease of the large bowel characterized by watery diarrhea, substantially decreasing the patient's quality of life. Scarce data suggest that MC is associated with low bone density (LBD). Thus, we aimed to assess whether MC is a risk factor for LBD and the proportion of patients with MC having bone density changes.

Methods Our protocol was prospectively registered with PROSPERO (CRD42021283392). We systematically searched five databases from inception to the 16th of October, 2021 (Pubmed, Embase, Cochrane, Scopus, Web of Science). We used the random-effect model to calculate pooled odds ratios (ORs) and pooled event rates with 95 % confidence intervals (CIs).

Results The systematic search yielded a total of 3046 articles. Four articles were eligible for quantitative synthesis. All of them used age- and sex-matched controls to evaluate LBD occurrence among patients with MC. The odds of having LBD were twofold increased (OR = 2.13, CI: 1.42–3.20) in the presence of MC. The proportion of LBD was 0.68 (CI: 0.56–0.78), osteopenia was 0.51 (CI: 0.43–0.58), and osteoporosis was 0.11 (CI: 0.07–0.16) among the MC population. Our findings' certainty of the evidence was very low following the GRADEPro guideline.

Conclusions Our data demonstrate that MC may be associated with a twofold risk for LBD. Based on our findings we suggest screening patients for bone mineral density upon diagnosis of MC. Further prospective studies with higher patient numbers and longer follow-up periods on this topic are needed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP248 1L polyethylene glycol (PEG) plus ascorbic acid (ASC) bowel preparation is effective and well tolerated in obese patients in the real-world setting

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DOI 10.1055/s-0043-1765533

Aims To evaluate the effectiveness and safety of 1LPEG + ASC in obese patients included in a real-world study.

Methods This subgroup analysis of an observational, multicentre, retrospective study included outpatients with BMI ≥ 30 Kg/m² who received 1L PEG + ASC before undergoing colonoscopy in 12 centres (1). Colon cleansing quality was evaluated using the Boston Bowel Preparation Scale (BBPS). Adequate quality cleansing was defined as total BBPS score ≥ 6 and all segmental scores ≥ 2 . High-quality cleansing was defined as a BBPS = 3 in the right colon. Cecal intubation rate, cecal intubation time, withdrawal time, polyp and adenoma detection were assessed. Safety was assessed from recorded adverse events (AEs) [1].

Results 255 patients with a BMI ≥ 30 Kg/m² were included in 6 centers. Mean BMI was 33.3 ± 3.0 and mean age was 60.3 (8.0). Main indication for colonoscopy was screening for colorectal cancer (78.4%) and main dose regimen was split-dose (90.2%). Colonoscopy was completed in 98.4% of patients. Incomplete colonoscopy was reported in 1.6% of patients; none due poor preparation. Overall adequate cleansing success was achieved by 92.2% and high-quality cleansing in 75.7% of patients. Adequate and high-quality right colon cleansing success were achieved by 93.7% and 69.0% of patients respectively. The incidence of AEs was 11.4% with 88.6% of patients not reporting any AEs. Main AEs were nausea (7.5%), vomiting (3.1%) and abdominal pain (2.4%) (► Table 1).

Conclusions In obese patients, 1L PEG + ASC was effective and safe, demonstrating high rates of overall and right colon high-quality cleansing as well as a high PDR and CIR in real-world setting.

Conflicts of interest Fatma Akriche and Carmen Turbi Disla are Norgine employees

[1] Esteban López-Jamar J.M, Rodríguez Muñoz S, Gorjao R et al. Real-World effectiveness and safety of the 1L polyethylene glycol plus ascorbic acid bowel preparation for colonoscopy in the largest to date retrospective, multi-centre, observational study. United European Gastroenterology Journal 2022; Vol 10 (S8): S25–26

Parameter	Obese patients (n=255)
Mean total BBPS score	8.1 \pm 1.5
Cecal intubation rate, n (%)	221 (99.1)
Cecal intubation time	
Mean (SD) minutes	5.7 (4.6)
n*	159
Withdrawal time,	
Mean (SD) minutes	11.0 (8.0)
n*	77
Polyp detection rate, n (%)	150 (58.8)
Adenoma detection rate, n (%)	30 (62.5)
n*	48

*Number of patients for whom the histological information was available; BBPS, Boston Bowel Preparation Scale; SD, standard deviation

► Table 1

eP249 Limited risk of residual cancer after endoscopic resection of early Barrett's neoplasia with confirmed vertical R1 margin: a nationwide cohort in the Netherlands

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DOI 10.1055/s-0043-1765534

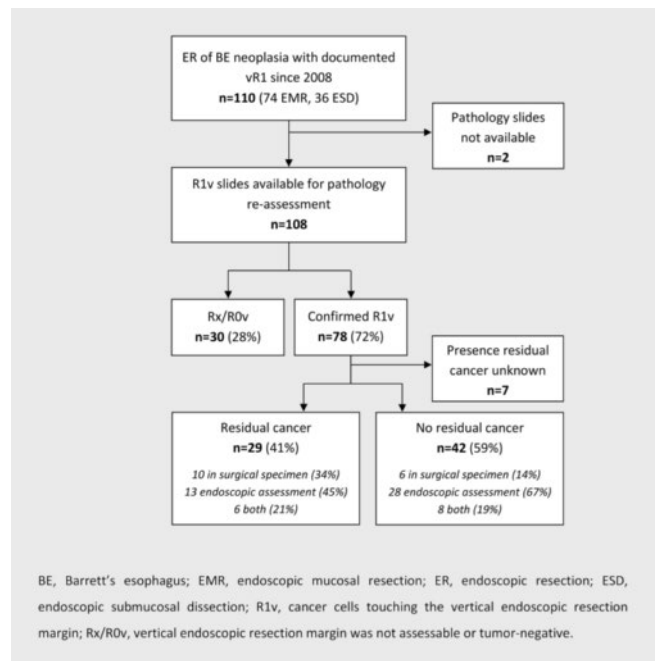
Aims To assess the risk of local residual cancer in patients treated with endoscopic resection (ER) for Barrett's neoplasia with a histologically confirmed tumor-positive vertical margin (R1v).

Methods We included patients treated with ER for Barrett's neoplasia since 2008 in the Dutch Barrett Expert Centers, with documented with R1v. Digital pathology slides of resection specimens were re-assessed by 4 expert pathologists until consensus was reached regarding the vertical margin. The primary outcome was the presence of residual cancer.

Results 110 patients were included, which were treated with EMR (n = 74) and ESD (n = 36) for T1a (n = 19) and T1b (n = 91) cancer. 108 (98%) ER specimens with documented R1v were re-assessed, confirming R1v in 78 patients (72%) and revealing Rx/R0 in 30 patients (28%). Seven patients with confirmed R1v had no follow-up. Among remaining confirmed R1v (n = 71), residual cancer was present in 29 (41%) patients, detected in the surgical specimen (n = 10), during endoscopic scar assessment (n = 13), or both (n = 8) (► Fig. 1). Endoscopic scar assessment detected all residual cancers in patients treated with additional surgery (n = 6). The risk of residual cancer was higher but not significantly increased with increasing tumor width in the vertical margin (OR 1.44, 95% CI 0.95-2.18 for every increase of 1000µm).

Conclusions No residual cancer was present in 59% of the patients with confirmed vertical R1 margin after endoscopic resection of early Barrett's neoplasia. The pathological assessment of vertical R1 margins appears challenging, as only 72% of documented vertical R1 cases were confirmed during re-assessment. The tumor width in the vertical margin might be useful to identify patients at highest risk of residual cancer after ER with R1v.

Conflicts of interest Authors do not have any conflict of interest to disclose.



► Fig. 1

eP250 Hematoma post-endoscopic retrograde cholangiopancreatography: An analysis of three cases

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DOI 10.1055/s-0043-1765535

Aims Hematoma after endoscopic retrograde cholangiopancreatography (ERCP) is an infrequent and highly serious complication which aetiology is not completely understood.

Methods We present a short series of three cases of hematoma after ERCP diagnosed between 2019 and 2021 in our centre.

Results The three cases are described in the table. In all cases, ERCP was performed due to choledocholithiasis, one of the cases, associated with biliary sepsis. Two of the ERCPs were scheduled, while one of them was performed urgently. Cannulation was performed using a guidewire and in two of them a Fogarty balloon was used to clean the bile duct. Exclusively one patient had a coagulation disorder prior to ERCP. The average time between ERCP and symptom onset was 10.3h. The most frequent symptoms were abdominal pain (100%), hypotension (66.6%) and anemia (100%), without signs of external bleeding. In all cases, urgent CT was performed as a diagnostic method. All the hematomas were subcapsular [1–3].

All patients received treatment with broad-spectrum antibiotics. One of the patients got conservative management. In the other two cases, percutaneous drainage was performed. One of the cases presented an episode of rebleeding, which required embolization. One of the patients passed away.

Conclusions - Hepatic subcapsular hematoma is a potentially fatal post-ERCP complication whose pathology is yet poorly understood (metal guidewire vs traction with the balloon) (► **Table 1**).

	Case 1	Case 2	Case 3
Sex	Female	Female	Female
Age (y)	35	81	84
Personal diseases	Postpartum period	No	Atrial fibrillation.
Cause of ERCP	Choledocholithiasis	Choledocholithiasis	Choledocholithiasis + biliary sepsis
Urgent ERCP	No	No	Yes
Previous ERCP	No	Yes	No
Sphincterotomy	Yes	No	No
Guidewire used	Yes	Yes	Yes
Fogarty balloon used	Yes	Yes	No
Complication in the ERCP	No	No	No
Conservative management	Yes	No	No
Percutaneous drainage	No	Yes	Yes
Embolization	No	No	Yes
Surgical management	No	No	No
Broad-spectrum antibiotics	Yes	Yes	Yes
Episode of rebleeding	No	No	Yes
Exitus	No	No	Yes

► **Table 1**

- Initial management is conservative, based on analgesia and empirical antibiotic therapy. but sometimes surgery, embolization, or percutaneous drainage may be necessary.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP251 Biliary lithiasis in the elderly patient: Results and contribution of endoscopic retrograde cholangiopancreatography

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DOI 10.1055/s-0043-1765536

Aims To determine the safety and characteristics of ERCP in elderly patients (over 75 years old) by comparing them to younger subjects.

Methods In this monocentric study, conducted in the gastroenterology department, 122 patients over 75 years who had undergone ERCP for lithiasis were included retrospectively over a period of 20 years, from January 2002 to September 2022.

Results were analyzed on the program JAMOVI 2.0.

Results Among the 1080 ERCPs performed for biliary lithiasis, 12.6% were for patients over 75 years old (n = 122) with a sex ratio of 0.96.

Sphincterotomy was performed in 94.3% of cases. Primary vacuity of the main biliary duct was achieved in 64.8% of cases (compared to 78.8% in younger subjects, p = 0.001). The use of additional endoscopic manoeuvres concerned 33.6% of our patients (vs 18.5% in younger subjects : p < 0.001).

Early complication rate after ERCP was 6.6% compared to 5.6% (p = 0.06).

The overall success rate was 88.4% compared to 92.5% (p = 0,1).

In multivariate analysis, there was no significant difference in the efficacy of ERCP in lithiasis between subjects under and over 75 years old.

Conclusions While the overall success rate remains better in younger subjects, the results of ERCP in biliary lithiasis in elderly subjects remain satisfying, with no statistically significant difference in terms of the effectiveness of the ERCP.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP252 Endoscopic management of intrabiliary rupture of liver hydatid cysts: is it effective?

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DOI 10.1055/s-0043-1765537

Aims To evaluate the impact of endoscopic ERCP in the diagnosis and Therapeutic management of ruptured liver hydatid cysts in the bile ducts.

Methods 60 patients with a hydatid cyst fistulized in the bile ducts were included retrospectively over a period of 20 years, from January 2002 to September 2022. Overall success was defined by definitive vacuity of the main bile duct. The results were analysed by JAMOVI 2.0

Results Among the ERCPs performed in our department during the study period, 4.6% (n = 60) were for a hepatic hydatid cyst communicating with the bile ducts.

Median age of our patients was 46.1 ± 14.8 with a sex ratio of 2.

ERCP was indicated for acute cholangitis in 44.9% and persistent external biliary fistula in 34%. Median bile duct diameter was 10[7-14]mm and median cyst diameter was 35[27-47]. Sphincterotomy was performed in 96% of patients allowing extraction of hydatid fluid by balloon or Dormia in 87.8%.

Nevertheless, 24% required naso-biliary drainage and 8% benefited from biliary prosthesis placement. Overall success rate was 93,3% (n = 56) while 4 patients (6,7%) developed some complications.

This technique helped with the disappearance of jaundice after 5 to 10 days.

Conclusions Our study confirms that endoscopic treatment of ruptured hydatid cyst in the bile ducts is an effective therapeutic alternative, with a low rate of immediate complications and a good long-term evolution.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP253 Prevalence and risk factors of colonic cytomegalovirus infection in patients with acute severe colitis: Experience of a North-African center

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DOI 10.1055/s-0043-1765538

Aims To evaluate the prevalence and to determine the risk factors of colonic CMV infection in patients with acute severe colitis.

Methods In this monocentric study, conducted in the gastroenterology department, 74 patients with acute severe colitis were included retrospectively over a period of 4 years between January 2018 and January 2022. Acute severe colitis was defined with a Lichtiger score > 10.

Colonic CMV infection was defined with the detection of CMV DNA in colonic biopsies through polymerase chain reaction (PCR) analysis. The results were analysed by JAMOVI 2.0

Results Median age of our patients was 37 ± 15.9 years old, with a sex ratio of 0,54. Prevalence of colonic CMV infection was 16.2 % (12 patients).

In univariate analysis, tachycardia level (OR = 1.15; IC 95 % [1.05-0127]), hemoglobin level (OR = 7.8 ; IC 95 % [2.09-29.2]), albumin level (OR = 1.16; IC 95 % [1.02-1.3]) as well as the sex of the patients (OR = 4.89; IC 95 % [1.31-18.2]), the severity of endoscopic lesions (OR = 0.095; IC 95 % [0.019-0.47]) and the extent of the colitis (OR = 11.7; IC 95 % [1.43-96.5]) emerge as predictive factor of colonic CMV infection. In a multivariate analysis and by adjusting the parameters studied, namely age, sex, the extent of the colitis and severe endoscopic lesions; only severe endoscopic lesions (OR = 21.0; IC 95 % [3.2-137]; p = 0,002) and an extensive colitis "pancolitis" (OR = 14.4; IC 95 % [1.41-148]; p = 0,025) were statistically significantly associated with the risk to develop a colonic CMV infection.

Conclusions Colonic CMV infection has to be systematically screened in all the patients admitted for acute severe colitis, especially when the patient has a pancolitis with severe endoscopic lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP254 Minimal hepatic encephalopathy among patients with liver cirrhosis : Prevalence and risk factors

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DOI 10.1055/s-0043-1765539

Aims To determine the prevalence of EHM in cirrhotic patients and to identify its risk factors.

Methods In this monocentric study, conducted in the gastroenterology department, 40 patients with a liver cirrhosis were included prospectively over a period of one year between October 2021 and October 2022. The results were analysed by JAMOVI 2.0.

Results Mean age of our patients was 60,7 ± 11,8 years old, with extremes ranging from 31 to 65.

Sex ratio was 1.5. 30% of our patients were smokers and 15% were alcohol consumers. EHM prevalence was 42.5%.

In univariate analysis, thrombopenia (p = 0.033), elevated ASAT (p = 0,049), hypoalbuminemia (p = 0.016), elevated MELD score (p = 0,001), and Child Pugh score (p = 0,033) emerge as predictive factors of EHM.

In multivariate analysis and by adjusting the parameters studied, namely age, sex, elevated ASAT, hypoalbuminemia, thrombopenia, Child Pugh score and MELD score; only an elevated ASAT (OR : 0,461, IC : 0,199-1,065), an hypoal-

buminemia (OR : 0,277, IC : 0,074-1,035) and a thrombopenia (OR : 0,215, IC : 1,409) were statistically significantly associated with the risk to develop an EHM.

Conclusions The Psychometric Hepatic Encephalopathy Score (PHES) has been shown to be useful for the diagnosis of EHM and can be applied both in the outpatient setting and at the patient's bed.

The frequency of EHM in our study was 42.5 %.

Its independent risk factors (thrombopenia, hypoalbuminemia and elevated ASAT) can be used as a screening tool in cirrhotic patients. Larger studies should be encouraged.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP255 Two-devices-in-one-channel method for selective biliary cannulation in patients with periampullary diverticulum

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DOI 10.1055/s-0043-1765540

Aims We evaluated the safety and efficacy of the two-devices-in-one-channel method using a cannula and a biopsy forcep as a biliary access procedure when difficult biliary cannulation in patients of the periampullary diverticulum.

Methods We retrospectively reviewed the medical records of 22 consecutive patients with naïve papilla who underwent ERCP using the TDOC method from November 2020 to October 2021. The devices used were a cannula and a pediatric biopsy forcep, which were simultaneously inserted into the working channel of the duodenoscope for the TDOC method. In patients with PAD, when selective biliary cannulation failed after 5 minutes of papilla attempt using the conventional cannulation method, the method was changed to the TDOC method [1-2].

Results This procedure was performed in a total of 22 patients. The success rate of biliary cannulation was 81.8 % (18/22). Among the cases of successful bile duct cannulation, 5 cases of successful bile duct cannulation using by double guide wire technique after the unintentional pancreatic duct cannulation occurred during the TDOC method. In the remaining 4 cases (22.2%) who failed with the TDOC method, bile duct cannulation was successful by performing a precut using a needle knife. The median cannulation time using the TDOC method was 238 sec (range, 74-1164 sec). The mild degree of post-ERCP pancreatitis occurred in 1 case (4.5%) out of 22 patients.

Conclusions In patients with PAD, the TDOC method may have acceptable efficacy and safety profile as a rescue cannulation procedure when the conventional method failed in selective biliary cannulation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP256 A voting-based ensemble model for improved automated classification of colorectal polyps including sessile serrated lesions

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DOI 10.1055/s-0043-1765541

Aims Since sessile serrated lesions (SSL) were introduced, multiple AI studies have tried to classify them alongside hyperplastic (HYP) and adenomatous (ADN) polyps using machine learning, with varying results. A major hurdle for the classification of SSL is the low prevalence and difficult endoscopic recogni-

tion. Furthermore, the classification based on histology can also be subjective, as demonstrated by the inter-rater variability amongst pathologists. This study aims to improve the baseline training method for classification by training multiple models on subtasks before taking an ensemble vote for final classification.

Methods Videos of 784 unique polyps, of which 24% HYP, 69% ADN and 7% SSL, were recorded from 552 patients with different endoscopic imaging modalities, with each video containing 125 frames on average. The ground truth classification was based on the histology of the polyp. The videos were randomly split into training, validation, and test sets. Subtasks such as 1-vs-all and 1-vs-1 strategies were trained on each of the class combinations. The outputs of the subtasks were combined by voting to obtain the final classification. The results were compared to a neural network model that directly classified the 3 classes.

Results The averaged frame-based accuracy, sensitivity and positive predictive value (PPV) per class are calculated and the mean and standard deviation is shown in Table 1. There are improvements of all metrics when using a voting ensemble compared to direct 3-class classification. Other combinations of ensemble models give rise to slight variations in results.

Conclusions The proposed method for ensemble voting has potential of improving the classification of SSL without impacting the classification of HYP and ADN (► Table 1).

Overview of the mean and standard deviation over 3 classes for each of the proposed metrics comparing the different voting ensembles and the baseline

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Accuracy	Sensitivity	PPV
HYP vs ADN vs SSL	0.702 ± 0.140	0.447 ± 0.314	0.420 ± 0.387
HYP vs All + ADN vs All + SSL vs All	0.744 ± 0.077	0.688 ± 0.107	0.546 ± 0.360
HYP vs All + ADN vs All	0.758 ± 0.069	0.665 ± 0.053	0.544 ± 0.358
ADN vs All + HYP vs SSL	0.750 ± 0.070	0.678 ± 0.087	0.542 ± 0.349

► Table 1

eP257 Energy consumption and power saving options in the endoscopy unit- a single center “green endoscopy” study

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DOI 10.1055/s-0043-1765542

Aims Objective: Anthropogenic climate change is named as the biggest global health threat of the 21st century. Unfortunately, health care system itself and so endoscopy as well significantly contributes to carbon footprint. Waste produced within endoscopic procedures is one aspect. Approaches to generate less land fill waste and more recyclable materials are already initiated. But energy consumption and potential options for power savings within endoscopy are poorly addressed up to now.

Methods In a high-volume endoscopy unit, energy consumption of conventional endoscopy was measured. Endoscopy rooms were equipped with power consumption meter. Idle and regular operation power consumption was measured over 30 working days. Operating time, number and type of endoscopic examinations performed were measured.

Results Mean standby power consumption was 16.3W. Mean idle power consumption was 321.9W. Mean power consumption of endoscopy rooms was 2.3 (± 0.41) kWh, 2.9 (± 0.72) kWh, 2.6 (± 0.84) kWh per working day. Average power consumption per examination was 0.24 (± 0.03) kWh for room 1 (EGD), 0.48 (± 0.05) kWh for room 2 (EUS), 0.45 (± 0.01) kWh for room 3 (colonoscopy equipped with AI polyp detection system). In a second step for power saving reasons light source was switched off consequently within waiting time. Mean difference in actual power consumption was 16.4W.

Conclusions In comparison to other medical departments energy consumption in endoscopy seems to be moderate on first glance. But nevertheless, energy consumption is still high. Hence, energy saving options should be consequently used to reduce power consumption in endoscopy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP258 Pancreatic metastasis from unknown primary melanoma: a Case Report

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DOI 10.1055/s-0043-1765543

Aims We report a case of pancreatic metastasis from unknown primary melanoma.

Methods A 78-years-old woman was candidate for a percutaneous mitralclip placement due to severe symptomatic mitral regurgitation. During pre-operative medical tests, a suspected pancreatic lesion emerged and the patient was referred to our department.

Results CT scan showed a mass localized to the body-tail of the pancreas infiltrating the colonic hepatic flexure. In addition, tumor thrombus in the splenic vein and several lesions (left lung and retroscapular/epigastric subcutaneous) suspicious for metastasis were evident. Tumor markers such as carcinoembryonic antigen and carbohydrate antigen 19-9 were within normal range. Contrast-enhanced EUS (CE-EUS) was conducted using an Olympus linear endoscope (GF-UCT180), and revealed a hypoechoic, heterogeneous, vascularized formation measuring 68 x 31 mm, occupying and subverting the body and tail of the pancreas. The splenic vein lumen was obliterated by hypoechoic material, with absence of Doppler echo signal. Tissue acquisition was performed with fine needle biopsy (FNB) and adequate macroscopic on-site evaluation. (Figure A.)

The histological examination revealed a malignant epithelioid cell neoplasm with large areas of necrosis and the presence of melanin pigment. Immunohistochemical tests expressed positivity for Melan-A and SOX10, negativity for panCK (8/18). (Figure B.) Therefore, the diagnosis of pancreatic localization of melanoma was confirmed.

Conclusions Patient was treated with PD1-blocker immunotherapy. At last restaging CT scan, no new metastatic lesions are reported and pancreatic mass is unchanged in size.

Conflicts of interest anroboticsmalescinisobiomedolympusalfasigmanorginepentaxcoviendiengen imagingmedtronic

eP259V The Rapunzel Syndrome – A Tale of a Gastric Trichobezoar

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DOI 10.1055/s-0043-1765544

Abstract Text We present the case of an 11-year-old female patient who came to the ER complaining of epigastric pain. In the last four years, the girl suffered from trichotillomania and trichophagia. Clinically, a hard epigastric mass was present. The abdominal CT scan showed the presence of a gastric bezoar. Upper GI endoscopy confirmed the presence of a trichobezoar occupying the entire gastric lumen, extending to the second part of the duodenum. After three days, totaling 9 hours of work in the endoscopy room and using various endoscopic accessories, the success of the endoscopic extraction attempt was only partial, the complete removal of the trichobezoar requiring surgical intervention [1–2].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9673752/>

[2] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2856853/>

eP260 Efficiency of the capsule endoscopy in a single center, are the quality criteria of the ESGE met?

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DOI 10.1055/s-0043-1765545

Aims The European Society of Gastrointestinal Endoscopy (ESGE) published a guide with quality improvement initiatives in small bowel endoscopy in 2019. The aim of this study was to assess whether an endoscopy unit met the quality recommendations in capsule endoscopy procedures.

Methods A retrospective descriptive study. Review of capsule endoscopy procedures performed during 2021-2022 and comparison with minimum and objective quality standards.

Results We performed 143 capsule endoscopy examinations. Compliance with quality criteria and comparison with standards are summarized in Table 1.

Conclusions 1. The indication for capsule endoscopy should be adequate to increase efficiency and avoid work overload. Moreover, adequate indication prevents unnecessary procedures with the risk of complications. In our series, this criterion is not met, probably because some examinations due to anemia are not appropriate [1].

2. Currently, the assessment of preparation is based on subjective judgments. The use of purgatives is also unclear. In our center we use simethicone and we recommend maintaining 2 hours of fasting and 4 hours without solids after taking the capsule. 7 hours without solids after capsule ingestion could be evaluated to improve the cleanliness.

4. The capsule endoscopy is a diagnostic procedure. If lesions are found, the enteroscopy should be considered, and the recommendation should be included in the capsule report (► Table 1).

5. It is important to know the quality standards and analyze their compliance to make improvements in order to provide quality assistance.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Spada C, McNamara D, Despott E] et al. Performance measures for small-bowel endoscopy: a European Society of Gastrointestinal Endoscopy (ESGE) quality improvement initiative. *United European Gastroenterol J* 2019; 7 (5): 614-641

Domain	Compliance	Minimum standard	Target standard	Compliance (yes/no)
Indication according to ESGE guideline	83.1% In anaemia 65.6%	≥95%	≥95%	No
Rate of adequate bowel preparation	64.97%	≥95%	≥95%	No
Lesion detection rate	63.9%	≥50%	≥50%	Yes
Appropriate referral for enteroscopy	31.15%	≥75%	≥90%	No

► Table 1

eP261 Comparison of optical evaluation vs forceps biopsy for dysplasia/cancer detection in mixed and homogenous subtype of large granular laterally spreading tumors

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DOI 10.1055/s-0043-1765546

Aims To investigate the accuracy of dysplasia detection of the forceps biopsy versus optical evaluation method for mixed and homogenous subtype of large granular laterally spreading tumors (LST) by comparing them with the results of histopathology.

Methods The study included 64 patients with granular LST-G with a diameter ≥20mm, type 0-Is, 0-IIa or 0-IIa + Is according to the Paris Classification. Cases with deep submucosal invasion were not included. Group I comprised 43(67,2%) patients with a mixed subtype LST-G(LST-G-M) and Group II 21(32,8%) patients with a homogenous LST-G(LST-G-H). Optical evaluation with chromoscopy and NBI was performed by expert endoscopist, followed by endoscopic resection. Obtained results were compared with the specimen histopathology. Data were analysed using Chi-sq, ROC-curve and descriptive statistic by SPSS version 26.0 [1-5].

Results Median age was 65(IQR, 60-71) and 65(IQR, 57-75) years, median lesion size was 40(IQR, 25-50) and 20(IQR, 20-38) mm for Group I and Group II respectively. The majority of lesions were removed by EMR 50(78.1%), of which 28(56,0%) underwent piecemeal resection. The remaining 11(17.2%) and 3(4.7%) underwent ESD and hybrid ESD, respectively. Sensitivity of forceps biopsy was 63,2%(95%CI, 47,3%-77,3%) versus 65,8%(95%CI, 50,0%-79,5%) optical evaluation in LST-G-M group and 88,9%(95%CI, 69,5%-98,1%) versus 83,3%(95%CI, 62,3%-95,6%) in LST-G-H group, respectively. Specificity was 100% and $p < 0,05$ in all cases.

Conclusions Considering the comparable sensitivity of the optical evaluation and biopsy, the routine biopsy sampling in the LST-G is not recommended.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Iwatate M, Sano Y, Tanaka S, Kudo Se, Saito S, Matsuda T et al. Validation study for development of the Japan NBI Expert Team classification of colorectal lesions. *Dig Endosc* 2018; 30: 642-51

[2] Sidhu M, Tate D, Desomer L, Brown G, Hourigan L, Lee E et al. The size, morphology, site, and access score predicts critical outcomes of endoscopic mucosal resection in the colon. *Endoscopy*. 2018; 50: 684-92

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[5] Brule C, Pioche M, Albouys J et al. The Colorectal neoplasia endoscopic classification to choose the treatment classification for identification of large laterally spreading lesions lacking submucosal carcinomas: A prospective study of 663 lesions. *United European Gastroenterol J* 2022; 10: 80-92

eP262 Recurrent non-variceal upper gastrointestinal hemorrhage, what could the endoscopist do to prevent it?

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DOI 10.1055/s-0043-1765547

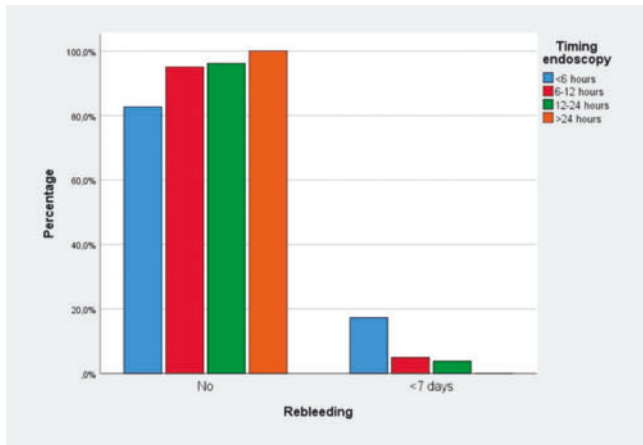
Aims The aim of this study is to analyse the cases of recurrent NVUGIH in our centre to identify its relation with factors associated to the upper endoscopy.

Methods Retrospective descriptive study of the cases of NVUGIH in which upper endoscopy was performed in our centre in the last 15 months.

Results A total of 216 cases of NVUGIH were recorded, of which 16 (7.4%) presented rebleeding. Rebleeding was early (<7 days) in all of them.

The time between the beginning of the hemodynamic resuscitation and the upper endoscopy was <6 hours in 9 patients (56.3%), 6-12h in 4 (25%) and 12-24h in 3 (18,8%). The association between the timing of the first endoscopy and rebleeding was statistically significant ($p = 0.019$) (► Fig. 1).

In 6 patients (37.5%) the first endoscopy was performed with a nursing staff without technical expertise (nights/weekends/holidays) and in 10 (62.5%) with an experienced staff (working mornings/afternoons). The association between rebleeding and the experience of the nursing team was not significant ($p = 0.16$) [1, 2].



► Fig. 1

Conclusions The timing of the endoscopy is significantly associated with rebleeding. This could be a determining factor, as it avoid the optimization of the hemodynamic resuscitation and the management of comorbidities.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] There is no significant association between rebleeding and the expertise of the nursing staff. Previous evidence in this regard is contradictory, although having an experienced on-call team is recommended [2] Gralnek IM, Dumonceau JM, Kuipers EJ et al. Diagnosis and management of nonvariceal upper gastrointestinal hemorrhage: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2015; 47: 1–46

eP263 A novel, low profile, self-disassembling PEG with replaceable inner tubes: results of an initial feasibility study

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DOI 10.1055/s-0043-1765548

Aims Percutaneous endoscopic gastrostomy (PEG) tube complications include accidental dislodgement and tube blockage. Our aim is to present the initial results of a feasibility study of Fidmi Feeding Device (FFD), a novel, low-profile, self-disassembling PEG with replaceable inner tubes that eliminates clogging and improves patient quality of life.

Methods Patients referred to two tertiary referral medical centers for PEG tube placement and agreed to participate in the study had the FFD PEG placed trans-abdominally via standard "pull technique." Patients were followed for three months after which the FFD PEG was replaced with a standard PEG. Data including patient demographics, accuracy of placement, ease of use, and number of accidental dislodgements were assessed (► Table 1).

Results Thirteen patients underwent the FFD PEG placement. Mean age of patients was 76.0 years with eight female patients and five male patients. Indications for PEG tube were all dysphagia (secondary to dementia, cerebrovascular accident, brain neoplasm, or amyotrophic lateral sclerosis). The average ease of device placement (based on 10-point visual analogue scale) was 7.8 ± 1.6 as scored by the physician. Measurements of the PEG device at the end of the placement procedure of all patients were at the correct length. The average ease of internal tube replacement at 1-month follow-up visit was 8.8 ± 1.9 . There were no accidental PEG dislodgements during study follow-up. (Table 1)

Conclusions A novel, low profile, self-disassembling PEG with replaceable inner tubes can be safely and effectively placed and (inner tube) replaced with high physician and patient satisfaction and no accidental dislodgements during follow-up.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Age - mean years	76.0
Female - n (%)	8 (61.5)
Ease of device placement - mean \pm SD	7.8 ± 1.6
Ease of internal tube replacement at 1-month - mean \pm SD	8.8 ± 1.9
Accidental PEG dislodgements - n	0

► Table 1

eP264V Esophageal intramural pseudodiverticulosis: a rare cause of dysphagia

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Abstract Text A 46-year-old man with a history of alcohol abuse and recurrent dysphagia underwent an upper endoscopy at our endoscopy unit. Upon insertion of the gastroscope the patient coughed and a mucosal laceration without deep muscle injury was seen within a stricture in the proximal esophagus. Examination of the remaining esophagus revealed multiple diverticula of varying sizes consistent with esophageal intramural pseudodiverticulosis. On the second gastroscopy after 3 days no resistance was encountered proximally upon insertion of the endoscope. Histology revealed nonspecific inflammatory changes without evidence of eosinophilic esophagitis or candidiasis. The patient's dysphagia improved gradually.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP265V Endoscopic management of a large and difficult Zenker diverticulum in a nonagenarian

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DOI 10.1055/s-0043-1765550

Abstract Text A 90-year-old female presented with dysphagia and aspiration pneumonia. She was found to have a 7cm Zenker diverticulum. Only a pediatric endoscope was able to be advanced to the esophagus and a wire was advanced. Cricopharyngeomyotomy was performed using an insulated scissor knife. The septum was divided to the base of the diverticulum. Bleeding was managed with coagulation graspers. The endoscope was passed easily to the esophagus. A Schatzki ring was dilated.

Clips were applied at the bottom of the cut. Esophagram showed no extravasation. The contrast entered the esophagus easily. The patient tolerated a soft diet very well.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP266 Comparative study of esd and surgical resection for gastric subepithelial tumors Originated from muscularis propria

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DOI 10.1055/s-0043-1765551

Aims The aims of this study were to compare endoscopic submucosal dissection (ESD) with surgical resection for the removal of GSET-PM.

Methods This study involved 17 patients with GSET-PM removed by ESD and 76 patients who underwent curative surgical resection. ESD was attempted in GSET-PM with well marginated tumors which was below 5cm and showed an endoluminal growth pattern according to endoscopic ultrasound (EUS) finding.

Results ESD group were more likely to have upper portion (10/17, 58.8%) and surgery group were more likely to have mid portion (41/76, 53.8%) ($p = 0.039$). ESD group were smaller median tumor size (25.6 mm vs 35.9 mm, $p = 0.037$)

and higher endoluminal ratio (58.5 ± 9.1 % vs 45.8 ± 15.4 %, p = 0.002). ESD group were mostly to have Yamada type III (10/17, 58.8%) and surgery group were mostly Yamada type I (52/76, 68.4%) (p < 0.001). Complete resection by ESD was lower than by surgical resection (82.4% vs 100%, p < 0.001). In ESD group, 3 performed surgical resection after ESD (1 incompletely resection and 2 uncontrolled bleeding) and 1 showed perforation was completely resected with endoscopic closure. In surgery group, complications occurred in 6 patients. Although surgery group were lower in complication rate than ESD group (p = 0.006), severity of complications were higher in the surgery group and there were no mortalities in the ESD group compared with 2 in the surgery group.

Conclusions ESD can be one of good options for the resection of endoluminal GSET-PM and could be replace treatment by surgical resection in Yamada type III with a high endoluminal ratio.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP267 Branch-duct intraductal papillary mucinous neoplasm versus small pancreatic neuroendocrine tumor: who is the guilty? A case report

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DOI 10.1055/s-0043-1765552

Aims Acute pancreatitis can be secondary to pancreatic neoplasms, but they rarely are found to be pancreatic neuroendocrine tumors (PNETs): PNETs account for less than 5% of pancreatic tumors. They can be divided in functioning and non-functioning ones; the latter usually have a delayed diagnosis, with metastases and/or signs of compression.

Methods Description of a case report.

Results We present the case of acute pancreatitis likely caused by a small neuroendocrine tumor in a 59-year-old man who was admitted to the hospital with a diagnosis of acute pancreatitis, without any known risk factors nor comorbidities. During the hospitalization, both a contrast-enhanced abdomen CT scan and a magnetic resonance cholangiography were performed, but they did not describe any alteration except for a mild pancreatic head involution. The patient underwent a pancreaticobiliary endoscopic ultrasound (EUS) one month after the discharge and the resolution of symptoms: it showed a 5-millimeters solid lesion at the pancreatic neck, near to the Wirsung duct, with peripheral enhancement after injection of contrast medium (SonoVue), adjacent to a 9 millimeters cystic dilation of a branch-duct; therefore, a histologic specimen of the solid lesion was obtained through a fine-needle core biopsy. The histology showed a well-differentiated PNET with typical immunohistochemistry expression of chromogranin and synaptophysin, while biochemical exams showed normal blood levels of Chromogranin; a second thoraco-abdominal contrast-enhanced CT scan did not show extrapancreatic localizations.

Conclusions We reported a case of acute pancreatitis likely caused by a small non-functioning PNET.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP268 Dutch individuals' views on screening for esophageal cancer: a focus group study

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DOI 10.1055/s-0043-1765553

Aims Screening for early esophageal adenocarcinoma (EAC), including screening for its precursor Barrett's esophagus (BE), has the potential to reduce EAC-related mortality and morbidity. This study explores Dutch individuals' views on BE/EAC screening.

Methods We invited 471 individuals from primary care practices (selection based on risk factors for EAC) and 195 individuals with screening-experience (clinical trial participants and BE patients) to participate in focus groups. Tran-

scripts were inductively and thematically analyzed by two independent researchers.

Results Fifty individuals (88% with gastro-esophageal reflux symptoms) of 50-75 years participated. Raised themes included: Theme 1 "screening intention" describing participants' motivation to be screened (e.g., early diagnosis, potential reassurance, physician recommendation, and knowing someone with cancer) or decline screening (e.g., anticipated discomfort or dissatisfying accuracy of the test); Theme 2 "perceived logic of eligibility" describing views on proposed criteria, including symptoms or familial history (seen as relevant), male sex and white race (provoked fear of exclusion), overweight and smoking (sometimes perceived as stigmatizing); Theme 3 "distributive justice", in which the consequences of a new screening program for health care resources were discussed; and Theme 4 "information needs" highlighting individuals' preference to discuss screening with their primary care physician.

Conclusions This study revealed that individuals at risk for developing EAC express high willingness to be screened. If screening is implemented, it is crucial to develop educational materials that avoid stigmatizing language to explain the eligibility criteria and test procedures.

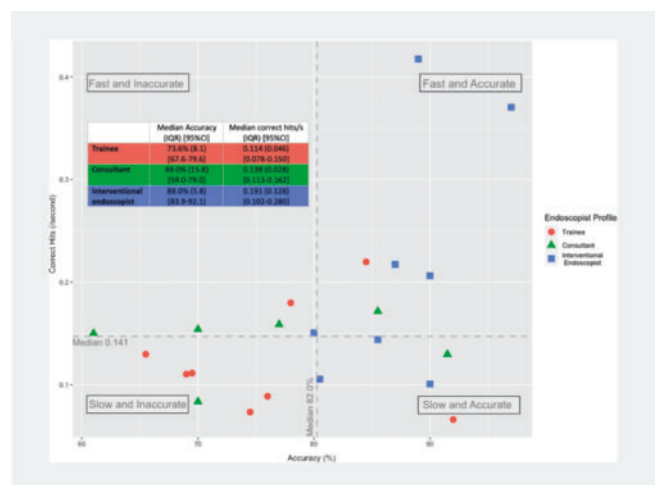
Conflicts of interest JS, YP, SB, LR, and MB have no conflicts of interest or financial ties related to this work to disclose. PS is receiving unrestricted research grants from Pentax (Japan), Norgine (UK), Motus GI (USA), MicroTech (China) and The eNose Company (Netherlands) and is in the advisory board of Motus GI (USA) and Boston Scientific (USA).

eP269 Endoscope Tip Control – a Simple, Ex-Vivo Model With Potential For Endoscopist Benchmarking and Tracking Of Progress Over Time

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DOI 10.1055/s-0043-1765554

Aims No objective tool to measure the quality of endoscope tip manipulation (tip-control) exists. This study aimed to develop and validate a score for tip-control in an ex-vivo setting.



► **Fig. 1** Scatter plot of participant median tip-control accuracy versus median on correct hits per second. The dotted lines represent the median of all participants for tip-control accuracy (x-axis) and on target hits per second (y-axis) and categorise the participants into 4 groups.

Methods A web application with timer and correct/incorrect buttons was developed. The score was tested on a training model containing 4 shapes drawn onto cooked ham. Correct application (using a gastroscope & snare) was defined as any visualised diathermy application touching the drawn edges of the shapes. Correct-hits/incorrect-hits (accuracy) and correct hits/second (speed) were determined by a single rater.

Results 22 endoscopists participated. Median accuracy was 82.0% and correct hits/s 0.141. A scatter plot of endoscopist accuracy vs correct hits/s categorized them into 4 groups (► Fig. 1). Interventional endoscopists were commonly fast and accurate (accuracy 88.0% [P = .001], correct hits 0.191/s [P = .04]). Consultants (non-interventional) had the lowest accuracy but statistically similar tip-control to the rest (accuracy 69.0% [P = .15], correct hits 0.135/s [P = .97]) (inaccurate). Trainees had similar accuracy to non-trainees but lower correct hits/s (accuracy 73.6% [P = .25], correct hits 0.153/s [P = .03]) (slow). Experience did not result in better tip-control (accuracy 88.0% [P = .07], correct hits 0.132/s [P = .36]).

Conclusions An *ex-vivo* tool to assess tip-control stratifies endoscopists by profile but does not correlate with years of endoscopy experience. The tool may provide an objective benchmark for endoscopy and interventional endoscopic procedures.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP270 Endoscopy in patients with COVID-19 infection. Indication, findings and safety for the staff of the endoscopy unit

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DOI 10.1055/s-0043-1765555

Aims To record the indications and how safe endoscopies are for COVID-19 positive patients for the medical and nursing staff of the Endoscopy Unit.

Methods Retrospective analysis of data collected prospectively from all COVID (+) patients subjected to endoscopy in our department from 1/1/2020 to 20/7/2022. We recorded the type of endoscopies and their indications, as well as the medical and nursing staff who were infected with COVID-19 during the study period. We then tried to trace their contacts, to determine whether they got infected due to their participation in the endoscopy of a positive patient.

Results A total of 293 COVID (+) patients underwent endoscopy; gastroscopy for upper gastrointestinal bleeding 179 (61.1%), colonoscopy for lower gastrointestinal bleeding or sigmoid torsion 56 (19.1%), colonoscopy for ulcerative colitis or Crohn's disease 13 (4.4%), ERCP (12.9%) and gastrostomy placement 7 (2.4%). During the 30 months of the study, 8/17 doctors (47.1%), 5/11 nurses (45.5%) and 1/5 bearer (20.0%) were infected with COVID (+), despite being fully vaccinated with either Vaxzevria (AstraZeneca) or Comirnaty (BioNTech Manufacturing GmbH). However, no case of COVID transmission was found to be related to their participation in the endoscopy of a COVID (+) patient.

Conclusions The majority of endoscopies in COVID (+) patients are gastroscopies performed for the investigation and treatment of upper gastrointestinal bleeding. The strict adherence to the prevention measures against the transmission of COVID in the endoscopy unit effectively protects the personnel from contracting the virus.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP271 Identification of 6 Key Features of Colorectal Polyps Increases the Sensitivity of Cancer Detection and Ability to Discriminate Deep Submucosal Invasion – The Basis of the Blink (First) Impression?

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DOI 10.1055/s-0043-1765556

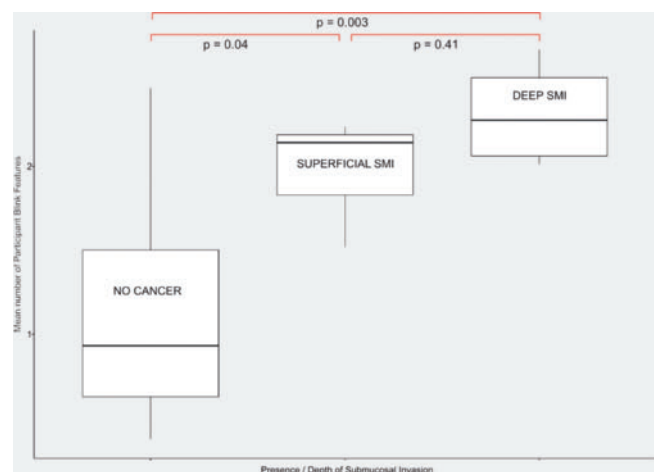
Aims Both detection and depth stratification of cancer within colon polyps are critical for optimal patient outcomes. We aimed to determine whether identification of 6 endoscopic features of polyp cancer can improve endoscopist decision making regarding submucosal invasion (SMI).

Methods 20 colorectal polyps (1 overview image/polyp) were randomly shown in a survey, before and after a 2-minute educational video (the intervention) which introduced six macroscopic (Blink) features of deep SMI – fold deformation, extra redness, depression, chicken skin mucosa, ulceration and spontaneous bleeding. Blink (first) impression was asked pre & post, and presence of the six features post the intervention. Responses were analysed relative to histopathology (no vs superficial [$< 1000\mu\text{m}$] vs deep [$> 1000\mu\text{m}$] SMI).

Results 191 participants completed 3755 observations. The sensitivity of Blink impression increased after the intervention (0.67 [95%CI 0.65-0.70] pre vs 0.88 [95%CI 0.86-0.90] post [P < .001]). Specificity, however, decreased (0.69 [95%CI 0.67-0.71] pre vs 0.55 [95%CI 0.53-0.57] post [P < .001]). Participant reported mean number of Blink features correlated significantly with expert opinion (correlation coefficient 0.73, $p < .001$), presence of cancer (no cancer = 1.1 vs cancer = 2.2, $p < .001$) and with depth of invasion (none = 1.1, vs superficial SMI = 2.0 [p = 0.04], vs deep SMI = 2.3 [p = 0.003]) (► Fig. 1).

Conclusions Improvement in the sensitivity of polyp cancer detection can be achieved amongst a varied group of endoscopists using 6 endoscopic features. The number of Blink features identified correlated with the presence of cancer and degree of SMI. This approach could reduce the need for experience to detect polyp-cancer & minimise negative patient outcomes.

Conflicts of interest Authors do not have any conflict of interest to disclose.



► **Fig. 1** Box plot of the mean number of Blink features allocated by participants per histological group (no cancer, superficial submucosal invasive cancer [SMI], deep SMI) and the p-values between the different groups

eP272 Gender impact to endoscopic sleeve gastroplasty outcomes

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DOI 10.1055/s-0043-1765557

Aims Endoscopic sleeve gastroplasty (ESG) is established as effective and minimally-invasive procedure for obesity. Patients undergoing bariatric procedures in 80% of the cases are females. It is known that gender plays a role in several metabolic networks related to obesity; however no studies have investigated the gender impact on obesity after ESG. The aim is to evaluate the gender impact on long-term weight loss outcomes after ESG in patients treated in our bariatric unit.

Methods We analyzed 160 patients that underwent ESG at Fondazione Policlinico Gemelli IRCCS from May 2017 to October 2021. A matched-pair analysis between the two groups for baseline BMI, age, and timing of the procedure was done. Weight loss outcomes were described in terms of total body weight (TBWL%) and excess weight loss (EWL%) at 12, 24 and 30 months.

Results We found that men presenting for ESG had a higher body mass index (BMI) compared to women (40,7 kg/m² vs 39,8 kg/m²). After ESG the TBWL% in female at 12, 24, and 30 months was 17,2%, 14,0% and 15,2% compared to 14,9%, 14,3% and 9,6% in men, respectively. The EWL% was 48,4%, 39,6% and 41,7%, compared to 41,9%, 39,5% and 24,3% in men, respectively.

Conclusions Women have more durable weight loss compared to men. More in-depth studies are needed to understand the cause of this difference.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP273 Musculoskeletal injuries in gastro-enterology endoscopists: prevalence and risk factors among a monocentric Moroccan center

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DOI 10.1055/s-0043-1765558

Aims Digestive endoscopy represents an important part of the workload of gastroenterologists. However, little attention is paid to the ergonomic aspects of endoscopy. The aim of our study was to evaluate the prevalence of these disorders among our center and to determine the different risk factors.

Methods This prospective study was conducted between September 2021 and September 2022. A questionnaire including the following elements was sent: age, physical activity level, number of years of endoscopy, number of endoscopy per week; Injury experiences included location of pain or injury, the effect of the injury on work and required treatments. Statistical analysis was performed with SPSS software version 22.0.

Results 47 endoscopists responded to the questionnaire. A clear predominance of women was noted (80%). Muscle pain was noted in 65% of gastroenterologists. The most frequent locations were the back (74%), neck (55%) wrist (54%) and shoulder (49%). 19% endoscopists consulted for these pains and the diagnoses retained were either tendonitis or a herniated disc. Factors associated with a higher rate of endoscopy-related injury included higher procedure volume (>20; P < .001), greater number of hours spent performing endoscopy (>20 h/w; P < .001), number of years of practice >10 (p = 0.023), number of colonoscopies greater than 3 (p = 0.025) and not practicing a physical activity or sedentary lifestyle.

Conclusions Among endoscopists there is a high prevalence of injuries definitely or potentially related to endoscopy. Therefore, An ergonomic strategy at work and the practice of a sporting activity are essential to prevent these attacks.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP274 Long-term outcomes of endoscopic submucosal dissection for undifferentiated early gastric cancer, beyond expanded criteria

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DOI 10.1055/s-0043-1765559

Aims The aim of this retrospective study was to analyze the long-term outcomes of ESD carried out to treat undifferentiated EGC in two groups (group A: up to 2 cm, group B: 2-3 cm)

Methods Between January 2001 and March 2015, 104 patients with undifferentiated early gastric cancer (EGC) including poorly differentiated adenocarcinoma (PD, n = 66) or signet ring cell carcinoma (SG, n = 38) on preoperative biopsy underwent ESD (group A: 71 cases, group B: 33 cases). Total ESD specimens were evaluated en bloc resection, R0 resection, and curative resection (CR) and to evaluate long term outcome, annual endoscopic surveillance with biopsy and CT scan were done.

Results M/F was 40/31 and 17/16. Mean follow up period in group A and B were 61.10 ± 38.12, 60.79 ± 47.75. Mean age in group A and B were 52.90 ± 13.62, 57.00 ± 12.25. En bloc in group A and B were achieved in 92.9%, 90.9% of patients, respectively (NS). R0 resection in group A and B were 87.3%, 51.5% of patients, respectively (p < 0.05). Curative resection was 83.0% in group A and group B was not include this definition. Recurrence in group A and B were 5.6% (n = 4), 18.1% (n = 6), retrospectively (p < 0.01). All cases with lateral margin positive required additional ESD (n = 2), desconstructive therapy (n = 3), or surgery (n = 4) and no recurrence happened.

Conclusions In group B, R0 resection rate was lower than group A but R0 resection in both groups were not different recurrence rate with long term follow up. Carefully, undifferentiated EGC with 2 to 3 cm in a size recommended ESD.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP275 Biliopancreatic adverse events after pancreaticoduodenectomy: preliminary results of endoscopic management with pediatric colonoscope

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DOI 10.1055/s-0043-1765560

Aims Aim of the study is to evaluate technical and clinical success of ERCP performed for biliopancreatic adverse events after pancreaticoduodenectomy (PD) using a wide caliber operative working channel (3.8 mm) pediatric colonoscope.

Methods Patients who underwent ERCP between 01/02/2012 and 15/11/2022 for biliopancreatic complications after PD were included. Technical success was considered as effective endoscopic treatment of the specific complication including cannulation of pancreaticojejunal or hepaticojejunal anastomosis. Clinical success was considered as need for rescue treatment (surgery or interventional radiology) or death with persistence of complication.

Results 132 patients underwent a total of 287 ERCP were included. 249 (86,75%) ERCP have been performed with pediatric colonoscope. Anastomosis cannulation has been achieved in 115 pts: at first attempt in 89 pts and thanks to EUS guided approach in 26 pts (endoscopic enteral-enteral bypass (n = 14), hepaticogastrostomy (n = 6), pancreaticogastrostomy (n = 6)). In 107 of 115 cases, the suspected complication was confirmed after cannulation and tech-

nical success has been obtained in all cases (100%). Clinical success was reported in 104 pts (97%) after a median number of 2 (IQR 1-2) procedures per patient. The remaining 3 pts had a pancreaticojejunal anastomotic dehiscence, all of them died after rescue treatment. No patient experienced recurrence of the same complication after treatment [1–3]

Conclusions Pediatric colonoscope in altered anatomy setting is a good alternative to obtain high technical and clinical success rate in tertiary referral centers with high-grade know-how in ERCP in surgically altered anatomy.

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eP276V An unusual case of pancreatic mass

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DOI 10.1055/s-0043-1765561

Abstract Text The integration of Endoscopic ultrasound (EUS) and endoscopic retrograde cholangiopancreatography (ERCP) in a single endoscopic session was named endoscopic ultrasound retrograde cholangiopancreatography (EURCP). There were many applications of the EURCP concept for diagnosing and treating biliopancreatic disease. This case report was one example of this technique and explains how EURCP is the best way to obtain a good diagnosis and efficacy treatment in a single-operative endoscopic session, especially in selected clinical cases.

Conflicts of interest Claudio Giovanni De Angelis is a consultant for Boston Scientific, Olympus and Medi-Globe

eP277 Prophylactic stenting as a method to decrease incidence of post ESD strictures in esophagus. A case series

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DOI 10.1055/s-0043-1765562

Aims Endoscopic submucosal dissection (ESD) allows curative en bloc resection of large early esophageal neoplasms with low recurrence rates. However, these large resections almost invariably lead to recalcitrant esophageal strictures. Prophylactic use of fully covered metal stents to prevent such strictures has been seldomly used. In this case series we evaluated the effectiveness of such an approach.

Methods Data on patients who underwent extensive ESD (> 50 % circumference) for a variety of lesions was collected retrospectively. Only patients in whom stent was placed within 24 hrs of the resection, no other stricture pre-

venting measures were used and with follow up endoscopy after ≥ 3 months of resection were included. Post ESD stricture was defined as a clinically significant one requiring any kind of treatment [1].

Results A total of 8 patients were analyzed. The mean age was 69 years, and 4 were males. All patients except one underwent circumferential resections (mean length 6 cm). Stents were placed immediately after resection except in one case and all of them were anchored using different methods. The mean interval from placement to removal was 35 days. Stricture was avoided in 5 patients (63 %). Stent migration occurred in 2 patients and no serious adverse events were noted. In one case the stent had to be removed 4 days after placement due to severe discomfort (► Table 1).

Pathology (n)	Mean interval from placement to removal (days)	Stricture Year-1 Non-3	Stent Migration Year-1 Non-6	Mean Length of mucosectomy (cm)
Adenocarcinoma (2), Squamous Cell Carcinoma (6)	35			6

► Table 1

Conclusions Prophylactic use of fully covered metal stents after extensive ESD seems to be an effective approach at preventing clinically significant strictures. This method should be studied in prospective trials to further assess its effectiveness.

Conflicts of interest Sunil Amin. Consultant. Boston Scientific. Antonio Mendoza Ladd. Consultant. Boston Scientific, Olympus Kenneth Park. Consultant. Boston Scientific Shyam Thakkar. Consultant. Boston Scientific [1] Bhatt A, Abe S, Kumaravel A et al. Indications and Techniques for Endoscopic Submucosal Dissection. *Am J Gastroenterol* 2015; 110 (6): 784–91

eP278 Efficacy of mucosal incision assisted biopsy (MIAB) for the diagnosis of upper gastrointestinal subepithelial tumors in Viet Nam

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DOI 10.1055/s-0043-1765563

Aims Evaluate the effectiveness of mucosal incision assisted biopsy (MIAB) in diagnosis upper gastrointestinal subepithelial tumors

Methods A cross-sectional descriptive research, conducted on 41 patients with upper gastrointestinal SETs (► Table 1).

Technique	Success rate (%)	Procedure time (minute)	Complication
STB	100% (6/6)	47.4	No
SINK	94,3% (33/35)	22,1	Bleeding (7/41: 17,1%)
Tumor size			
<2 cm	88,3% (15/17)	N/A	0/17
≥2 cm	100% (24/24)	N/A	7/24 (6/7 Gastric tumor, 1/7 Duodenal tumor)
Histopathology		MIAB (%)	
Leiomyoma		15 (38,5%)	
Tuberculosis		3 (7,7%)	
GIST		13 (33,3%)	
Lipoma		2 (5,1%)	
Lymphoma Non Hodgkin		1 (2,6%)	
Glomus tumor		1 (2,6%)	
Harmatoma		1 (2,6%)	
Schwanoma		1 (2,6%)	
Esophageal cyst		1 (2,6%)	
SFT		1 (2,6%)	

GIST, gastrointestinal stromal tumor; MIAB: mucosal incision assisted biopsy, STB: submucosal tunneling biopsy, SINK: Single incision needle knife

► Table 1 The characteristic and outcome of MIAB.

Results We analyzed medical record of 41 patients with upper gastrointestinal SETs who underwent MIAB. No major procedure related adverse events were

observed. MIAB yields highly accurate diagnoses once large enough samples were obtained for histopathology (95.1%). MIAB required long procedural time (approximately 25 min) [1–3]

Conclusions MIAB is a safe and effective technique for the diagnosis of upper GI SETs. MIAB can be performed during routine endoscopy and no advanced equipment is required

Conflicts of interest No

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eP279 The role of Endoscopic ultrasound in evaluation subepithelial lesions of GI tract at Intermed hospital, Mongolia

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DOI 10.1055/s-0043-1765564

Aims The present study aims to describe the endosonographic characteristics of gastrointestinal subepithelial lesions and our experience using endoscopic ultrasound for evaluation of such lesions. There is no subepithelial lesions study in Mongolia because EUS was first introduced in Mongolia in 2019.

Methods Retrospective study which included 337 of the total 443 patients underwent endoscopic ultrasound evaluation of subepithelial lesions [1–5].

Results The mean age was 52.0 ± 11.3 years (17–87 years). Fifty nine percent were female. 127 (41.9 %) patients had lesions in the esophagus, 119 (39.3 %) in the stomach, 45 (14.9 %) in the duodenum and 11 (3.6%) in the colon. The provisional diagnosis of the subepithelial lesions, regarding only clinical and endosonographic characteristics were leiomyoma, gastrointestinal stromal tumor (GIST) neuroendocrine tumor (NET), cysts, pancreatic rest, lipoma, external compression and others (39.6%, 14.3%, 4.5%, 11.7%, 10.4%, 8.1%, 9.3% and 2.1 % respectively). Most common subepithelial lesions in the esophagus were leiomyoma (62.9%) and cyst (14.1%); in the stomach were GIST (26.8%) and leiomyoma (32.7%); in the duodenum were GIST (17.7%) and pancreatic rest (31.1%); in the colon were NET (81.8%) and external compressions (9%).

Conclusions Endoscopic ultrasound evaluation of subepithelial lesions has been very important for stratification into risk groups and to determine the best management.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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[4] AGA clinical practice update on Management of subepithelial lesions (SEL) encountered during routine endoscopy- 2022

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eP280 Use of a short, fully covered, self-expandable metal stent to treat proximal, benign biliary strictures developing after various biliary operations other than living donor liver transplantation

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DOI 10.1055/s-0043-1765565

Aims Benign biliary strictures (BBSs) can be non-surgically treated endoscopically and percutaneously. However, treatment of proximal strictures remains difficult. Recently, fully covered self-expandable metal stents (FCSEMSs) have been used to treat BBSs. We explored whether a short, non-migratory removable FCSEMS could be employed to treat proximal BBSs.

Methods FCSEMSs were endoscopically placed in patients with proximal BBSs developing after various biliary operations other than living donor liver transplantation. The first FCSEMS was maintained in place for 3 months and then exchanged every 3 months until the stricture resolved. Complications and stricture recurrence after FCSEMS removal were assessed during follow-up.

Results A total of 26 patients of mean age 58.9 years were enrolled; 17 were male. The three causes of BBSs were post-hepatectomy strictures (n = 12), post-deceased donor liver transplantation (DDLT) strictures (n = 10), and post-cholecystectomy strictures (n = 4). The mean duration between surgery and stricture diagnosis was 49.4 months and the mean stent indwelling time 5.8 months. The technical success and stricture resolution rates were both 100%. The complication rate was 11.5%, including asymptomatic stent migration (3.8%) and cholangitis (7.7%). The recurrence rate was 15.4% and such patients were treated via insertion of a second FCSEMS or a plastic stent (▶ **Table 1**).

Conclusions A short removable FCSEMS effectively treated proximal BBSs developing after various biliary operations.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Outcomes	n = 26 patients
Technical success rate, n (%)	26 (100)
Stricture resolution at final FCSEMS removal, n(%)	26 (100)
Overall follow-up period after stent removal (months, mean ± SD)	45.0 ± 20.9
Stricture recurrence, n (%)	4 (15.4)
Duration between stent removal and recurrence (months, mean ± SD)	8.3 ± 8.7
Recurrence-free duration (months, mean ± SD)	40.0 ± 23.7
Treatment after recurrence, n (%)	4 (15.4)
Second FCSEMS insertion	2
ERBD (plastic stent) insertion	2

▶ **Table 1** Outcomes of a fully covered self-expandable metal stent placement for hilar benign biliary stricture in other than LDLT.

eP281V Treatment of an 8-year-old patient with total biliary obstruction in Roux-Y hepaticojejunostomy anastomosis with magnetic compression anastomosis technique using a colonoscope

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DOI 10.1055/s-0043-1765566

Abstract Text An 8-year-old girl with a history of hepaticojejunostomy (HJ) due to a choledochal cyst was consulted with total biliary obstruction at the anastomosis. The patient was followed with an external percutaneous biliary catheter. Via oral route, a colonoscope was carried to the HJ area. Magnetic compression anastomosis technique was performed with Nickel-coated cylindrical neodymium iron boron rare-earth magnets 2.5 mm in diameter. Magnets were applied both percutaneously and endoscopically. After 72 hours, magnets were seen to be coupled. The coupled magnets were extracted endoscopically. The patient became catheter free after serial dilatations of the newly formed biliary passage percutaneously. [1–5]

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP282 Unexpected findings in a patient presenting with melena

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DOI 10.1055/s-0043-1765567

Aims A 67-year-old current smoker male was admitted to the emergency room for weakness and melena after a seven-day treatment of non-steroidal anti-inflammatory drugs (NSAIDs) for rib fracture. He had a past history of high-grade urothelial carcinoma (pT1, G3) treated by Transurethral Resection of the Bladder (TURB) and a re-TURB eight weeks later and followed up by a biannual urological assessment. Complete blood count showed a hemoglobin concentration of 45 g/L (normal 140–168 g/L). Platelet count, coagulation, renal and liver function tests were normal.

Methods In this case report, an unusual cause of melena is described.

Results Esophagogastroduodenoscopy (EGD) showed the presence of several ulcerated submucosal lesions ranging from 5 to 20 mm in each gastric region and in the second and third duodenal parts. Histology and immunohistochemistry (GATA-3 +, CKAE1/AE3 + and ERG -, CDX2 -) revealed a poorly differentiated urothelial carcinoma. A Whole-Body CT scan revealed brain, lung, hepatic, adrenal, vertebral, rib, lymph node, and omental metastasis. A rib biopsy was performed confirming the urothelial carcinoma metastasis. The patient was discharged to hospice care due to a deteriorating condition and an unfavorable prognosis. He died a week after the endoscopy procedure.

Conclusions Bladder cancer uncommonly metastasizes to the gastrointestinal tract. According to the literature, this is the first case of a duodenal metastasis and the fifth case of gastric metastasis from urothelial cancer. This case underlines the atypical manifestation and the aggressiveness of urothelial cancer with a 5-year cancer-specific survival of 14%.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP283 Eosinophilic Gastrointestinal Disorders in Hypereosinophilic Syndrome: a multidisciplinary Case Report

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DOI 10.1055/s-0043-1765568

Aims In this case report, a rare cause of chronic diarrhea is presented.

Methods A 35-year-old woman referred to the emergency department with vomiting, hyporexia, abdominal distension and worsening of her chronic diarrhea.

Results Laboratory tests revealed neutrophilic leukocytosis ($20 \times 10^9/L$), eosinophilia ($8.00 \times 10^9/L$) and increased PCR values. CT scan showed intra-abdominal ascites with thickening of some loops of the jejunum. Stool tests (including parasites) revealed a *C. Difficile* infection, which was treated with vancomycin. Calprotectin was in the normal range. Esophagogastroduodenoscopy and pan-colonoscopy with terminal ileoscopy were within normal limits. Paracentesis showed an exudate rich in eosinophilic granulocytes and negative for neoplastic cells. Lastly, a bone marrow biopsy and an anterograde push enteroscopy with biopsies were performed. The first one showed no signs of myeloproliferative disease, but a normal marrow with an important eosinophilia. On the other hand, the enteroscopy highlighted a hyperemic jejunal mucosa without macroscopic lesions. (FIGURE A.) The histological examination revealed a regular architecture with normal villosity/crypt ratio and focally $>30 \times 100$ intraepithelial enterocytes. (FIGURE B.)

Conclusions Multidisciplinary evaluation diagnosed an idiopathic hypereosinophilic syndrome with prevalent gastrointestinal involvement and steroid therapy (1 mg/kg) was started, with blood eosinophils reduction and improving of GI symptoms.

Conflicts of interest anX roboticsmalesciniso biomedolymphusalfa sigmanorginepentaxmedtroniccoviendiengeniven imaging

eP284 Artificial intelligence as a support system for real-time colon preparation assessment during colonoscopy

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DOI 10.1055/s-0043-1765569

Aims The interest in evaluating and quantifying colonoscopy quality has increased over the last few years. However, the quality criteria in many cases are either subjective or require a manual process, making them difficult to implement. We aimed at obtaining an objective quantification of the bowel preparation rate using the BBPS in real-time by employing an AI-system that automatically detects the cleanliness of the intestinal mucosa using convolutional neural networks

Methods For developing the proposed AI-model, we used a set of 6000 images of various scales of the BBPS belonging to two databases: Nerthus and Hyper-Kvasir.

The performance of 5 architectures was tested: MobileNetV2, ResNet50V2, InceptionV3, VGG-16, Xception, and EfficientNetB0. The model was trained for ten epochs in all cases, with a batch size of 32, Adam optimizer, learning rate 0.0001, and categorical cross entropy as loss function.

Results Table 1 shows the performance of the different networks used throughout the trial and the computational cost. The most remarkable behavior

ior belongs to the EfficientNetB0 model, with an F1 of 0.939 in the test set (► Table 1).

Conclusions It was possible to train a model based on convolutional neural networks to recognize BBPS levels. Furthermore, we demonstrated that it is possible to objectively recognize the degree of cleanliness of the intestinal mucosa from colonoscopy images, making it possible to accurately quantify the rate of intestinal preparation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Red	F1	Training time(min)	Prediction time(s)
Xception	0,903	50	136
EfficientNetB0	0,939	26	87
InceptionV3	0,868	210	65
MobileNetV2	0,917	15	44
ResNet50V2	0,889	40	101
VGG16	0,913	120	286

► Table 1

eP285 3D navigated treatment of necrotizing pancreatitis using point-based registration of CT data to the endoscopic scene in tracking coordinates

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DOI 10.1055/s-0043-1765570

Aims Endoscopic necrosectomy is the favored minimal invasive approach for necrotizing pancreatitis. Even experienced endoscopists are challenged to transfer information from CT-scan into endoscopic location and orientation because visual information about necrotic mass and surrounding structures are not primarily visible.

Methods A 3D-printed phantom was built based on segmented CT-scans. An electromagnetic (EM) sensor was integrated into the endoscope's working channel to localize it by EM-tracking. A custom software-prototype based on the Medical-Imaging-Interaction-Toolkit (MITK, www.mitk.org) was developed which provides a 3D-visualization of necrosis and surrounding organs by a point-based registration of CT data to the endoscopic scene in tracking coordinates. An ex-vivo experiment was conducted. Six experimental runs were conducted by four interventional endoscopists. Supported by the 3D-visualization, each user addressed seven targets spread inside the phantom. Afterwards the Euclidean distance between final position and registered target in tracking coordinates was determined and additionally checked visually.

Results All users managed to reach the targets with mean error ranging between (2.6–6.5mm). The endoscope image showed a visual match of the 3D-navigation scene, without problems in registration accuracy. Users' feedback regarding usefulness and realistic implementation was very positive.

Conclusions Although the results are very preliminary, the 3D-approach could have big potential for future clinical use.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP286 Artificial intelligence system using white light for real-time optical characterization of colonic polyps

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DOI 10.1055/s-0043-1765571

Aims To prospectively evaluate the clinical feasibility as well as diagnostic performances of AI-alone and AI-assisted OD of DCPs in a real-life setting.

Methods Consecutive outpatients referred for colonoscopy with at least one DCP were evaluated. DCPs were real-time classified by AI (AI-alone OD) and by the endoscopist with the assistance of AI (AI-assisted OD). The histopathology was the reference standard [1–5].

Results Overall 480 DCPs were detected, and 460 retrieved. AI provided a clinically relevant outcome in 81.4% DCPs (“adenoma” or “non-adenoma” in 71.0% and 10.4%, respectively), while 19.6% of DCPs were labelled as “no prediction”. Sensitivity, specificity, PPV, NPV and overall accuracy of AI-alone OD were 97.0% (95%CI: 94.0-98.6), 38.1% (95%CI: 28.9-48.1), 80.1% (95%CI: 75.2-84.2), 83.3% (95%CI: 69.2-92.0) and 80.5% (95%CI: 68.7-82.8%), respectively. The same figures for AI-assisted OD were: 94.8% (95%CI: 91.1-97.1), 58.9% (95%CI: 49.7-67.5), 82.4% (95%CI: 77.4-86.5), 84.9% (95%CI: 75.2-91.4) and 83.0% (95%CI: 78.8-86.6), respectively. Clinical performances of AI-assisted OD experts and non-experts were: sensitivity (96.1% vs. 93.6%), specificity (65.0% vs. 52.5%), positive predictive value (84.7% vs. 80.1%), negative predictive value (89.1% vs. 80.0%) and overall accuracy (85.8% vs. 80.1%).

Conclusions AI-alone OD is feasible in >80% of DCPs in clinical practice. AI-alone showed a high sensitivity and suboptimal specificity. The human-machine interaction results in improved diagnostic performances, especially when experts are involved.

Conflicts of interest Medtronic CoFujifilm Co

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eP287 Endoscopic reconstruction of complete esophageal obstruction – See you on the other side

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DOI 10.1055/s-0043-1765572

Aims Complete esophageal obstruction (CEO) is an uncommon complication of chemoradiation therapy. surgical options are radical and associated with high morbidity, minimally invasive approaches using endoscopy to restore luminal patency have been used.

We present a CEO after radiation therapy for an esophageal squamous cell carcinoma, with proximal end of the stenosis at 27 cm from the incisors.

Methods Under general anesthesia, retrograde esophagoscopy was performed with a pediatric gastroscope, identifying a punctiform hole at the distal end of the stenosis. Simultaneously, an antegrade esophagoscopy was performed with an adult gastroscope. Fluoroscopy with contrast opacification at the endings confirmed a CEO, with an estimated length of 20–25 mm. Through a cannula, a guidewire was inserted at the punctiform hole of the distal end, with visualization from the antegrade endoscopy of the guidewire emerging at the submucosa of the proximal end. After lumen creation with the cannula, balloon dilation of the stenosis with a through the scope balloon up to 8 mm was performed. Under fluoroscopic and both direct antegrade and retrograde endoscopic views, a fully covered esophageal stent was placed, with contrast instillation confirming no extravasation [1–3].

Results No complications were reported. The patient resumed oral feeding two days after the procedure.

Conclusions Endoscopic approach for CEO has been successfully and increasingly used, avoiding major surgeries and allowing patients to regain the oral route. The choice of endoscopic approach is individualized to the endoscopic appearance and length of the obstruction.

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP288 Experience of EUS versus MRCP in diagnosing Pancreaticobiliary Pathology in a District General Hospital

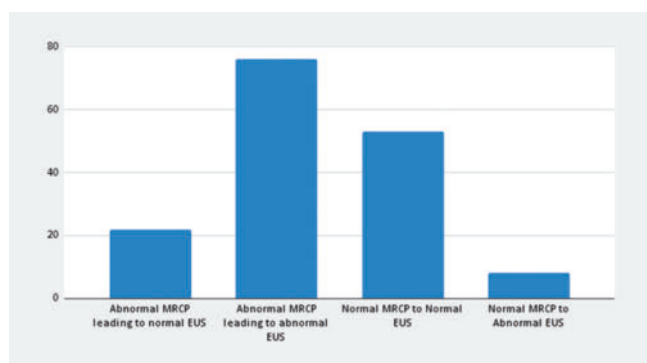
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DOI 10.1055/s-0043-1765573

Aims We evaluated Endoscopic Ultrasound (EUS) versus Magnetic Resonance Cholangiopancreatography (MRCP) outcomes in patients presenting with suspected Pancreaticobiliary pathology.

Methods Reports Of patients who underwent MRCP and EUS at Watford General Hospital between January 2018 to March 2021 were retrospectively analyzed for Pancreaticobiliary findings with a one year follow up. Subsequent ERCP findings in 33 patients were correlated.



► Fig. 1

Results 158 patients (31.6% Male; 68.3% Female, mean age 61 years) were included in the analysis. 129 (81.6%) patients had concordant MRCP and EUS findings. This included 76 (48.1%) abnormal and 53 (33.5%) normal concordant results. There were 30 (18.9%) patients with discordant results. 22 (13.9%)

patients who had abnormal MRCP (Dilated Bile duct) subsequently had normal EUS; 11 (50%) were attributed to a CBD stone having already passed by the time of EUS. Eight (5%) of patients with normal MRCP had EUS findings of CBD stones (7) and CBD strictures (1). 29 ERCP reports concordant to EUS had CBD Stones (22) and strictures (7). Retrospective review showed that in six patients CBD stones found at EUS and a stricture in one patient had not been identified on MRCP. The sensitivity of MRCP for CBD stones and strictures was 73.9% and 85.7% and for EUS was 100% (► Fig. 1).

Conclusions In our experience of 158 patients, EUS is an important adjunct to MRCP in visualization of pancreaticobiliary pathology that would otherwise have been overlooked. EUS demonstrated superior sensitivity in identifying CBD stones and strictures.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP289 ThinPrep cytologic evaluation of brush tip in indeterminate biliary strictures

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DOI 10.1055/s-0043-1765574

Aims Assessment of ThinPrep cytologic evaluation in indeterminate biliary stricture brushing.

Methods 15 (M:F 9:6) consecutive patients with indeterminate biliary stricture were evaluated (mean age 67,5 years). All patients underwent brushing of the stricture during ERCP. For each patient, samples for standard cytology preparation (fixed in alcohol 95° and coloured with Modified Papanicolaou staining technique by the cytopathology laboratory) and brush tips (cut and immersed entirely in the PreservCyt solution for Thin Prep) were collected. All samples were evaluated according to the Papanicolaou system for reporting pancreaticobiliary cytology diagnostic categories.

Results The analysis of the standard samples showed that 5 were neoplastic (VI sec. PSC/STNPC), two cases presented cellular atypia of uncertain classification (III sec. PSC/STNPC) and 8 were non-neoplastic (II sec. PSC/STNPC). In the samples examined with the Thin Prep, 5 were neoplastic (VI sec. PSC/STNPC), 9 were non-neoplastic samples (II sec. PSC/STNPC) and 1 case was suspected for neoplasia (V sec. PSC/STNPC). With the two methods, the categories of benignity (II sec. PSC/STNPC) and certain malignancy (VI sec. PSC/STNPC) resulted superimposable. In two cases, the Thin Prep permitted to modify the uncertainty category (III sec. PSC/STNPC), thanks to better cellular preservation and nuclear detail.

Conclusions ThinPrep cytologic evaluation in indeterminate biliary stricture brushing leads to a marked improvement of sample representativeness, both qualitative and quantitative, and analysis time. Moreover, ThinPrep offers the chance of carrying out molecular biology investigations.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP290 Endoscopic full-thickness resection of colorectal lesions: a 3-year experience of a Portuguese tertiary centre

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DOI 10.1055/s-0043-1765575

Aims Endoscopic full-thickness resection (EFTR) allows definitive diagnosis and treatment of complex colorectal lesions not amenable to conventional

endoscopic resection. The authors present the results of the largest Portuguese colorectal EFTR registry.

Methods Consecutive patients undergoing EFTR with a dedicated full-thickness resection device (FTRD) in a Portuguese tertiary centre were included. Data were analyzed retrospectively. Primary outcomes were technical success (macroscopic complete *en bloc* resection) and R0 resection. Secondary outcomes were curative resection, for histologically confirmed malignant lesions (R0 resection with no unfavorable histologic features) and adverse events.

Results Between November 2020 and October 2022, 33 colorectal lesions were referred to EFTR (primary resection of suspected T1 carcinoma, $n = 22$; adenomas in difficult locations, $n = 6$; recurrent adenomas, $n = 5$). Technical success was achieved in 30 (90.9%) procedures. In 3 (9.1%) procedures the lesion could not be reached or retracted into the cap. In the remaining procedures, R0 resection was achieved in 24 (87.9%). Concerning histologically confirmed invasive adenocarcinoma ($n = 16$), curative resection rate was 43.8% ($n = 7$), and in additional 31.3% ($n = 5$) no residual cancer was found after oncologic surgery. Overall adverse event rate was 12.1% ($n = 4$), none of which required surgery.

Conclusions EFTR is an effective and relatively safe *en bloc* resection technique for complex colorectal lesions, reducing surgical overtreatment of benign and malignant lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP291 The use of a novel haemostatic peptide gel in the management of walled-off pancreatic necrosis (WOPN) drained using lumen-apposing metal stents (LAMSs): a case series

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DOI 10.1055/s-0043-1765576

Aims Bleeding is one of the most fearsome and frequent adverse event in case of EUS-guided drainage of WOPN using LAMSs and of direct endoscopic necrosectomy (DEN). When it occurs, its management is still controversial. In the last few years, a novel haemostatic peptide gel has been introduced, expanding the toolbox of the endoscopic haemostatic agents. The aim of this case series was to evaluate safety and efficacy of this new haemostatic agent in preventing and controlling bleeding of WOPN drained using LAMS.

Methods This is a multicenter, retrospective pilot study from 3 high-volume centers in Italy, including all consecutive patients treated with the novel haemostatic peptide gel after LAMSs placement for the drainage of symptomatic WOPN, between 2019 and 2022.

Results A total of 10 patients were included. All patients underwent at least one session of DEN. Technical success of the application of the haemostatic gel was achieved in 100% of patients. In 7 cases the haemostatic gel was placed for post-DEN bleeding prevention, with 1 patient that experienced bleeding after DEN. In 3 cases, on the other hand, the haemostatic gel was placed for active bleeding: 2 cases of oozing were successfully controlled with gel application; instead, a massive spurting from a retroperitoneal vessel required subsequent angiography. No re-bleeding occurred. No gel-related adverse events were reported [1–5].

Conclusions This novel peptide gel could represent a promising haemostatic device both in preventing and managing active bleeding after EUS-guided drainage of WOPN. Further prospective studies are needed to confirm its efficacy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP292 Evaluation of the prevalence of recurrence and associated risk factors after endoscopic resection of colorectal lesions in an advanced polypectomy schedule

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DOI 10.1055/s-0043-1765577

Aims To determine the prevalence of recurrence after endoscopic treatment of colorectal lesions in an advanced polypectomy schedule and to analyze the associated factors.

Methods Prospective cohort study of patients with colorectal lesions undergoing endoscopic treatment between 2018 and 2022 in a tertiary hospital. Sociodemographic, lesion and anatomopathological data were collected, as well as technical data from the colonoscopy.

Results 252 lesions (231 patients) were included, of which 157 (62.3%) corresponded to men. Of the total lesions, 48 were pedunculated polyps (19%), 29 sessile polyps (11.5%), and 175 LST lesions (69.4%). Regarding LST lesions, 71% were granular and 29% non-granular. The median size was 30mm and 90.3% were classified as NICE 2. The 55.2% were located proximal to the splenic flexure. Among all the patients who have completed follow-up at the current time ($n = 157$), a 15.5% recurrence rate ($n = 24$) has been detected, 23 in the first review and 1 in the second. The median time to recurrence was 6 months. Sex, age, year of the procedure, location, histology of the lesion, Paris and NICE classification, resection technique, margin treatment, and SMSA classification were analyzed. The only factor that presented a statistically significant association with the increased risk of recurrence was size ≥ 30 mm (RR 2.7 95% CI 1.0–7.8), maintaining significance in the multivariate analysis.

Conclusions The prevalence of recurrence is low in our cohort, and might be associated with size of the lesion.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP293 Laparoscopic-Endoscopic Cooperative Surgery (LECS) for full thickness resection of gastric gastrointestinal stromal tumors (GISTs)

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DOI 10.1055/s-0043-1765578

Aims In Western countries gastric GISTs are treated with laparoscopic wedge resection (LWR). This procedure is technically challenging in some gastric sites, so it's difficult to achieve minimal and curative resection margins or large resections are needed. In Eastern countries, Laparoscopic Endoscopic Cooperative

Surgery (LECS) has been proposed as a new treatment for gastric GISTs. For ulcerated GISTs a modified technique (Non-exposed Endoscopic Wall-inversion Surgery: NEWS) has been developed to avoid peritoneal tumor seeding. This prospective study evaluates the outcomes of these procedures in our center.

Methods From January 2019 to January 2022 all patients affected by gastric GIST of 2-5 cm and fit for surgery underwent LECS and NEWS. The main outcomes were: technical success, adverse event rate, radical resection rate and tumor recurrence during follow-up according to CT scan and GI endoscopy at 3-6-12 months.

Results 15 patients (M=9, F=6, median age 62 [40-78] years) have been enrolled. LECS was performed in 12 non-ulcerated GISTs; NEWS in 3 ulcerated GISTs. Gastric tumor location was distal antrum (3), body (5), fundus (4) cardia (3). Mean tumor size was 3.4 [2.4-5.2] cm. Technical success after a mean procedure time of 110 minutes and radical resection were achieved in all cases. No adverse events occurred. No tumor recurrence was observed during a median of 17 [9-45] months follow up. None showed functional disorders [1-4].

Conclusions In this preliminary Italian single-center experience LECS appeared a feasible, curative and safe procedure to resect gastric GISTs. Randomized controlled trials are needed to compare LECS outcomes to LWR.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP294 Radiofrequency ablation for dysplastic Barrett's esophagus: a retrospective study of efficacy and tolerance

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DOI 10.1055/s-0043-1765579

Aims Radiofrequency ablation (RFA) is a treatment indicated for the destruction of dysplastic Barrett's esophagus (BE), either in case of flat mucosal dysplasia without visible lesion or after endoscopic resection. The main objective of this study was to evaluate RFA eradication of dysplastic BE in the long term.

Methods This retrospective study included all patients who had an RFA performed for dysplastic BE without visible lesion or after resection of a neoplastic lesion with at least one follow-up endoscopy, in our expert center between 2009 and 2019. RFA data collection was performed from a prospective registry and patient data were collected retrospectively.

Results Eighty-one patients were included (81.5% male, median age 67 years), among them 53.1% had an eradicated BE (E-BE). Dysplasia eradication rate was significantly higher in E-BE group (85.3%) than in the group with persisting BE (P-BE) (52.2%). The most frequent adverse event was esophageal stricture with an endoscopic treatment (4.9%). During the follow-up (median: 28.8 months), 20.2% of patients developed an esophageal adenocarcinoma (EAC), of which 29.4% were >T1sm1. EAC appeared significantly more often in the P-BE group (82.4%) than in E-BE group, without difference between patients with flat mucosa dysplasia and patients who underwent an endoscopic resection. 52.9% of EAC were treated by endoscopic resection. Overall survival and progression-free survival to EAC were significantly higher in the E-BE group.

Conclusions In this real-life study with prolonged patient follow-up, the rate of BE eradication remained lower than data from prospective studies. P-BE was more likely to progress to EAC.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP295 Site check colonoscopy after Endoscopic Mucosal Resection (EMR): Driving down recurrence rates

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DOI 10.1055/s-0043-1765580

Aims En bloc resection is associated with low recurrence rates for colorectal polyps. Piecemeal techniques such as EMR are more accessible for larger lesions and are favoured in most European centres. Recurrence rates are an important quality indicator for EMR.

Methods A retrospective review of a prospectively-maintained EMR database (MATER registry) focusing on recurrence management over a four-year period. Recurrence was defined by the presence of neoplastic tissue at the previous EMR scar site.

Results 203 polyps were identified in 191 patients. 127 polyps had available first site-check (SC1) procedure information. Median interval to SC1 was 174 days (range 91-756). Median patient age was 67 years (34-87) with 56% males. Median polyp size was 32mm (20-80). Resection techniques included piecemeal EMR (pEMR, n = 102, 80%), cold-pEMR (n = 14, 11%) and en-bloc EMR (n = 11, 9%). Recurrence at SC1 was found in 15% (n = 19/127). Subsequent rates were 7% (n = 9/127) at SC2 and 3% at SC3 (n = 4/127). SC1 recurrence rate was 9%, 29%, 9% and 10% for each successive year from 2019-2022. Snare-tip soft coagulation (STSC) was used in 78% of polyps with SC1 recurrence and 77% with no recurrence (p = 0.64). Median SMSA score for polyps with recurrence was 14 (range 9-17) compared to 13 for no recurrence (10-17), p = 0.75. SMSA did not correlate with recurrence (r = 0.034).

Conclusions Identification and treatment of SC1 recurrence leads to low ultimate recurrence rates for colorectal EMR. Rates of recurrence may be further improved by adopting a standardised approach for site-checks. Regular audit of recurrence rates is recommended.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP296 Fully vs. partially covered self-expandable metal stents for esophagogastric anastomotic leak

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DOI 10.1055/s-0043-1765581

Aims Self-expandable metal stents (SEMS) are a minimally invasive treatment for anastomotic leaks (AL). Our aim was to compare clinical and safety outcomes of fully covered (FC) and partially covered (PC) SEMS [1].

Methods Retrospective single-centre study including consecutive patients with esophagogastric (oncological) AL treated with FC-SEMS or PC-SEMS (2013-June 2022).

Results A total of 42 patients received esophageal stents (14 FCSEMS and 28 PCSEMS) for AL (79% primary therapy, 21% rescue treatment; 38% submitted to esophagectomy, 62% to total gastrectomy). Technical success was similar between PC-SEMS and FC-SEMS (78 vs 71%, p = 0.47). Clinical success without reintervention was 78% with PC-SEMS and 64% with FC-SEMS (p = 0.29). Stent migration was higher with FC-SEMS (36% vs 15% with PC-SEMS, p = 0.13). Fixation of stent with TTS clips did not reduce the risk of stent migration (p = 0.107). Stenosis rate was also similar in the two groups (46% PC-SEMS vs 54% FC-SEMS, p = 0.50), and there was no difference in the mean number of dilatations needed to treat stenosis (10.1 in PC-SEMS vs 9.8 in FC-SEMS; p = 0.90). Severe adverse events occurred in two patients, without mortality. Stent-in-stent technique for removal was needed in 88% with PC-SEMS (vs 0%

with FC-SEMS). AL-related mortality was similar in the two groups (13% PC-SEMS vs 16% FC-SEMS; $p = 0.56$).

Conclusions PC-SEMS and FC-SEMS are similarly effective and safe for AL-treatment, although FC-SEMS are associated with slightly higher risk of stent migration. The choice of stent should be individualized based on anticipated risks of migration and tissue overgrowth.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Dasari BV, Neely D, Kennedy A et al. The role of esophageal stents in the management of esophageal anastomotic leaks and benign esophageal perforations. *Ann Surg* 2014; 259 (5): 852–60

eP297 The need for biliary drainage and its impact on the oncological management of patients with newly diagnosed biliary tract tumors

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DOI 10.1055/s-0043-1765582

Aims Biliary tracts tumors (BTC) are rare tumors with poor prognosis. The aim of the study was to assess the impact of biliary drainage on: 1/ the oncological treatment (OT), and 2/ overall survival.

Methods We conducted a single-center retrospective study including data from patients with a newly diagnosed, histologically confirmed BTC (01/2016-08/2021). Patients were divided in group 1 (patients requiring endoscopic biliary drainage before the initiation of OT) and group 2 (no drainage). Comparative statistics and survival curves were calculated to define risk factors.

Results Of 158 patients (57.6% men, 31% stage 4), 76 patients were in group 1 and 82 in group 2. During the initial procedure (group 1), 52 patients received plastic and 18 metal stents. 39/76 (51%) patients required subsequent drainage procedures (endoscopic or percutaneous) before initiating OT and 64% experienced at least one adverse event. The time between diagnosis and the initiation of OT was significantly longer in group 1 (50.7 days vs 28.5 days, $p = 0.005$). Furthermore, group 1 encountered significantly more modifications of the OT (13.1% vs 2.4%, $p = 0.002$). However, this did not translate into a significant difference in survival. After initiation of OT, 40% (group 1) and 21% patients (group 2), required subsequent biliary drainage procedures. The type of tumor (gallbladder adenocarcinoma) and the need for subsequent biliary drainage after initiation of OT were identified as risk factors of mortality for the whole study population.

Conclusions The need for biliary drainage significantly delayed the initiation of OT of patients with newly diagnosed BTC and induced a change in the OT, without influencing overall survival.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP298 Conservative Management of Complex Colorectal Polyps in Patients with Significant Co-morbidities

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DOI 10.1055/s-0043-1765583

Aims Polypectomy carries risks, especially in elderly and co-morbid patients. We aimed to assess conservative management of complex colorectal polyps and suitability of co-morbidity indices in decision-making.

Methods Records of conservatively managed complex colorectal polyps at our hospitals between January 2014 to October 2022 were reviewed. Comparison of Charlson and Gagne's co-morbidity indices was performed.

Results Conservative management was planned in 42 patients aged 60-92 (median 79; 42% females). All decisions were made in conjunction with the patient; in 27 cases this followed MDT (Multi-Disciplinary Team) discussion. Total follow-up time was 1461 patient months (median 24 months). Median SMSA score was 10 (Level 3 polyps; range 5-17). 3 patients underwent subsequent polypectomy for clinical need. None was diagnosed with colorectal cancer. 10 patients died; none polyp-related.

Comparison of Charlson and Gagne's Indices is shown in the table.

Conclusions Conservative management of complex colorectal polyps is often appropriate in elderly or co-morbid patients with reduced life-expectancy. This prevents overtreatment and minimises exposure to potential harm. Co-morbidity indices may aid decision-making, although in our series no patient came to harm irrespective of their index score. The decision for conservative management of complex polyps is challenging due to absence of guidelines, but MDT discussion may facilitate the identification of suitable patients (► Table 1).

Conflicts of interest Authors do not have any conflict of interest to disclose.

	For patients who died n= 10	For patients who are alive n=32
Charlson co-morbidity Index	7 (0% 10 year survival)	5 (21% 10 year survival)
Gagne's Index	3.5 (11.3-14.6% 1 year mortality)	1.5 (5.1-7.8% 1 year mortality)

► Table 1 Comparison of Co-morbidity indices.

eP299 Traditional serrated adenoma: Prevalence and endoscopic characteristics related to advanced histological features

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DOI 10.1055/s-0043-1765584

Aims To determine the prevalence of traditional serrated adenoma (TSA) and to assess the endoscopic characteristics of a large series of TSAs focusing in the presence of high-grade dysplasia (HGD) and invasive cancer (IC).

Methods 1) Prevalence of TSA: all individuals attending a FIT-based CRC screening program between April 2017 and October 2022 were prospectively analysed. 2) Characteristics of TSAs: data from patients with a pathological diagnosis of colon TSA during the same period were retrospectively collected. Demographic (age, sex) and TSA data (size, morphology, location, optical diagnosis and presence of HGD or IC) were collected. A multivariate analysis was performed to assess variables related to the presence of HGD or IC.

Results 1) Prevalence: 34 out of 2466 patients had at least 1 TSA (prevalence 1.4%; CI95% (0.9-1.8)); 2) TSA characteristics: 149 patients [71 (47.65%) women; median (range) age 67 years (41–88)] harbored 163 lesions: median size (SD) 14mm (18.2), ≥ 10 mm 117 (71.8%); 0-Is 84 (51.5%); 0-Ip 38 (23.3%); distal location 114 (69.9%), cecum 17 (10.4%). Ten out of 59 ≥ 20 mm lesions (16.9%) were located in the cecum. HGD was present in 48 lesions (29.4%) and IC in 17 (10.4%) (table 1). Ten out of the 17 IC had an optical diagnosis, all of them NICE 2 ("covert" carcinoma). The only variable related to the presence of HGD or IC was size ($p = 0.021$).

Conclusions 1) Prevalence of TSA in a FIT-based CRC screening program is very low (1.4%); 2) Size is the main risk factor for HGD and IC. 3) Lesions located in the cecum tend to be larger and have more advanced histological features; 4) Many IC are "covert" carcinomas (► Table 1).

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Size \geq 10mm, n (%)	Location cecum, n (%)	Paris 0-1s, n (%)	LST-Gm, n (%)
LGD (n = 97)	54 (55.7)	6 (6.1)	3 (3.1)	3 (3.1)
HGD (n = 48)	47 (97.9)	8 (16.7)	7 (14.6)	7 (14.6)
IC (n = 17)	17 (100)	3 (17.7)	7 (41.2)	3 (17.6)

► **Table 1** Characteristics of TSA according to the presence of dysplasia or invasive cancer.

eP300 Endoscopic stent placement in biliopancreatic tumors: success rate and factors influencing success

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DOI 10.1055/s-0043-1765585

Aims Analysis of the success rate and factors influencing the success of these prostheses

Methods This is a retrospective, descriptive and analytical study from January 2019 to August 2022. The factors associated with the overall success of endoscopic biliary drainage (sex, age, presence or absence of metastases, performance or not of endoscopic dilation, and the greatly increased value of total bilirubin > 150mg/l) were studied using a logistic regression model in uni and multivariate analysis

Results The mean age was 65 years, with a sex ratio of 1.14. Biliary stent drainage was indicated as preoperative treatment in 26% of patients, and as palliative treatment in 74%. The biliary prosthesis was placed in 53 patients (88.3%): metallic prosthesis in 35 cases (66%) and plastic prosthesis in 18 cases (34%), the comparative study of success rate and type of prosthesis was not significant ($p = 0.48$). The technical success rate was 88.3% and the functional success rate was 90%. The complication rate was 13.4%, 4% of which had an early complication (sepsis and bleeding) and 9.4% had a late complication (obstruction of the prosthesis). The multivariate analysis of factors associated with successful drainage (age, gender, presence or absence of liver-specific metastases, and whether or not endoscopic dilatation of the stenosis was performed prior to stent placement, and the highly elevated pre-drainage BT value (> 112mg/l) did not show significant results.

Conclusions Endoscopic biliopancreatic drainage is an effective treatment, our results showed a satisfactory success and complication rate.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP301 A “complicated” case of recurrent pancreatitis

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DOI 10.1055/s-0043-1765586

Aims A man with chronic calcific pancreatitis was hospitalized for a new episode of acute pancreatitis (AP). CT showed a pseudocyst in the head of the pancreas, without apparent communication with the main pancreatic duct (MPD). A conservative treatment was decided.

Methods In this case-report, an unusual cause of recurrent pancreatitis is described.

Results CT scan performed for new onset of pain showed an increase in size of the pseudocyst with intracystic bleeding. EUS confirmed a pancreatic cystic lesion with some hyperechoic shoots inside and no evident solid component. MRCP showed an 8-mm stricture of the MPD due to parenchymal calcification, with a 3-mm retrodilatation. In consideration of recurrence of AP, various therapeutic options were considered. ERCP for pancreatic sphincterotomy and MPD stenting was chosen. However, during ERCP an active bleeding from the major papilla was detected.

MPD was cannulated and pancreatography showed dilation of the MPD above a pre-papillary stricture. Moreover, cystic opacification was showed, revealing communication between the MPD and the pseudocyst. A 5 cm 10 French plastic pancreatic stent was placed to pass the stricture. In order to treat the bleeding and remove the cause of the recurrent APs, angiography was performed, showing a pseudoaneurysm of the accessory pancreaticojejunal artery supplying the pseudocyst, which was occluded with copolymer of ethylene vinyl alcohol. The patient was followed up for 3 months and no other AP was reported.

Conclusions Wirsungorrhagia from complicated pseudocyst is a rare cause of AP, which should be considered also with no MPD dilation or melena.

Conflicts of interest AnX RoboticsMaiesciNiso BiomedOlympusAlfa SigmaNorginePentaxMedtronicCovidienGiven Imaging

eP302 Efficacy and safety of capecitabine and temozolomide (CAPTEM) in advanced gastro-entero-pancreatic neuroendocrine neoplasms (GEP-NEN): a systematic review and metanalysis

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DOI 10.1055/s-0043-1765587

DOI 10.1055/s-0043-1765587

Aims The combination of capecitabine and temozolomide (CAPTEM) is increasingly used for advanced gastro-entero-pancreatic neuroendocrine neoplasms (GEP-NEN), but evidence on results is sparse. We conducted a systematic review and meta-analysis to assess efficacy and safety of CAPTEM in advanced GEP-NEN

Methods We included studies enrolling patients with any grade GEP-NENs undergoing CAPTEM. A meta-analysis with random effects model, progression-free survival (PFS) as primary endpoint and severe adverse events (SAEs) rate as secondary endpoint was performed. The heterogeneity (I^2) was interpreted by metaregression analysis considering the following covariates: study type and design, sample size, metastatic disease rate, rate of primary pancreatic NENs, previous treatments, and study quality.

Results A total of 22 studies with 788 patients were included. All but 1 study, being a RCT, were retrospective. The median CAPTEM cycles number was 6.9 (IQR 4.5-8). The cumulative PFS was 14.7 months (12.9-16.5), with high heterogeneity ($I^2 = 99\%$). Study type and design, previous treatments, and quality of the studies did not affect PFS. Although not significant, PFS was higher in patients with nonpancreatic primary tumors and in post-2017 trials. The pooled SAEs rate was 17.6% (10.1-25). There was no publication bias.

Conclusions CAPTEM is an effective combination, with similar PFS and a safety profile compared to other agents. Further investigation in RCTs or in sequence studies is advisable

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP303 Biliary Drainage in Palliative and Curative Intent in European Patients with Hilar Cholangiocarcinoma: a retrospective single center analysis

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Aims Cholestasis and jaundice are common in hilar cholangiocarcinoma (CCA) and impede both surgical and medical treatments. Thus, interventional relief of cholestasis is an integral part of multimodal therapy. Data on its effectiveness are limited, mostly originating from Asia and almost exclusively focused on the palliative setting.

Methods We performed a retrospective analysis of patients with hilar CCA who underwent endoscopic cholestasis treatment at a German tertiary center between 2010 and 2020. We evaluated clinical success (CS), complications and differences between patients allocated to palliative and curative treatment concepts.

Results 56 patients planned for curative and 72 patients planned for palliative therapy underwent 335 interventions. In curative patients, CS was achieved more often irrespective of what definition of CS was applied (e.g. total serum bilirubin (TSB) <2: 66.1% vs. 27.8% $p = <0.001$; TSB reduction >50% 76.8% vs. 51.4% $p = 0.003$). Moreover, palliative patients were at higher risk for peri-interventional complications (33.3% vs 12.5%, $p = 0.006$). Curative therapy setting, TSB at presentation, bilateral drainage and a Bismuth Stage III or lower were predictors for CS.

Conclusions Both treatment outcomes and safety are different between patients in curative vs. palliative treatment settings. Moreover, CS is below those reported in recent Asian series. We will discuss possible reasons for these differences.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP304 Factors influencing the length of hospital stay in patients with acute lower gastrointestinal bleeding

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DOI 10.1055/s-0043-1765589

Aims Acute lower gastrointestinal bleeding (ALGIB) is associated with significant clinical and economic burden. We evaluated factors correlating with prolonged hospital stay (PHS) in patients with ALGIB.

Methods Retrospective study through electronic medical record review of patients with a final diagnosis of ALGIB, admitted between 1/2019-6/2022. Factors associated with PHS (>5 days) were determined by multivariate regression analysis.

Results Overall, 160 patients were included (mean age: 75.8 ± 13.3 years, 53.5% females, 29.4% receiving antiplatelets, 30% anticoagulants, 13.1% hemodynamically unstable at admission, 32.5% receiving blood transfusion). A total of 152 (95%) underwent endoscopy after a median of 1 day (range: 0-6) from admission: flexible sigmoidoscopy was the first-line investigation in 97 (60.6%) and total colonoscopy in 55 (34.4%). Endoscopic treatment was performed in 17.5%, 10.6% underwent CT angiography and 2.5% required embolisation or surgery. Diverticular bleeding (43.3%) was the most common cause of ALGIB. The median length of hospital stay was 5 days (range: 1-29), with PHS observed in 60 (38.2%). By multivariate analysis, hemodynamic instability at admission (OR = 4.51, 95%CI: 1.58-12.86; $p = 0.005$) was the only significant predictor of PHS, whereas endoscopic hemostasis showed a non-significant inverse correlation (OR = 0.40, 95%CI: 0.14-1.10; $p = 0.07$).

Conclusions Massive hemorrhage with hemodynamic instability at admission appears to be the main determinant of PHS in patients with ALGIB. The impact of endoscopic treatment on the length of hospital stay warrants further investigation in larger studies.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP305 A case of obstructive jaundice due to exogenous pressure of the common bile duct from a hepatic artery aneurysm mimicking mirizzi syndrome

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DOI 10.1055/s-0043-1765590

Aims Hepatic artery aneurysm (HAA) – associated obstructive jaundice occurs due to external pressure on the common bile duct or rupture of the aneurysm in the biliary tree with occlusion of the lumen by blood clots.

Methods We present a case of HAA that presented with obstructive jaundice due to exogenous pressure of the biliary tree [1–4].

Results We report a 71-year-old male patient, with a history of traumatic ruptured spleen in a car accident, who presented with abdominal pain and jaundice since 15 days. The patient was hemodynamically stable with an audible right subchondral murmur, which abnormal liver biochemistry and elevated cholestatic enzymes (TBL: 8.99 mg/dl, DBL: 5.72 mg/dl, AST: 138 U/l, ALT: 329 U/l, γ -GT: 150 U/l, ALP: 310 U/l). Abdominal ultrasound showed dilated intra- and extra-hepatic bile ducts, without lithiasis, and the presence of a vascular aneurysm below the hepatic lip. A CT angiography was immediately performed showing an aneurysm of the hepatic artery (d. 3,4 cm) with external pressure exerted on the common bile duct. The patient underwent angiographic embolization (with coils) of the hepatic artery aneurysm and an ERCP was performed with the placement of a fully covered metal stent in the common bile duct. The patient had an uncomplicated postoperative hospitalization with gradual disappearance of the jaundice.

Conclusions Hepatic artery aneurysm should be included in the differential diagnosis of obstructive jaundice. The management of HAA depends on many factors such as location and size of the aneurysm, presence of collateral circulation in the liver, local inflammation, rupture.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP306 MELD score accurately predicts 5-day failure to control variceal bleeding by endoscopic band ligation

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DOI 10.1055/s-0043-1765591

Aims Predictors correlating with failure of endoscopic band ligation (EBL) are paramount for the improvement of prognosis in patients with cirrhosis and acute variceal bleeding (AVB). We evaluated the model-for-end-stage-liver-disease (MELD) as predictor of 5-day treatment failure in cirrhotics with AVB undergoing EBL.

Methods Retrospective study including cirrhotics with a first episode of AVB undergoing EBL between 1/2018 and 6/2022. The study endpoint was 5-day treatment failure, defined as failure to control bleeding, rebleeding or death within 5 days from EBL. The discriminatory ability of MELD was evaluated by receiver operating curve (ROC) analysis and factors correlating with 5-day treatment failure were assessed using logistic regression.

Results Overall, 101 patients were analyzed (62.4% males, mean \pm SD age: 61.5 \pm 13.4 years, median MELD: 13.0). Five-day treatment failure was observed in 8 (7.9%), including 3 deaths. The median MELD was significantly higher in patients who failed treatment by EBL (20.5) compared to those who did not (11.9, $p = 0.003$). MELD was predictive of 5-day treatment failure (OR = 1.09, 95%CI: 1.00-1.17; $p = 0.04$), irrespective of other factors including age, gender, hypovolemic shock at presentation, ascites, spontaneous bacterial peritonitis, hepatic encephalopathy and presence of hepatocellular cancer. The MELD was accurate for predicting the risk of 5-day treatment failure (area under ROC: 0.82, 95%CI: 0.73-0.90) and the optimal cut-off was > 16 , providing 100% sensitivity and 72% specificity.

Conclusions The MELD score is clinically useful in predicting the 5-day risk of treatment failure in cirrhotic patients undergoing a first endoscopic session of EBL for AVB.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP307 The experience of performing ERCP in a tertiary referral center in Greece – What have we achieved 20 years later?

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DOI 10.1055/s-0043-1765592

Aims To compare data from ERCP procedures performed at a tertiary referral center between two time periods twenty years apart.

Methods Data from ERCPs performed in our clinic between January-November 2001 (263 ERCPs) and January-November 2021 (253 ERCPs) were collected and retrospectively studied.

Results In 2021, 253 ERCPs were performed. The mean age of the patients was 72 years (± 15), 49% (N = 124) of the patients were male and 51% (N = 129) were female. All patients received perioperative antibiotic treatment (usually beta-lactam) and a rate of 38% was on antithrombotic treatment before ERCP. Eleven different causes for ERCP were recorded, mainly choledocholithiasis (34%), cholangitis (16%), painless obstructive jaundice (18%) and biliary colic (13%). The mean duration of the procedure was 29 minutes (range 10-90). 234 selective catheterizations were performed (92%), while access was impossible in 7 cases. Postoperatively, 11 patients developed pancreatitis (4%), 24 infectious complications (10%), 4 bleeding events within 5 days postoperatively (1.6%) and 2 cardiovascular events (0.8%). There were 2 ERCP-related deaths (1 due to septic shock and 1 due to perforation). Compared to 2001 data, successful catheterizations increased by 2.7%, postoperative pancreatitis rates decreased by 0.9%, infectious complication rates increased by 2.3% (with a significant involvement of multi-resistant organisms), while rates of perforation and bleeding rates remained stable. [1-3]

Conclusions After twenty years, despite the acquisition of experience with an increase in successful catheterizations, no significant reduction in major complications has been achieved.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP308 Albumin Platelet Product is predictive of oesophageal varices in patients with compensated cirrhosis

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DOI 10.1055/s-0043-1765593

Aims Albumin platelet product (APP) is a non-invasive biomarker designed from a large study to evaluate liver-fibrosis and predict prognosis in chronic-liver-diseases. The aim of this study was to evaluate the performance of APP in predicting oesophageal varices (OV) in patients with compensated cirrhosis.

Methods We collected data of all compensated-cirrhosis patients followed-up in our centre during a period of 13 years. New-Italian-Endoscopic-Club (NIEC) OV grading was used. We calculated APP according the formula: Albumin(g/l) \times Platelet count($10^9/l$)/1000.

Results Thirty-five patients were included of mean age 52.1 \pm 14 years and 62.9% female. The main aetiologies of cirrhosis were: hepatitis-B (n = 14; 40%), metabolic-associated-liver-disease(n = 5; 14.3%), and auto-immune-liver-disease(n = 8; 22.8%). Most patients had OV (n = 29; 82.9%) and only 19 (54.3%) had large-OV. APP was significantly lower in patients with OV (2.065 vs 5.672, $p = 0.022$) and large-OV (1.530 vs 5.180, $p < 0.001$). It was also correlated with OV NIEC-grades ($r = -0.69$, $p < 0.001$). APP was efficient in predicting OV presence: area-under-ROC (AUROC) = 0.80 and $p = 0.023$. Hence, a cut-off of 5.407 had values of sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and diagnostic accuracy (DA) of 88%, 67%, 92%, 57% and 84% respectively. APP was also well predictive of large OV (AUROC = 0.93, $p < 0.001$). A cut-off of 1.907 had a sensitivity, specificity, PPV, NPV and DA of 71%, 100%, 100%, 75% and 84% respectively.

Conclusions APP was a good predictor of OV presence and size in patients with compensated cirrhosis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP309V It can get in, but can it get out? A surprising finding in the stomach

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DOI 10.1055/s-0043-1765594

Abstract Text Our case reports the ingestion of a vinyl glove, which upon exposure to gastric acidity lost its flexible properties and solidifies. The mechanism is based on the formation of a double-bridge bonding of hydrogen due to the contact with HCL present in the gastric fluid.

Digestive endoscopy plays an important role in the identification of the foreign body and can even be successful in extracting the object after resecting it in smaller pieces. Nevertheless, the edges may be sharp, and caution is required to avoid trauma to the oesophagus during extraction. Finally, in case of multiple glove ingestion and formation of a bezoar, surgery may be necessary.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP310 PBC-Mayo Risk Score is predictive of oesophageal varices in patients with primary biliary cholangitis

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DOI 10.1055/s-0043-1765595

Aims PBC-Mayo Risk Score is a prognostic model that includes clinical and biological features at baseline. It was developed to predict survival in patients

with primary biliary cholangitis (PBC). The aim of this study was to evaluate the performance of Mayo score in predicting oesophageal varices (OV).

Methods We conducted a single-centre retrospective study including patients followed-up for PBC from 2000 to 2021. We collected biological and endoscopic findings at diagnosis. We excluded patients who did not undergo upper gastrointestinal endoscopy. PBC-Mayo Risk Score was calculated via an online calculator. Diagnostic performance was assessed using ROC-curve analysis and area under the curve (AUROC).

Results There were 37 patients of mean age 57.3 ± 4.6 years and 97.3% female. Nineteen patients (51.4%) were cirrhotic at diagnosis. Seventeen patients (46%) had OV and only 2 patients with OV had no cirrhosis. Higher Mayo risk score was associated with OV presence with an AUROC of 0.81 and p value of 0.001. An optimal cut-off of 3.5 predicted OV with 100% sensitivity, 55% specificity, 65% positive predictive value, 100% negative predictive value, 76% diagnostic accuracy, a positive likelihood ratio of 2.22 and a negative likelihood ratio of 0.

Conclusions PBC-Mayo risk score was predictive of OV with mainly good sensitivity and negative predictive value. It helped rule out PBC patients not likely to have OV.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP311V Cap-assisted endoscopic removal of sharp-edged glass fragments embedded in the esophageal wall after a prisoner's suicide attempt

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DOI 10.1055/s-0043-1765596

Abstract Text A 43-year-old male prisoner was referred to the emergency department due to reported ingestion of bleach and glass fragments following a suicide attempt. The patient was initially treated based on the national poison center's instructions. After excluding perforation, an emergency upper gastrointestinal endoscopy was performed which revealed 2 wedged triangular fragments of glass in the middle and lower third of the esophagus. A cap-assisted endoscopic technique was used, where after the cap placement on the tip of the scope with the use of forceps the fragments were captured and extracted within the cap to protect the esophageal mucosa from the passage of the sharp edges during extraction [1–4].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP312 Environmental impact of endoscopic submucosal dissection versus piecemeal resection for large colonic adenomas : a post hoc analysis of the resect colon study

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DOI 10.1055/s-0043-1765597

Aims Last ESGE guidelines supposed that endoscopic piecemeal resection (P-EMR) are less impacting the environment than endoscopic submucosal dissection (ESD) for colonic adenoma's resection. The prospective randomized multicentric RESECT study compared resection of colonic adenomas > 25 mm by P-EMR or ESD. In this post-hoc analysis we investigated the environmental impact of these procedures.

Methods An independent eco-audit studied the two groups of RESECT colon on 4 parameters : endoscopes and disposable medical products, electricity consumed, anesthetic products, patient transport. We modeled 2 additional care organizations : ESD in expert hospital and P-EMR in local hospital.

Results The calculated global environmental impact in the ESD RESECT group is 14614 eqkgCO₂ against 20205 eqkgCO₂ in the P-EMR RESECT group.

If all P-EMR were performed in local hospital, the impact would be 11501 eqkgCO₂ considering the same recurrence rate of 5% as in expert centers.

Conclusions The ESD technique, which is discreetly more impactful in terms of the devices used but offers a curative treatment in a single session, reduces considerably the environmental impact by reducing the associated controls and transports. If P-EMR could be performed in a local center with the same level of quality, things would be more balanced. In the end, if a patient is referred to an expert center, then DSM should be chosen both for its efficiency results and for its reduced environmental impact. Ideally, DSM should be made available in the community.

Conflicts of interest None

eP313V Unexpected evolution after successful colonic perforation closure during endoscopic mucosal resection (EMR)

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DOI 10.1055/s-0043-1765598

Abstract Text A 65-year-old male underwent surveillance colonoscopy after endoscopic resection of 3 colorectal Carcinoma-in-Situ and low-risk adenomas. In transverse colon, a Paris-Is/Kudo-Vi polyp, 45mm in size, with wide base and located over a fold was found. Since histopathology report from a superficial biopsy described a tubulovillous adenoma with high-grade-dysplasia an EMR was scheduled. During EMR a perforation with active bleeding occurred which was closed with 8 clips that in turn achieved hemostasis. Two hours after, refractory hypotension and mild abdominal pain without peritoneal signs appeared. There is showed a video about an unexpected evolution after successful colonic perforation closure during EMR.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP314 Techniques for removal of broken or proximally migrated pancreatic stents: A Case Series

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DOI 10.1055/s-0043-1765599

Aims During endoscopic retrograde cholangiopancreatography (ERCP), pancreatic stents (PS) are commonly used to reduce the risk of post ERCP pancreatitis. Proximal PS migration may cause pancreatitis, pancreatic abscess, or pancreatic duct stenosis. In our study, we review the efficacy of different techniques including Spyglass retrieval basket, Spybite forceps, and Soehendra retriever for proximally migrated pancreatic stents. [1–3]

Methods A retrospective review of patients who received ERCP at our facility between November 2016 and July 2022 and were found to have proximally migrated or broken pancreatic stents were included. Stents were placed for prophylaxis of post-ERCP pancreatitis in two patients and chronic pancreatitis with stricture in one patient, pancreatic duct (PD) stone in one patient. All four patients had previous attempts at removal of stents at outside institutions. In two patients, stents were removed using Spyglass basket, one patient had a stent removed with large Spybite Forceps while one patient had guidewire cannulation and removal using Soehendra retriever.

Results All three patients were found to have deep migration of stents into the proximal portion of the pancreatic duct. Two patients were noted to have a broken stent. The migrated stents were 5 Fr x 7cm, 5 Fr x 5cm, 5 Fr x 1.5 cm (broken stent), 5 Fr x 2cm (broken stent). All patients were monitored in the hospital for 24 hours. All stents were removed in 3- 4 weeks (► Table 1).

Patient	Age	Gender	Size of stent retrieved	Duration of original stent prior to extraction	Methodology of stent extraction
1	71	M	5 Fr x 1.5 cm (Broken stent)	4 weeks	SpyGlass Forceps
2	68	M	5 Fr x 5 cm	2 years	Spyglass Basket
3	63	F	5 Fr x 7cm	8 months	Spyglass Basket
4	67	M	5 Fr x 2cm (Broken stent)	1 year	Soehendra retriever stent

► Table 1

Conclusions In our pilot study, we show evidence that retrieval of proximally migrated pancreatic stents with Spyglass retrieval basket, Spybite forceps and Soehendra retriever are technically feasible and safe.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP315 Self-Expandable Metal Stent Placement as a technically feasible intervention for refractory Stomal Stenosis

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DOI 10.1055/s-0043-1765600

Aims Stomas of the digestive tract play an important role in the management of many gastrointestinal conditions. Colostomy stenosis occurs in 2–15 % of patients, causing the patient significant discomfort as well as the need for additional surgical interventions. With this study we aimed to determine the efficacy and safety of a novel technique using self-expanding metal stents in patients with refractory stomal stenosis.

Methods Five patients referred for refractory stomal stricture and bowel obstruction were managed by self-expandable metal stent placement. Two patients were performed using Alimax 14 mm x 10 cm stent, while the other two procedures were performed using a 10 mm x 6 cm GORE VIABLE stent and one patient had 16mm x 10 cm Alimax stent across the stricture area Initial access was gained using acrobat 0.035 wire and 6-mm balloon dilation under fluoroscopy. Patient response was assessed by measuring parameters such as abdominal girth and abdominal pain (Visual analog scale) as well as Quality of life (QOL) yes/no questionnaire. Paired t-test was used for statistical analysis [1].

Results The procedure was technically successful in all the patients. The patients' stents were left in situ for 6 weeks. All patients had statistically significant improvement in abdominal girth (p-value 0.0002), abdominal pain (p-value 0.0085), ability to tolerate liquid diet (p-value 0.0080), and bloating (p-value 0.008).

Conclusions In our pilot study, fully covered metal stents appear to be a safe and feasible option for management of recurrent stomal stenosis. In a patient population who are poor surgical candidates due to recurrent stenosis, our study demonstrates improvement in QOL (► Table 1).

QOL parameters pre and post treatment with paired t-test

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Husain SG, Cataldo TE "Late stomal complications.". Clinics in colon and rectal surgery vol. 21,1 2008; 31–40. doi:10.1055/s-2008-1055319

Objective or QOL parameter	Before treatment (cm) mean	After treatment (cm) mean	Score mean difference	p value
Abdominal girth	114	103	11	0.0003
Abdominal pain (Visual analog scale)	8	2	2	0.0086
Ability to tolerate Liquid diet	0.2	1	-0.8	0.0081
Ability to tolerate Soft diet	0.2	0.6	-0.4	0.0352
Ability to tolerate Solid diet	0.2	0.6	-0.4	0.0352
Nausea	0.8	0.2	0.6	0.0089
Vomiting	0.6	0	0.6	0.0081
Bloating	1	0.2	0.8	0.0081

► Table 1

eP316 Esophageal food bolus impaction in children: clue to eosinophilic esophagitis?

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DOI 10.1055/s-0043-1765601

Aims This study aimed to analyze prevalence and causes of acute esophageal food bolus impaction in children.

Methods 122 cases of endoscopic esophageal foreign body removal in children were retrospectively analyzed. All patients undergo urgent endoscopy.

16 pediatric patients who had esophageal food bolus impaction according to EGD findings (n = 13.11 %) were enrolled in the study. There were 10 boys and 6 girls, with mean age 6.18 years (Me = 4.01). Anamnesis was taken into account.

Results 4 out of 16 patients (n = 25 %) had a caustic lesion in anamnesis, where by 2 of them undergo esophagocoloplasty. 4 patients (n = 25 %) had a surgery for esophageal atresia in neonatal period (end-to-end anastomosis).

8 out of 16 patients (n = 50 %) had no specific anamnesis, in 7 of them esophageal biopsy was taken (3 to 6 samples). Morphological verification of eosinophilic esophagitis (EoE) was obtained in 6 (n = 85.7 %) cases (see ► **Table 1**).

Conclusions Esophageal food bolus impaction accounted for 13.11 % of all cases of esophageal foreign bodies in children over a 4-year period under review.

Causes of esophageal food bolus impaction in children included: 1) caustic lesion in anamnesis; 2) esophageal atresia repair in anamnesis; and 3) eosinophilic esophagitis.

EoE was the cause of acute esophageal food bolus impaction in children in more than 80 % cases in the absence clinical history of caustic lesions and esophageal surgical interventions

Conflicts of interest Authors do not have any conflict of interest to disclose.

Anamnesis	Mean age (years)	Number of patients	Number of patients being sampled	Number of patients with morphological verification EoE
Caustic lesion (including esophagocoloplasty)	5,2	4	0	N/A
Esophageal atresia repair (end-to-end anastomosis)	4,3	4	2	0
No specific anamnesis	7,6	8	7	6

► **Table 1** Causes of food bolus impaction in children with different types of anamnesis.

eP317 An Observational Study for a Feasibility of Double Pigtail Plastic Stent Insertion with Supra-papillary Method during Endoscopic Retrograde Cholangiopancreatography in Patients with Klatskin's Tumor

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DOI 10.1055/s-0043-1765602

Aims The plastic stent has inferior patency, however, the revision process is easier than the metal stent. However, as the survival rate of biliary tract cancer has improved, stents are often required to be replaced. This study evaluated the feasibility of double pigtail plastic stent insertion using the supra-papillary method during ERCP in patients with Klatskin's tumor.

Methods In a single tertiary center, 27 consecutive patients with Klatskin's tumor who underwent ERCP for obstructive jaundice were enrolled. Trans-papillary plastic stent insertion as a conventional method was applied to 14 patients, and supra-papillary plastic stent insertion as a new method was performed on 13 patients alternately. We compared the technical success rate, clinical success rate, and retrieval time of both methods [1–2].

Results The clinical success rate that bilirubin is normalized within two weeks after the stent installation was 76.9 % with the supra-papillary method and 85.7 % with the trans-papillary method, which showed no difference between the two groups (p = 0.564). Both groups had no failed cases for retrieval of a stent, and the retrieval time took longer in the supra-papillary method (72.4 ± 12.0sec) than the trans-papillary method (60.6 ± 15.3sec) (p = 0.037).

Conclusions This study evaluated the feasibility of inserting a double pigtail plastic stent with a supra-papillary method considered superior in patency, structurally more physiologic, and with no risk of dislocation. The double pigtail plastic stent insertion with a supra-papillary method took a long time for retrieval compared to a trans-papillary method, but there was no difference in the stent installation process, drain performance, and retrieval success rate.

Table 1. Baseline characteristics, success rate of stent insertion, and retrieval time for comparison between supra-papillary method and trans-papillary method (► **Table 1**).

Conflicts of interest Authors do not have any conflict of interest to disclose.

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Type_Pro	Supra-papillary (N=13)	Trans-papillary (N=14)	P
Sex			0.802
Female	4 (30.8%)	6 (42.9%)	
Male	9 (69.2%)	8 (57.1%)	
Age	70.8 ± 11.5	74.1 ± 6.2	0.371
Bismuth_Type			0.231
1	1 (7.7%)	2 (14.3%)	
2	5 (38.5%)	1 (7.1%)	
3	4 (30.8%)	8 (57.1%)	
4	3 (23.1%)	3 (21.4%)	
Technical_Success			1.000
Incomplete	1 (7.7%)	1 (7.1%)	
Yes	12 (92.3%)	13 (92.9%)	
Clinical_Success			0.564
Incomplete	2 (15.4%)	2 (14.3%)	
No	1 (7.7%)	0 (0.0%)	
Yes	10 (76.9%)	12 (85.7%)	
Retrieval_Success			
Yes	13 (100.0%)	14 (100.0%)	
Retrieval_Time	72.4 ± 12.0	60.6 ± 15.3	0.037

► **Table 1**

eP318 Identification of GNAS and KRAS in EUS-guided fluid samples from the main pancreatic duct (MPD) accurately discriminates Intraductal Papillary Mucinous Neoplasm (IPMN) from other conditions with MPD dilatation

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Aims To evaluate the diagnostic yield of *GNAS* or *KRAS* mutation analysis in EUS-guided liquid samples from the MPD to recognize IPMN in patients with dilated MPD.

Methods Patients with available *GNAS/KRAS* testing of pre-operative EUS-guided liquid samples from dilated MPD where retrospectively collected. *GNAS* (R201H and R201C) and *KRAS* (exons 12 and 13) point mutations were analyzed by dd-PCR and cold-PCR, respectively.

Results 15 patients were included: 10 (67 %) IPMN, 4 (27 %) CP without IPMN and 1 (6 %) MPD obstructive dilatation. Point mutations in *GNAS* and/or *KRAS* were present in 8/10 (80 %) IPMNs (*GNAS* mutations in 8/8, *KRAS* mutations in 2/8). Cytology of EUS-samples was available in 9/10 patients with IPMN. *GNAS/KRAS* mutations were present in 6/7 (86 %) IPMN with mucinous cytology and in 2/2 (100 %) IPMN with non-mucinous cytology. No association was found between *GNAS/KRAS* mutations and age, sex, side branch cysts coexistence, CP association, MPD diameter or grade of dysplasia. All patients without IPMN did not present *GNAS/KRAS* mutations. Sensibility, specificity and global diagnostic yield of *GNAS/KRAS* analysis for IPMN diagnosis were 80 %, 100 % and 86.7 %, respectively.

Conclusions Identification of *GNAS/KRAS* mutations in EUS-guided fluid samples from the MPD is highly accurate for IPMN discrimination in patients with dilated MPD.

EUS: Endoscopic Ultrasound, IPMN: Intraductal Papillary Mucinous Neoplasm; MPD: Main Pancreatic Duct (► Fig. 1).

Conflicts of interest Authors do not have any conflict of interest to disclose.

Diagnostic yield of <i>GNAS/KRAS</i> analysis from EUS-guided liquid samples of dilated MPD.	IPMN	No IPMN	Total
<i>GNAS/KRAS</i> mutations PRESENT	8	0	8
<i>GNAS/KRAS</i> mutations ABSENT	2	5	7
Total	10	5	15

EUS: Endoscopic Ultrasound; IPMN: Intraductal Papillary Mucinous Neoplasm; MPD: Main Pancreatic Duct

► Fig. 1

eP319 Outcomes of Initial versus Recurrent Sigmoid Volvulus

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DOI 10.1055/s-0043-1765604

Aims Aim: To quantify the risk associated with sigmoid volvulus in its initial and recurrent presentation in a single center, with endoscopic intervention

Methods Methods: We retrospectively reviewed the charts of patients admitted with sigmoid volvulus at Shaare Zedek Medical Center in Jerusalem, Israel.

Results Results: 154 cases of sigmoid volvulus (SV) were identified in 71 patients. In the initial presentation of SV, 69/71 (97.2 %) patients were initially referred for endoscopic decompression (ED) which was successful in 67 patients (97.1 %). Of the 4 patients requiring emergent surgery for ischemic bowel, not amenable to ED, 2 died within days and a third within 3 months of surgery, all in the initial presentation of volvulus Ischemia seen upon ED, but not time from presentation to decompression, predicted mortality. Overall 67 % (48/71) of patients had surgery, the majority electively; of the 23 who did not undergo surgery, only 3 (13 % of non-operated and 4 % of all SV patients) were documented to have no recurrence for > 12 months after their initial presentation. No cases of mortality were documented in recurrence.

Conclusions Conclusion The initial presentation of SV is the most dangerous. While preventive surgery is recommended to prevent recurrence, the low associated mortality of recurrence should be considered in high risk patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP320 Experience with endoscopic suturing in colorectal anastomotic leakage closure: a case series

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DOI 10.1055/s-0043-1765605

Aims Endoscopic suturing (ES) is a novel treatment in colorectal anastomotic leakage (CAL) offering a minimal invasive alternative to surgery. Our aim is describing the effectiveness and safety of ES in a case series treated in our center.

Methods We retrospectively analyzed five cases of CAL in a single center from April 2021 to October 2022. Main parameters were technical, clinical success and adverse effects rates. When clinically suspected, CT-scan was performed to detect it. It was confirmed by contrast injection during the colonoscopy. A stent was placed guided by endoscopic and radiologic image and withdrawn after collection resolution in CT-scan. Then sutures were placed in two-layer pattern with Overstitch system (Apollo Endosurgery) to close the wall defect [1–3].

Results Five patients (mean age: 63,2 years [53–80], 60 % men) were included with a median follow-up of 11,75 months [7–16]. The etiology was colorectal cancer surgery in 80 % of patients. Clinical and technical success were 100 % with 0 % of adverse events. The leakage was detected in a mean time of 13 days [3–25] after surgery, with an associated collection mean size of 4,75 cm [2,3–8,4]. The leakage was 5 mm or less. 10 or 7 french 3 cm pig-tail stents were placed in 50 % cases respectively in a mean time of 35 minutes [25–58]. Time to stent withdrawal was 16,25 days [4–19]. The leakage suturing took a mean time of 29,4 minutes [21–41]. 80 % of patients were discharged 24 hours later.

Conclusions ES allows the transmural closure of CAL with a high technical and clinical success and a low adverse effects rate. It is minimal invasive, safe, effective and could avoid a second surgery; therefore, ES is an option to be considered in the management of CAL.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP321V Treatment of an esophageal perforation in a high-risk elderly patient: A novel use of a through-the-scope suturing system

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DOI 10.1055/s-0043-1765606

Abstract Text In this case a 90 year old patient suffered an iatrogenic esophageal perforation during intubation attempt for elective surgery. She was diagnosed with a 3 cm tear just below the upper esophageal sphincter. Due to her high surgical risk and high morbidity associated with open surgical exploration, we offered a novel approach using the X-Tack device (Apollo endosur-

gery, Austin TX). We placed the tacks 3mm from the defect margin, distal to proximal. Defect closure was confirmed by later insufflation and fluoroscopy. There was no apparent infection in the neck or mediastinum and no further intervention was needed for source control. Unfortunately the patient deceased on POD 28 due to ventilator pneumonia [1–9].

- Conflicts of interest** Authors do not have any conflict of interest to disclose.
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eP322V Management of gastroparesis refractory to GPOEM by EUS-guided drain associated gastroentero-anastomosis: a new promising option

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DOI 10.1055/s-0043-1765607

Abstract Text We present a short series with videocase of patients successfully treated by EUS-GEA with drain assisted technique, for gastroparesis (RG) nonresponding to GPOEM. All patients were followed using GCSI score. Six patients were included, aged 20 to 70 years. The median baseline G-CSI was 4.4 [3.3; 5], the time to recurrence of symptoms was 9 months [0; 48]. Technical success was achieved in 100% of cases, without adverse event. Clinical efficacy rate was 100% after a median follow-up of 6 months [3; 16]. The GCSI at 3 months was [0 0; 2.9], 3 patients had disappearance of symptoms. In conclusion, this report suggests feasibility, safety and efficacy of EUS-guided GEA for managing gastroparesis refractory to all therapies including GPOEM.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP323 Systematic review of self-assembling peptides as topical agents for treatment and prevention of gastrointestinal bleeding

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DOI 10.1055/s-0043-1765608

Aims Gastrointestinal bleeding is a significant and potentially lethal event. Recently, a new hemostatic, gel-forming, self-assembling peptide has become available (PuraStat). We aimed to conduct the first systematic review on efficiency and safety of self-assembling peptides in the treatment and prevention of bleeding in the gastrointestinal tract.

Methods A systematic search was conducted in a parallel, independent fashion in major electronic databases and in proceedings from major congresses. We considered eligible all prospective and retrospective studies describing the endoscopic use of self-assembling peptides for treatment or prevention of bleeding in the gastrointestinal tract. Primary outcomes were rates of successful initial hemostasis, delayed bleeding, and rebleeding. Secondary outcomes were adverse events, ease of use, quantity of substance required [1–3].

Results A total of 3 RCTs and 14 observational studies were retrieved for analysis. Overall success rate was 87.7% (38.1–100%), regardless of bleeding etiology or associated treatments. Rebleeding rates ranged from 0–16.2%, with an average of 4.7% and overall delayed bleeding rate was 5.02% (ranging from 0 to 15.91%). Only 3 adverse events were reported for a pooled number of 815 patients. The volume of gel required to achieve hemostasis was variable, based on purpose (hemostasis or prophylaxis) and type of bleeding (mean volume ranging from 0.43 to 3.7 ml). Most authors noted the ease of use of Purastat, mainly in a qualitative fashion based on user experience and satisfaction.

Conclusions Despite limited available data on use of self-assembling peptides in gastrointestinal endoscopy, our review suggests high efficiency and a good safety profile.

Conflicts of interest Andrei Voiosu received a speaker fee from SofMedica/Fuji

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eP324 Endoscopic Ultrasound – guided perivascular pancreatic Radiofrequency Ablation using a Hydroxyethyl Starch Solution prior to Pancreatectomy

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DOI 10.1055/s-0043-1765609

Aims Pancreatic surgery remains a complex procedure, particularly for borderline resectable tumours. Vascular invasion impedes resectability, and vascular resection entails increased morbidity. Following a feasibility and safety demonstration of an augmented radiofrequency ablation using hydroxyethyl starch (EUS-sugar-RFA) in porcine pancreatic parenchyma, the present study assesses whether EUS-sugar-RFA in the perivascular pancreatic space is safe and creates a controllable margin of perivascular necrosis to enable a R0 resection.

Methods EUS-sugar-RFA in the pancreatic parenchyma adjacent to the splenic artery and vein was performed in a live animal model. Following different survival periods (0–4 days) in the interventional group (n = 3), open pancrea-

tectomy was carried out. The control group (n = 4) included open pancreatectomies in two pigs with non-treated pancreases and in two with pancreatic RFA on the same day [1–23].

Results All procedures were completed successfully, without intra- or postoperative complications. Histopathological examination showed a local necrosis with an inflammatory reaction at the ablation sites, which increased with the length of the survival period. The untreated pancreatic zones in the interventional group were no different from normal pancreas in the control group.

Conclusions Preoperative perivascular EUS-sugar-RFA was safe, and the ideal timeframe was within 24h prior to pancreatic surgery. This approach might improve resectability in selected borderline/locally advanced pancreatic cancers (► Fig. 1).

Subject	Procedure	Macroscopic description	Microscopic evaluation
Control Normal pancreas (N=2)	(1) No particularities. (2) Modified anatomy (lumens-appearing metal stents for EUS-gastrojejunostomas).	(1) 15 × 4 × 3 cm specimen, no particularities. (2) 25 × 4 × 3 cm specimen, 1.5 cm ² pancreatic gray/white lesion + focal tissue congestion.	(1 & 2) Pancreatic & peripancreatic necrosis, adfasciitis, acute lymphadenitis.
Control RFA alone pancreas (N=2)	(1) & (2) RFA and pancreatectomy (DD). Modified anatomy (artificial collections). (3) Cold + glue treatment in the splenic artery. (2) No particularities.	(1) 19 × 4 × 3 cm specimen, 6 mm hematoma in the tail, splenic artery coil, 2 × 3 cm gray pancreatic lesion. (2) 13 × 5.5 × 3 cm specimen, no particularities.	(1 & 2) Pancreatic necrosis, acute lymphadenitis, acute peritonitis. (3) Pancreatic tail hematoma, splenic artery injury. (2) No particularities.
Interventional EUS-sugar-RFA (N=8)	(1) EUS-sugar-RFA (DD), Pancreatectomy (DA). (2) EUS-sugar-RFA (DD), Pancreatectomy (DI). (3) EUS-sugar-RFA + Pancreatectomy (DD).	(1) 15 × 5 × 4 cm specimen, 3rd cm necrotic zone. (2) 14 × 4 × 4 cm specimen, congestive perivascular tissue. (3) 17 × 5 × 4 cm specimen, 1 cm hematoma around treated vessels.	(1, 2 & 3) Pancreatic & peripancreatic necrosis, adfasciitis, local pancreatitis & peripancreatitis.

► Fig. 1

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP325 Eosinophilic Oesophagitis: Two Decades at Ireland's Largest Tertiary Referral Centre

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DOI 10.1055/s-0043-1765610

Aims We aimed to audit our treatment of EOE against European and American guidelines and we sought to reject the null hypothesis that there has been no temporal trend in its incidence.

Methods Our histology database yielded 68 patients with clinicopathological diagnoses of EOE over the years 2000 to 2021. This was cross referenced with endoscopy, lab and clinic databases.

Results Ordinary least squares regression evidenced a significant increasing trend in incidence (0.95 cases per 3 years, $p < 0.0001$) with a projection of 10 per year by 2032. 17% (n = 11) had a documented history of helicobacter, lower than the estimated local seroprevalence of 50%.

76% were male. Median age at diagnosis was 34 (IQR 26–44). 88% (n = 58) complained of dysphagia. 23% (n = 13) had documented histories of asthma, eczema or rhinitis. 21% (n = 14) had prior food bolus obstruction. 20% (n = 13) had stricture with 14% (n = 9) requiring dilatation. Median IgE level was 133 (IQR 50–278). 39% (n = 22) had prior eosinophilia and 48% (n = 15) had elevated immunoglobulins to specific food allergens [1–3].

66% (n = 45) had endoscopic stigmata of EoE. Median eosinophils were 20 per high powered field (IQR 20–40). 20% (n = 8) and 52% (n = 15) responded to PPI alone and to topical steroids respectively. 7% (n = 5) were treated with dietary exclusion, with 80% (n = 4) having a good symptomatic response.

Conclusions We rejected the null and accepted the alternate hypothesis that EOE at our centre is increasing in incidence and prevalence. Our cohort's descriptive characteristics accord well with the literature. Dietary intervention remains an effective, though under utilised therapy for EOE. There may also be an inverse relationship between EOE and helicobacter infection.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP326 Should digestive endoscopy be performed in patients with gastrointestinal luminal wall thickening found on computed tomography ?

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DOI 10.1055/s-0043-1765611

Aims The aim of our work was to study the contribution of digestive endoscopy in the etiological assessment of bowel wall thickening visualized on computed tomography (CT) scans.

Methods This was a retrospective study, performed from January 2020 to February 2022, collating all patients with bowel wall thickening on CT scans who underwent digestive endoscopy. Clinical, endoscopic and histological data were reported.

Results A total of 76 patients with bowel wall thickening that proceeded to an endoscopy were identified. The mean age was 55 +/- 18.5 years old. Bowel wall thickening was discovered incidentally on imaging in 28.9% of cases, while the patients were symptomatic in 71.1% of cases. This thickening was colonic or ileocaecal in 55.2% of cases, gastric in 22.4% of cases, ileal in 7.9% of cases, duodenal in 6.6% of cases, jejunal in 5.3% of cases and oesophageal in 2.6% of cases. Colonoscopy was pathological in 38.8% of cases and showed the following lesions: ulcerative processes (36.8%), ileal stenosis (26.3%), congestive rectitis (2.1%) and colonic polyposis (1.6%). Upper GI endoscopy was pathological in 48.1% of the cases and showed the following lesions: ulcerative process (38.5%), antral thickening (30.7%), pyloric stenosis (15.4%), bulbar ulcer (7.6%) and duodenal polyp (7.6%). Anatomopathological analysis showed malignancy in 46.2% of the cases: undifferentiated adenocarcinoma (50%), gastric linitis with ring cells (33.4%) and large cell lymphoma (16.6%).

Conclusions GI endoscopy remains an essential investigation in the etiological assessment of bowel wall thickening seen on imaging. However, the digestive endoscopy did not find any pathological lesion in more than half of the cases

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP327 Endosonographic characteristics of the lower esophageal sphincter (LES) in achalasia patients compared to normal individuals and their associations with manometric findings and post-myotomy response

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DOI 10.1055/s-0043-1765612

Aims We aimed to compare the characteristics of LES in patients with achalasia and normal individuals using endoscopic ultrasound (EUS). The secondary aim was to evaluate their prognostic value on myotomy orientation during peroral endoscopic myotomy (POEM).

Methods This is a retrospective study of patients with achalasia who underwent POEM during 2019–2022 and a matched control group by gender, height, and BMI. The thickness of the anterior and posterior muscular layers of LES was measured. Eckardt score were recorded up to 24-month post-POEM. Esophageal manometry were performed at baseline and at 1-month.

Results A total of 50 patients were included (Table 1). Achalasia group had significantly thicker muscular layers of the LES ($p < 0.01$) with 48% had asymmetrically thickened LES. When look at MP, where myotomy is targeted at, there was no difference in the thickness of posterior MP between the two groups ($p = 0.27$). Among EUS findings, only thickness of muscular layers of anterior

MP significantly correlated with pre-POEM manometric findings ($p < 0.05$). All patients underwent POEM. Among patients with asymmetrical LES ($n = 12$), there were no statistically significant differences in clinical response up to 24 months between ipsilateral myotomy on the thickened side versus the contralateral myotomy (► Table 1).

Conclusions Once believed to be purely functional disorder, we demonstrated that there were components of anatomical abnormality in achalasia with thicker and more asymmetric LES. Although anterior LES appeared to bear more physiologic significance than posterior side, myotomy can be performed in any orientation. The clinical value of these endosonographic parameters warrant further verification in larger studies.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Parameters	Normal (n=25) (Mean ± SD)	Achalasia (n=25) (Mean ± SD)	p
Anterior MP thickness (mm)	0.90 ± 0.37	1.19 ± 0.54	0.03*
Posterior MP thickness (mm)	0.83 ± 0.30	0.95 ± 0.46	0.27
Total anterior thickness (mm)	1.76 ± 0.66	2.61 ± 0.84	<0.001*
Total posterior thickness (mm)	1.85 ± 0.60	2.38 ± 1.25	0.07

MP: Muscularis propria, SD: Standard deviation
* $p < 0.05$

► Table 1 Endosonographic findings between normal and achalasia patients.

eP328 Gastric ulcer associated with Cytomegalovirus in an immunocompetent patient: A case report

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DOI 10.1055/s-0043-1765613

Aims We report the case of a 51 year old patient with no personal or family history presenting to the hospital with epigastralgia evolving for 02 months without any other associated sign

Methods Abdominal examination showed mild epigastric tenderness, active bowel sounds and no organomegaly. The initial laboratory findings were normal.

Results The patient underwent an upper gastrointestinal (GI) endoscopy which showed a large irregularly shaped shallow ulcer. Mucosal biopsies were obtained and submitted for histological examination. Anatomopathological exam revealed chronic active inflammation with intranuclear eosinophilic inclusion bodies within epithelial cells, consistent with a CMV infection. The biopsies further showed mild intestinal metaplasia and no lesions of dysplasia were found. Screening for tuberculosis (TBC) including Ziehl Nielsen stain was negative. As for CMV infection marks, CMV immunoglobuline M (IgM) were negative, immunoglobuline G (IgG) were positive with no detectable viral load. Immunological examination did not show signs of lymphoma.

Conclusions Following the careful examination of the multiple mucosal biopsies, the patient was then diagnosed with CMV gastritis. Proton pump inhibitor (PPI) esomeprazole 40mg/day were administered for 30 days. Epigastric pain disappeared soon after administration of the PPI and endoscopy examination performed 2 months after the start of treatment showed only a residual ulcer scar.

Conflicts of interest Authors do not have any conflict of interest to disclose.

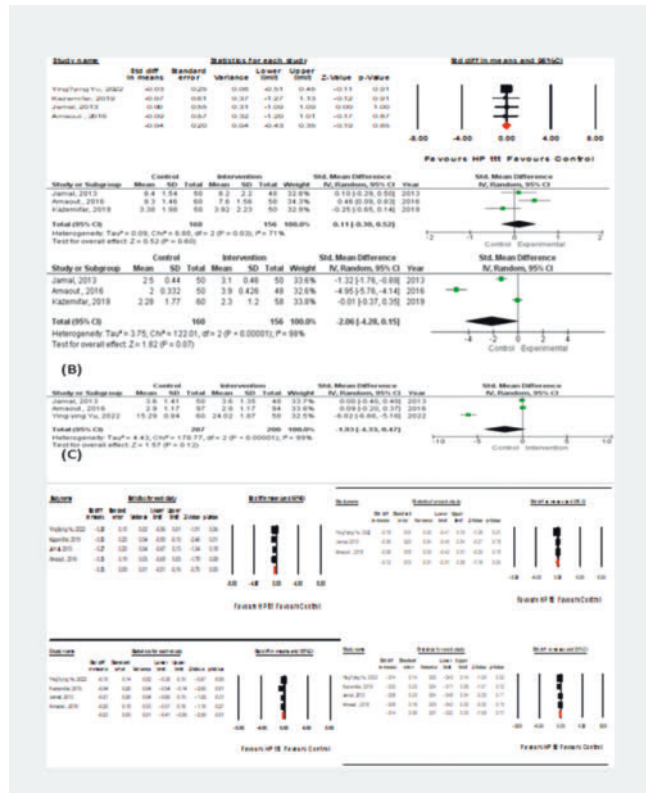
eP329 Does Helicobacter Pylori Eradication Improve Parameters In Non-alcoholic Fatty Liver Disease?: A Systematic Review And Meta-analysis of The Randomized Controlled Trials

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DOI 10.1055/s-0043-1765614

Aims The correlation between eradication of *Helicobacter pylori* and parameters of non-alcoholic fatty liver disease (NAFLD) remains controversial. This meta-analysis aims to examine the effect of HP treatment on fibrosis, metabolic and anthropometric parameters and to compare its effect with lifestyle changes alone.



► **Table 1** Forest post comparing changes in A) Anthropometric parameters: BMI-Weight-Waist Circumference B) Fibrosis Parameters C) Metabolic parameters: FBG-HOM-IR-ALT-AST.

Methods We conducted a literature search through October 2022, for all randomized controlled trials (RCTs) comparing the effect of HP treatment among NAFLD patients. Primary outcome was the change in fibrosis parameters (liver fat content and controlled accentuated parameters (CAP)). Secondary end-points included changes in body mass index (BMI), body weight, waist circumference, fasting blood glucose (FBG), homeostasis model assessment of insulin resistance (HOMA-IR), (ALT), (AST), and lipid profile. The random effects model was used to calculate the standardized mean difference (SMD) with 95% confidence intervals (CI).

Results 4 RCTs were included. *H. pylori* Eradication was associated with a significant decrease in FBG, and ALT values compared to those with lifestyle changes alone. There was a trend toward decrease in fibrosis parameters, but this was not statistically significant (► **Table 1**). There was no significant difference in BMI, body weight, waist circumference, HOMA-IR, AST, TGL, HDL, LDL, and TC.

Conclusions Our study showed that the eradication of HP could considerably improve the ALT index and fasting blood glucose. There was a trend toward decrease in fibrosis indicators but was not statistically significant likely due to small sample size. Additional RCTs with larger sample size and longer follow-up are required to validate our results.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP330 Lower gastrointestinal bleeding due to ileocecal valve lipoma covered by an ulcerated tubular adenoma. A rare indication for surgical treatment

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DOI 10.1055/s-0043-1765615

Aims Resection is indicated when large lipomas are associated with intestinal intussusception, colonic obstruction, lower gastrointestinal bleeding, or chronic abdominal pain.

Methods Here we report a case of ulcerated bleeding colonic lipoma covered by tubular adenoma.

Results We report the case of a 77-year-old woman, with history of recent COVID-19 infection for which she received prophylactic anticoagulation with rivaroxaban, who came to the ED due to hematochezia with accompanying hemodynamic instability. The laboratory tests revealed significant reduction in hematocrit (Hct: 17.5%, Hb: 5.5 g/dL) and high urea value (Urea: 120 mg/dL, Cre: 1.6 mg/dL). The patient was immediately supported with intravenous fluids and transfusions (RBCs) and underwent urgent gastroscopy with no evidence of bleeding. Subsequently, after stabilization she underwent colonoscopy where an ulcerated submucosal mass with an adherent thrombus was revealed in contact with the ileocecal valve and finally the patient underwent surgery with right colectomy [1–4].

Histological report Histological specimen was identified as a submucosal intestinal lipoma with the presence, in the overlying mucosa, of a tubular adenoma with low-grade epithelial dysplasia and coexisting ulceration and alterations of chronic active inflammation.

Conclusions In conclusion, it is rare for a tubular adenoma to develop on the mucosal surface of a lipoma, as we see in this case, a complication of which may even require immediate surgery.

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP332 A rare case of extramedullary rectal anaplastic plasmacytoma at the site of previously surgically resected rectal adenocarcinoma

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DOI 10.1055/s-0043-1765616

Aims Extramedullary plasmacytoma rarely expresses anaplastic features and may involve any site or organ.

Methods We report a rare case of rectal anaplastic plasmacytoma at the site of previously surgically resected rectal adenocarcinoma.

Results We report the case of a 62-year-old patient previously diagnosed with non-metastatic adenocarcinoma of the rectum operated with a low anterior resection. During follow-up, 5 years after initial diagnosis and surgical resection, the patient presented with episodes of rectal bleeding and endoscopic

examination revealed a hemorrhagic ulcerated invasive lesion where multiple biopsies were obtained [1–3].

Istopathologic diagnosis-Immunohistochemical testing

Pieces of necrotic material and pieces of neoplasm with morphologic and immunohistochemical features compatible with anaplastic plasmacytoma. The majority of neoplastic cells were strongly positive for CD138 and MUM-1 markers and negative for AE1, AE3, CK20 and CDX-2 markers. The cell proliferation marker Ki67 was positive in 90% of neoplastic cells.

Conclusions In conclusion, we report a unique case of rectal anaplastic plasmacytoma in a patient operated for rectal adenocarcinoma in the past. This case is unusual given the patient's history and anatomical location. We emphasize the value of thorough histopathologic review and detailed immunostains to justify the diagnosis of anaplastic extramedullary plasmacytoma.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP333 It is not always diverticular bleeding: Look for a subtle tract

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DOI 10.1055/s-0043-1765617

Aims We present a rare case of AAA in an 80-year-old woman who initially presented with hematochezia but later developed fatal hemorrhagic shock secondary to a subtle aorto-duodenal fistula.

Methods Chart review

Results An 80-year-old female with a past medical history of AAA and diabetes mellitus presented with one episode of self-resolving hematochezia. Her vital signs were stable, and her hemoglobin (Hgb) was 12. She was subsequently discharged home with omeprazole. At home, patient had an episode of hematemesis and became unresponsive. She was transported back to the hospital and was found to have a large amount of bleeding from the mouth and rectum. Laboratory values were remarkable for Hgb of 8, blood urea nitrogen of 26, and creatinine of 1. CTA chest, abdomen, and pelvis demonstrated AAA with no leak or rupture and no active bleeding identified. EGD showed blood in the fundus, first and the second part of the duodenum, with no source, identified. A tagged RBC scan showed large blood in the stomach and small intestine. She underwent endovascular aneurysm repair (EVAR) with a bifurcated endograft, with the plan of open aortic reconstruction later. She had continuous bloody drainage from the oropharynx and nasogastric tube with hemoglobin trending down requiring a massive blood transfusion protocol, and she expired soon after.

Conclusions Clinical physicians should maintain a high awareness index about PADF, especially for unknown etiology of upper GI bleeding in older patients with or without a known AA.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP334 The Utility of pancreatic cyst fluid (PCF) glucose levels in the diagnosis of suspected mucinous pancreatic lesions

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DOI 10.1055/s-0043-1765618

Aims To identify the role of PCF glucose as an adjunct to carcinoembryonic antigen (CEA) in differentiating mucinous and non-mucinous cystic lesions, especially those with an indeterminate PCF CEA level (5–192 ug/l), given the variable sensitivity and specificity of CEA in isolation.

Methods This prospective study included patients identified by the Regional HPB MDT requiring EUS and PCF analysis between October 2021 and November 2022. Samples were obtained through EUS-guided aspiration and analysed for glucose, CEA, lipase, mucin stain, and cytology.

Results 28 patients with pancreatic cysts underwent EUS/FNA, diagnosis was reached at MDT based on clinical presentation, biochemistry, cytology, and radiology: 13 IPMNs: 5 mucinous cystic neoplasms (MCNs): 6 pseudocysts: 3 serous cystic neoplasms (SCNs): 1 uncertain. All 9 mucinous lesions had glucose levels <2.8 mmol/l (9 excluded as samples not processed), one patient with pseudocyst had a low glucose level. Glucose had 100% sensitivity, 88% specificity, and 94% accuracy. CEA level was >192 ug/l in 8/14 (57%) mucinous lesions (4 excluded as samples not processed). One pseudocyst had a high CEA level. CEA had 57% sensitivity, 89% specificity, and 70% accuracy. 9/18 mucinous lesions had both glucose and CEA; 5/9 (55.5%) had low glucose with indeterminate CEA.

Conclusions This, albeit small, series has illustrated the utility and superiority of intracystic glucose levels in conjunction with CEA levels when diagnosing mucinous lesions. As an inexpensive and simple test, it should complement CEA to avoid unnecessary discharge from surveillance.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP335 Clinical and Technical Success of Eus-guided Anterograde Drainage for Non-neoplastic Obstructed Biliary and Pancreatic Ducts: A single-center experience

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DOI 10.1055/s-0043-1765619

Aims To assess the anterograde's drainage clinical and technical success in non-neoplastic obstructed biliary and pancreatic ducts.

Methods Data from patients with an obstructed biliary or pancreatic duct between 01/2021–10/2022 were retrospectively analyzed. Clinical and technical success were the primary endpoints. Adverse events, re-stenosis, and re-intervention were also evaluated (► **Table 1**).

Results Twenty patients included: 15/20 EUS-guided biliary drainage (EUS-BD) and 5/20 EUS-guided pancreatic duct drainage (EUS-PDD). A) EUS-BD: Anterograde drainage was performed in 7/15 using a single pigtail stent, 5/15 double pigtail stents and 3/15 lumen-apposing metal stent (LAMS). Stomach puncture was the preferred approach site in 12/15. A 15/15 (100%) technical success was achieved, but a 8/15 (60%) clinical success based on bilirubin decrease. During follow-up, adverse events were documented in 5/15 cases: upper GI bleeding, cholangitis, and subhepatic fluid collection. Stent migrated in 3/15 cases. There was no re-stenosis, but reintervention was necessary on 8/15. Survival rate 13/15. B) EUS-PDD: In 3/5 cautery-assisted dilation was required. In 1/5, balloon dilation was also necessary. Used stents: single and double pigtail stents, LAMS, and self-expandable metal stents (SEMS). Techni-

cal and clinical success was achieved in 5/5 (100%), with no adverse events [1–3].

	EUS-BD (n=15)	EUS-PDD (n=5)
Age (years), median (IQR)	37 (27–52)	56 (53–64)
Gender (female), n (%)	11 (73.3)	2 (40.0)
Cause of obstruction, n (%)		
Laparoscopic cholecystectomy	6 (40.0)	-
Conventional cholecystectomy	7 (46.7)	-
Y-Roux	2 (13.3)	-
Recurrent choledocholithiasis	-	2 (40.0)
Chronic pancreatitis	-	1 (20.0)
Other	-	2 (40.0)
Type of lesion, n (%)		
Biliodigestive anastomosis	12 (80.0)	-
Common bile duct stenosis	3 (20.0)	-
Previous attempts, n (%)	4 (26.6)	2 (40.0)
Balloon dilation and drainage	1/4	-
Percutaneous transhepatic biliary drainage	1/4	-
Biliary stent	2/4	-
Percutaneous pancreatic drainage	-	1/2
Pancreatic stent	-	1/2
Disease evolution (months), median (IQR)	2 (1–4)	1 (1–3)
0.035-guidewire caliber, n (%)	15 (100.0)	5 (100.0)
Cautery-assisted dilation, n (%)	11 (73.3)	2 (40.0)
Cautery-assisted transmural tract dilation, n (%)	11 (73.3)	3 (60.0)
Needle knife	4/11	-
Cystostome	7/11	1/3
Lumen-apposing metal stent (LAMS)	-	2/3
Non-cautery assisted transmural tract dilation, n (%)		
Balloon dilation	12 (80.0)	1 (20.0)
Used stent for drainage, n (%)		
Single pigtail	7 (46.7)	1 (20.0)
Double pigtail	5 (33.3)	1 (20.0)
Lumen-apposing metal stent (LAMS)	3 (20.0)	2 (40.0)
Self-expandable metallic stent (SEMS)	-	1 (20.0)
Site of puncture, n (%)		
Stomach	12 (80.0)	5 (100.0)
Y-Roux limb	2 (13.3)	-
Intrahepatic	1 (6.7)	-
Technical success, n (%)	15 (100.0)	5 (100.0)
Clinical success (bilirubin decrease), n (%)	8 (53.3)	5 (100.0)
Adverse events, n (%)	5 (33.3)	-
Upper bleeding	2/5	-
Cholangitis	2/5	-
Subhepatic fluid collection	1/5	-
Stent migration, n (%)	3 (20.0)	1 (20.0)
Re-stenosis, n (%)	-	3 (60.0)
Reintervention, n (%)	8 (53.3)	3 (60.0)
No. of reinterventions, median (IQR)	3 (2–4)	2 (2–3)
Time among first and last reintervention (months), median (IQR)	19 (12–21)	55 (14–62)
Survival rate, n (%)	13 (86.7)	4 (80.0)

EUS-BD, Endoscopic ultrasound-guided biliary drainage.
EUS-PDD, EUS-guided pancreatic duct drainage.
IQR, interquartile range.

► **Table 1** Baseline data and study outcomes.

Conclusions Anterograde EUS-BD and EUS-PDD for managing non-neoplastic obstructed biliary and pancreatic ducts are valuable alternatives when ERCP is not feasible. Reintervention after EUS-BD and EUS-PDD appears to be related to stent migration and re-stenosis, respectively.

Conflicts of interest Carlos Robles-Medranda is a key opinion leader and consultant for Pentax Medical, Boston Scientific, Steris, Medtronic, Motus, Micro-tech, G-Tech Medical Supply, CREO Medical, EndoSound, and Mdcongroup. The other authors declare no conflicts of interest.

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eP336 Real-Time Computer-Aided Polyp and Adenoma Detection During Screening Colonoscopy In Expert And Non-Expert Endoscopists: A Single Center Study

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DOI 10.1055/s-0043-1765620

Aims To evaluate the real-world effectiveness of an AI-assisted colonoscopy (AI-VCC) and compare the results among experts and non-experts endoscopists (► Fig. 1).

Methods Consecutive patients ≥ 45 years old who underwent VCC (11/2020-03/2021). First, a standard HD-VCC was performed. Then, an AI-VCC was performed by a second operator blinded to previous findings. Adenoma detection rate (ADR) was a quality indicator of the procedure. The polyp detection rate (PDR), and the adenoma and polyp miss rates (AMR and PMR, respectively) were also calculated. The results were compared between experts and non-experts endoscopists. NCT04915833 [1–6] (► Fig. 2).

Results 115 patients were included. 58/115 (50.4%) had a total of 205 polyps/adenoma, with a PDR and ADR of 132/205 (64.3%) and 73/205 (35.6%) with VCC, respectively: 19/205 (9.3%) NICE II, 7/205 (3.4%) > 10 mm. With AI-assistance, the ADR and PDR increased from 16.5% to 18.2% and from 50.4% to 60%, respectively. The ADR increased from 10.8% to 16.2% in the junior group with the AI-VCC. No difference in ADR was observed in the senior cohort (Table 1). PMR was 43.13%, AMR was 5.19%. Sensitivity among different colon segments ranged from 56.25% (rectum) to 78.26% (ascending colon). Capability of AI for appropriate polyp and adenoma presence discharging (negative predictive value, NPV) ranged from 61.54% (sigmoid) to 89.09% (cecum). Lower rates for specificity (8.42-49.49%) and PPV (9.89-19.78%) were observed due to high false positives. (Table 2).

Conclusions Junior endoscopists benefit from the AI-assisted polyp detector during screening colonoscopy as it helps them achieve an ADR comparable to that of senior endoscopists.

Conflicts of interest Carlos Robles-Medranda is a key opinion leader and consultant for Pentax Medical, Boston Scientific, Steris, Medtronic, Motus, Micro-tech, G-Tech Medical Supply, CREO Medical, EndoSound, and Mdcongroup. The other authors declare no conflicts of interest.

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	Standard VCC	Additional along AI-assisted VCC	Standard + AI-assisted VCC	Missing cases
Total (n=115; 100%)				
ADR	19 (16.5)	6 (5.2)	21 (18.2)	2
PDR	58 (50.4)	33 (28.7)	69 (60.0)	11
Senior (n=78; 67.8%)				
ADR	15/78 (19.2)	3 (3.8)	15/78 (19.2)	0
PDR	39/78 (50.0)	23 (29.5)	49/78 (62.0)	10
Junior (n=37; 32.2%)				
ADR	4/37 (10.8)	3 (8.1)	6/37 (16.2)	2
PDR	19/37 (51.1)	10 (27.0)	20/37 (54.0)	1

ADR, Adenoma detection rate; PDR, polyp detection rate; HD-VCC, high-definition video colonoscopy; AI-VCC, Artificial intelligence-assisted video colonoscopy

► **Table 1** ADR and PDR during HD-VCC and AI-VCC in senior and junior endoscopists.

	Sensitivity	Specificity	PPV	NPV	Agreement
Rectum	9/16; 56.25 (29.88 - 80.25)	49/99; 49.49 (39.29 - 59.73)	9/59; 15.25 (7.22 - 26.99)	49/56; 87.5 (75.93 - 94.82)	58/115; 50.43 (40.96 - 59.89)
Sigmoid	15/20; 75 (50.9 - 91.34)	8/95; 8.42 (3.71 - 15.92)	15/102; 14.71 (8.47 - 23.09)	8/13; 61.54 (31.58 - 86.14)	23/115; 20 (13.12 - 28.48)
Descending	9/13; 69.23 (38.57 - 90.91)	20/102; 19.61 (12.41 - 28.65)	9/91; 9.89 (4.62 - 17.95)	20/24; 83.33 (62.62 - 95.26)	29/115; 25.22 (17.58 - 34.17)
Transverse	10/15; 66.67 (38.38 - 88.18)	20/100; 20 (12.67 - 29.18)	10/90; 11.11 (5.46 - 19.49)	20/25; 80 (59.3 - 93.17)	30/115; 26.09 (18.34 - 35.1)
Ascending	18/23; 78.26 (56.3 - 92.54)	19/92; 20.65 (12.92 - 30.36)	18/91; 19.78 (12.16 - 29.45)	19/24; 79.17 (57.85 - 92.87)	37/115; 32.17 (23.77 - 41.53)
Cecum	8/14; 57.14 (28.86 - 82.34)	49/101; 48.51 (38.45 - 58.67)	8/60; 13.33 (5.94 - 24.59)	49/55; 89.09 (77.75 - 95.89)	57/115; 49.57 (40.11 - 59.04)

► **Table 2** Overall accuracy of the Artificial Intelligence assisted polyp detector for polyp/adenoma detection.

eP337 Safety and Efficacy of Balloon Cryoablation in Barrett's Neoplasia: A Systematic Review and Meta-analysis

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DOI 10.1055/s-0043-1765621

Aims We aim to assess the safety and efficacy of balloon-cryoablation as a novel procedure for endoscopic ablation of Barrett's esophagus (BE) associated neoplasia with subgroup analysis of patients undergoing balloon-cryoablation as first-line therapy.

Methods We performed a systematic search of MEDLINE, Embase, and Cochrane from inception through November 2022. The outcomes were to estimate the pooled rates of CE-D (complete eradication-dysplasia) and CE-IM (complete eradication-intestinal metaplasia) with BC, durability at 12 and 18 months after index ablation, adverse events and technical feasibility.

Results 12 studies involving 441 patients were included. The patient population was balloon-cryoablation-naïve, with a history of prior radiofrequency ablation (RFA) in 3 studies (9.7%). The pooled rate of CE-IM was 71.3% [(95% confidence interval (CI) 51-85, I² = 91.8%)] and the pooled rate of CE-D was 89.2% [74-96, I² = 91.2%]. CE-IM and CE-D at 12 months were 57.1% [26.1-83, I² = 67%] and 84.8% [62-94, I² = 91.6%], respectively. At 18 months, the rates of maintaining CE-IM and CE-D for those who achieved CE-D or CE-IM were 63.9% [33-86, I² = 88.7%] and 85.2% [72-92, I² = 53.8%], respectively. The rate of adverse events was 12.6% [9.9-15.9, I² = 0%] and technical failure was 6.5% [3.8-10.8, I² = 29.3%]. Subgroup analysis of studies without prior radiofrequency ablation revealed CE-IM rate of 68.9% (43.3-86.5, I² = 92%) and CE-D rate of 87.3% (64.3-96.3, I² = 91%) (► **Table 1**).

Conclusions This meta-analysis demonstrates that balloon-cryoablation is safe and effective for the treatment of BE related dysplasia. The pooled rates were similar in BE patients without prior RFA suggesting that balloon-cryoablation can be used as an initial modality.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Outcomes	Pooled rate (95% confidence interval)
Total CE-IM	71.3% (51-85); 12 studies, I ² =91%
Total CE-IM (without prior RFA)	68.9% (43.3-86.5), 9 studies, I ² =92%
Total CE-D	89.2% (74-96); 9 studies, I ² =91%
Total CE-D (without prior RFA)	87.3% (64.3-96.3), 6 studies, I ² =91%
Durability > 18 m	
CE-IM	63.9% (33-86); 4 studies, I ² =88%
CE-D	85.2% (72-92); 4 studies, I ² =53%
Adverse effects overall	12.6% (9.9-15.9); 12 studies, I ² =0%

► **Table 1** Summary of pooled rates.

eP338 Clinical Outcome of Endoscopic Subserosal Dissection for Gastric Gastrointestinal Stromal Tumors

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Aims Endoscopic resection is recommended as treatment of Gastric gastrointestinal stromal tumors (GIST) with intraluminal growing. Endoscopic subserosal resection (ESSD) is new technique that can remove safely gastric subepithelial tumor with subserosal growing. Until now, the data for ESSD of gastric GIST was very rare.

Methods We analyzed to know the clinical outcome of ESSD in the gastric GISTs with exophytic growing, retrospectively. ESSD was performed for 16 lesions, from March 2010 until November 2022. We wanted to evaluate about tumor sizes, complete resection, procedure time, complications and recurrence [1–2].

Results There were 5 male and 11 female, with mean age of 61.4 (46-73). Risk classification of GISTs were very low in 10, low in 5 and intermediate in 1. The site of lesions were cardia in 3, lesser curvature in 5, greater curvature in 5, anterior wall in 1 and posterior wall in 2. The mean size of resected specimens was 18.6mm (10-30mm). Mean procedure time was 51min (15-108min). Endoscopic complete resection rate was 16/16(100%). Perforation was occurred in 5 cases(31%) which was closed with metallic clips, and managed conserva-

tively. Mean follow-up period is 47 months in 14 GISTs, and there is no recurrence (► Table 1).

patient	sex	age	location	Pathology ^a	Size(mm)	Procedure time(min)	perforation	Complete resection	Follow up
1	f	55	lesser	VL	14	28	no	yes	49
2	m	61	cardia	L	25	50	no	yes	149
3	m	68	posterior	VL	17	52	yes	yes	62
4	f	66	lesser	VL	22	58	no	yes	83
5	f	51	greater	L	30	108	yes	yes	59
6	m	63	greater	VL	11	27	no	yes	25
7	f	48	anterior	VL	13	70	yes	yes	34
8	f	60	greater	VL	15	47	yes	yes	36
9	f	55	greater	VL	13	15	no	yes	32
10	f	63	lesser	L	23	66	yes	yes	21
11	f	84	posterior	L	21	35	no	yes	23
12	f	46	lesser	L	27	30	no	yes	29
13	f	56	greater	VL	12	44	no	yes	17
14	m	62	lesser	VL	10	65	no	yes	0
15	m	71	cardia	Intermediate	30	57	no	yes	0
16	f	73	cardia	VL	15	64	no	yes	37

^a Risk stratification of gastric GISTs was expressed as very low (VL), low (L), intermediate and high.

► Table 1

Conclusions We think that ESSD may be effective treatment method for gastric GISTs with subserosal growing, which were located especially in cardia and lesser curvature.

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP339 Gel immersion endoscopy facilitates endoscopic hemostasis of Dieulafoy's lesions in the small intestine

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DOI 10.1055/s-0043-1765623

Aims It is often challenging to treat Dieulafoy's lesions in the small intestine (Yano-Yamamoto classification Type 2a) due to intermittent and pulsatile bleeding. After spontaneous hemostasis, finding a minute red dot or fibrin plug surrounded by normal mucosa can be challenging. It can be difficult to secure the visual field while performing endoscopic hemostasis of a Dieulafoy's lesion with active bleeding. The efficacy of gel immersion endoscopy (GIE) during endoscopy for GI bleeding was reported. The efficacy of GIE to treat Dieulafoy's lesions was retrospectively evaluated.

Methods From May 2005 until May 2022, 36 lesions in 34 patients (mean age 71 years, male: 22) were included.

Results Of 34 patients, 22 (64%) had a history of multiple examinations or admissions for recurrent obscure GI bleeding. In 14 patients (41%), it took more than 6 months to establish the diagnosis after an initial bleeding episode. Of 36 lesions, 18 were treated using double-balloon enteroscopy with GIE, and 18 were treated with non-GIE (gas insufflation or water immersion). The procedure time to obtain hemostasis and the number of hemo-clips used were compared for the GIE and non-GIE groups. The procedure time was significantly shorter in the GIE group than the non-GIE group (26.7 vs 43.9 minutes, $p < 0.05$). The number of hemo-clips tended to be fewer in the GIE group, although without statistical significance (3.1 vs. 3.3, $p = 0.36$).

Conclusions GIE facilitates endoscopic hemostasis of Dieulafoy's lesions in the small intestine.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP340 Feasibility of esophageal salvage endoscopic submucosal dissection for the patient of esophageal neoplasm with prior radiation or ablation therapy

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DOI 10.1055/s-0043-1765624

Aims Endoscopic submucosal dissection (ESD) of early esophageal tumor is well established, now has been getting popularity in all over the world. ESD for the esophageal neoplasm with prior radiation or ablation therapy can be technically challenging because of post-radiation/ ablation changes in the submucosal layer of the esophagus. The aim of this study is to assess the feasibility of salvage ESD in patients with prior radiation therapy (RT) and/or radiofrequency ablation (RFA) therapy.

Methods We performed a single-center retrospective analysis of patients who underwent esophageal ESD between June 2018 and October 2022. In all the ESD cases, we analyzed the patients who had prior radiation (RT) and/ or RFA treatment for esophageal cancer. The main outcome measures were en bloc resection rate, complete resection rate, and complications.

Results In total of 49 esophageal ESD cases, 8 cases had prior RT and 7 cases had prior RFA including 1 case with both treatments. The en bloc resection rate was 100% and R0 resection rate was 79%. 1 patient (7%) had low grade dysplasia (LGD), 1 patient (7%) had high grade dysplasia (HGD), 6 patients (43%) had squamous cell carcinoma and 6 patients (43%) had adenocarcinoma. There were no acute and delayed complications, and no rehospitalization in all patients. There was 1 recurrence (7%) 1 year after ESD who underwent re-ESD for the recurrent lesion. There was no other recurrence after ESD.

Conclusions ESD procedure for patients with a history of ablation could be feasible and safe. This supports that the application of ESD could be considered as one of the options for refractory esophageal neoplasm for patients with prior ablation treatments.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP341V Black Esophagus as an uncommon cause of Gastrointestinal Bleeding

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DOI 10.1055/s-0043-1765625

Abstract Text Black esophagus (BE) is an infrequent clinical entity, characterized by circumferential blackish coloration of the mucosa, with abrupt interruption at the esophagogastric junction, secondary to hypoperfusion and ischemia. The most common clinical presentation is gastrointestinal bleeding. We present 3 patients admitted with hematemesis, whose gastroscopy showed acute esophageal necrosis. The evolution was favorable with conservative management. BE has a characteristic endoscopic manifestation that allows its optical diagnosis with no need for biopsies. Despite its poor prognosis, through an early diagnosis and support measures, a favorable result was achieved in the 3 exposed cases [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.
 [1] Dias E, Santos-Antunes J, Macedo G. Diagnosis and management of acute esophageal necrosis. *Ann Gastroenterol* 2019; 32: 6

[2] Lamers CR, Mares WGN, Bac DJ. Black esophagus: a case series and literature review of acute esophageal necrosis. *Scand J Gastroenterol* 2018; 53: 10–11

[3] Ribeiro IB, Luz GO, de Souza GMV, Boghossian MB, do Monte Junior ES, Dos Santos MEL, de Moura EGH Acute esophageal necrosis (black esophagus) with active upper gastrointestinal bleeding: What to do? *Endoscopy*. 2021; 53: 12

eP342V The usefulness of the through-the-needle's diagnostic techniques in a case of an undefined pancreatic cyst

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DOI 10.1055/s-0043-1765626

Abstract Text A 69 years-old-man after the onset of epigastric pain underwent MRI. In the head of pancreas a cystic lesion with septa and size of 57 mm was discovered; the cyst had a solid component in anterior wall with uncommon contrast enhancement; other small cysts were visible. The suspicion was a degenerated IPMN versus serous cystadenoma. Consequently, an EUS with 22-G FNA needle was performed in another center, but it was not diagnostic. Then, we decided to perform a new EUS with FNA + through-the-needle biopsy (TTNB) and confocal laser endomicroscopy needle-based (nCLE). The final diagnosis was a cystic pancreatic neuroendocrine tumor, and the patient is now waiting for surgery.

Conflicts of interest Dr Claudio Giovanni De Angelis is a consultant for Boston Scientific, Olympus and Medi-Globe

eP343 The optical classification of the difficult sessile serrated lesions using convolutional neural networks trained with white light endoscopic images

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DOI 10.1055/s-0043-1765627

Aims Sessile serrated lesions (SSL) constitute a special group of colorectal polyps in terms of difficult recognition and importance in carcinogenesis. The aim of this study was to evaluate the use of convolutional neural networks (CNNs) in the optical prediction of SSL upon endoscopic and histopathologic images.

Methods We prospectively included 924 endoscopic images and randomly selected 268 histopathologic images from patients consecutively submitted to colonoscopy, during the past 8 months, for various indications, in the endoscopy unit of a tertiary hospital. An experienced endoscopist documented his predictions during endoscopy. We evaluated the performance of two CNNs (Inception V3, DenseNet121) based on accuracy and loss for the discrimination between adenomas vs hyperplastic vs SSL.

Results There were 191 polyps from 86 patients with a median age of 64 years (55% male). The median size of polyps was 8mm and their histology was 55% adenomas, 22% hyperplastic and 17% SSL. ▶ **Table 1** shows the accuracy-loss metrics for both endoscopic and histopathologic images and the accuracy of the endoscopist's prediction.

Conclusions The accuracy of CNNs scores higher than that of the endoscopist but still needs further improvement although it looks very promising for the small size and discrimination difficulty of the serrated lesions. The high accuracy of CNNs for the prediction of the histopathologic images could be helpful in reducing the interobserver variation between histopathologists who serve as the gold standard for these lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Table 1	Accuracy (loss) of CNNs		Accuracy of endoscopist Endoscopic images
	Endoscopic images	Pathologic images	
DenseNet121	73.6% (0.999)	91.6% (0.861)	66%
Inception v3	70.8% (1.193)	87.5% (0.329)	

▶ **Table 1** Accuracies of CNNs and the endoscopist.

eP344V The "Furrow sign" to confirm proper gastric extent and direction of the myotomy at the end of POEM

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DOI 10.1055/s-0043-1765628

Abstract Text Aims: to describe a simple and novel sign to confirm the direction and proper length of gastric myotomy at the end of POEM procedure [1–4]. Endoscopic technique: after finishing myotomy (modified posterior POEM to lesser curvature), we fully insufflate CO₂ intraluminally at the stomach, and evaluate in retroflexion the cardia. After full insufflation, a "furrow" is seen in the area of myotomy, confirming the gastric extent and direction as seen in the video.

Comments: this novel sign could help confirm proper length and direction of gastric myotomy at the end of POEM. It seems to persist in follow-up endoscopy.

Conflicts of interest Hugo Uchima collaborates in proctorships with Erbe Spain and Olympus Iberia

[1] Uchima H, Colán-Hernández J, Aguilar A et al. A simple method to determine the proper length of the gastric myotomy during peroral endoscopic myotomy for achalasia. *Endoscopy* 2022; 54: E85–E87

[2] Inoue H, Minami H, Kobayashi Y et al. Peroral endoscopic myotomy (POEM) for esophageal achalasia. *Endoscopy* 2010; 42: 265–271

[3] Tanaka S, Kawara F, Toyonaga T et al. Two penetrating vessels as a novel indicator of the appropriate distal end of per-oral endoscopic myotomy. *Dig Endosc* 2017; 30: 206–211

[4] Grimes KL, Bechara R, Shimamura Y et al. Gastric myotomy length affects severity but not rate of post-procedure reflux: 3-year follow-up of a prospective randomized controlled trial of double-scope per-oral endoscopic myotomy (POEM) for esophageal achalasia. *Surg Endosc* 2020; 34: 2963–2968

eP345 Effectiveness and Safety of 1L Polyethylene Glycol Plus Ascorbic Acid Preparation in Patients Aged ≥ 65 Years in a Large Real-World Population

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DOI 10.1055/s-0043-1765629

Aims To evaluate the effectiveness/safety of 1L polyethylene glycol plus ascorbic acid preparation (PEG + ASC) in elderly patients (≥ 65 years) in a large real-world population.

Methods This subgroup analysis of an observational, multicentre, retrospective study included outpatients aged ≥ 65 years who received 1L PEG + ASC before undergoing colonoscopy in 12 centres in Spain and Portugal (July 2019–September 2021). [1] Colon cleansing quality was evaluated using the Boston Bowel Preparation Scale (BBPS). Adequate quality cleansing was defined as total BBPS score ≥ 6 and all segmental scores ≥ 2 . High-quality cleansing was defined as a total BBPS score ≥ 8 and BBPS score of 3 in the right colon. Cecal intubation rate (CIR), withdrawal time (WT), polyp detection rate (PDR) and adenoma detection rate (ADR) and adverse events (AEs) were also assessed.

Results Out of the 13,169 patients in the overall population, 3,929 (29.8%) were aged ≥ 65 years. Colonoscopy was completed in 96.3% of patients. Incomplete procedure was due to poor preparation in 0.9% of patients. Adequate quality cleansing in the overall colon was achieved in 88.3% of patients and high-quality colon cleansing rate was 52.2%. Mean (standard deviation [SD]) BBPS total score was 7.2 (1.9) for total colon, 2.3 (0.7) for right colon, 2.5 (0.7) for left colon and 2.5 (0.7) for transverse colon (► Table 1). The incidence of AEs was 2.3%, most commonly nausea (0.8%) and vomiting (0.7%).

Conclusions Overall, 1L PEG + ASC was highly effective and well tolerated when used in elderly patients in daily clinical practice, with over half of patients attaining high-quality colon cleansing.

Conflicts of interest Sarbelio Rodríguez and Elena Pérez Arellano have received speaker's fee from Norgine. Fatma Akriche and Carmen Turbi Disla are employees of Norgine

[1] Esteban López-Jamar J.M, Rodríguez Muñoz S, Gorjao R et al. Real-World effectiveness and safety of the 1L polyethylene glycol plus ascorbic acid bowel preparation for colonoscopy in the largest to date retrospective, multi-centre, observational study. United European Gastroenterology Journal 2022; 10 (S8): S25–26

Parameter	Elderly patients N=3,929
Total colon BBPS score, n (%)	
≥ 6	3,468 (88.3)
≥ 8	2,050 (52.2)
Right colon BBPS score, n (%)	
3	1,850 (47.1)
≥ 2	3,557 (90.5)
Polyp detection rate, n (%)	2,329 (59.3)
Adenoma detection rate, n (%)	1,588 (55.2)
N ^a	2,875
Cecal intubation rate, n (%)	2,069 (97.0)
N ^a	2,134

^aNumber of patients for whom the information was available
BBPS, Boston Bowel Preparation Scale

► Table 1 Colonoscopy outcomes in elderly patients aged ≥ 65 years.

eP346 Role of endoscopic resection margin (R1) in the clinical outcome of patients with Neuroendocrine Neoplasia

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DOI 10.1055/s-0043-1765630

Aims Endoscopic resection margin R1 (ER1) describes neoplasia presence at lateral and/or deep margin. Highest rate of R1 resection occurs in duodenal

NENs (d-NENs) where advanced resection techniques [endoscopic submucosal dissection (ESD); full thickness resection (EFTR)], are more difficult to apply. In gastric (g-NENs) and rectal NENs (r-NENs), due to favorable anatomy, ESD or EFTR obtain lower rates of R1 resection. Aim of the study is to assess endoscopic recurrence/progression risk at resection site in pts with gastric, duodenal and rectal NENs undergone endoscopic ER1.

Methods Retrospective multicenter study, g-NENs (type I, single/multiple), d-NENs (not ampullary, not functioning), r-NENs pts, all < 2 cm.

Results 110 pts included (mean age, 58 yrs): 45 g-NENs (41%), 21 d-NENs (19%), 44 r-NENs (40%). Median size of primary tumor, 7 mm (CI 2-15). 86 pts (78.1%) had a NEN G1 and 8 (7.2%) NEN G2. Median Ki-67 was 2.5% (CI 0-10). According to TNM, after endoscopic resection, 6 pts (5.4%) had nodal metastases (N1). Deep endoscopic resection margin involvement in 78 pts (71%), lateral margin in 32 (29%) and both resection margins involved in 11 (10%). Extension of resection was planned in 30 pts (27.2%); 9 pts subjected to radical R0 surgery and 21 pts to ESD/EFTR. During active surveillance, 10 pts (9%), who didn't undergo to enlargement resection, had local recurrence and treated by endoscopy. No deaths accrued due to the disease. PFS was 65 mos (CI 6-178) and OS 69 mos (CI 6-187).

Conclusions At preliminary analysis, ER1 doesn't seem to affect pts clinical outcome. This observation is consistent with literature data, but requires prospective evaluation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP347 Contribution of colonoscopy in the etiological diagnosis of rectal bleeding: About 139 cases

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DOI 10.1055/s-0043-1765631

Aims The emission of blood through the rectum is most often due to benign anorectal causes, but the fear is to miss a tumor. The aim of our work is to underline the interest of colonoscopy in the etiological diagnosis of rectal bleeding with an acute or chronic presentation.

Methods We conducted a retrospective study over a period of 2 years (October 2020 – October 2022) where we collected 139 cases. All patients underwent a blood test and a colonoscopy.

Results The average age was 55.4 years (range: 19-96), a male predominance was noted (81 men against 58 women) with a sex ratio M/F = 1.4. Rectal bleeding was isolated in 54 cases (38.8%) and associated with deterioration in general condition in 16 cases (11.5%), abdominal pain in 13 cases (9.3%), terminal constipation in 55 cases (39.5%) and alternating diarrhea-constipation in 11 cases (7.9%). Blood count (CBC) was made in all patients with rectal bleeding and objectified anemia in 22% of cases. Colonoscopy was normal in 30 cases (21.5%) and when it was pathological it showed: a rectal tumor process in 20 cases (14.3%), colonic neoplasia in 7 cases (5%). Among the 27 patients with colorectal neoplasia, 21 were over 50 years old and 6 patients (22%) were under 50 years old. Recto-colic polyps were observed in 14 cases (10%), a Colonic diverticulosis in 10 cases (7%), colonic angiodysplasia lesions in 6 cases (4.3%), colitis in 14 cases (10%), hemorrhoids in 46 cases (33%), and a solitary rectal ulcer in 3 cases (2%).

Conclusions Hemorrhoidal pathology is the most frequent etiology of rectal bleeding but it nevertheless remains a diagnosis of exclusion after elimination of other causes, in particular rectocolic neoplasia, hence the interest of a total colonoscopy even in the presence of hemorrhoids.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP348V Pancreatic lymphoepithelial cyst: the great imitator

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DOI 10.1055/s-0043-1765632

Abstract Text A 70-years-old man was incidentally diagnosed with a cyst of pancreatic tail of 70 x 45 mm by MRI. Endoscopic ultrasound evaluation showed a multilocular, well defined cyst, without communication with pancreatic ducts; at contrast enhanced EUS cystic septa assumed contrast, while few small mural nodules appeared not vascularized. Cystic fluid was acellular and negative for presence of mucins; intracystic CEA was 6473 ng/ml, glucose 3 mg/dl and amylase 144 U/l. The appearance of a mucinous cystic neoplasm led the patient to a distal splenopancreatectomy, but histological examination revealed a pancreatic lymphoepithelial cyst, a rare benign pancreatic cyst not yet exhaustively characterized [1].

Conflicts of interest C. G. De Angelis is a consultant for Boston Scientific, Olympus and Medi-Globe

[1] Arumugam P, Fletcher N, Kyriakides C et al. Lymphoepithelial Cyst of the Pancreas. *Case Rep Gastroenterol.* 2016; 10 (1): 181–192

eP349 Difficult common bile duct stones – The recipe for success: A Single-Center experience

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DOI 10.1055/s-0043-1765633

Aims Although endoscopic retrograde cholangiopancreatography (ERCP) is the main treatment of common bile duct (CBD) stones, succeeding clearance in more than 90% of cases, the presence of difficult stones can limit its results. Aim of our study was to present our experience in difficult CBD stones treatment.

Methods It was a retrospective study, from January 2020 to October 2022, including all patients (pts) with difficult CBD stones, defined as a stone diameter \geq 12mm and/or multiple stones of distal CBD.

Results Totally 283 pts were included (M/F: 134/149, mean age 62 ± 14.5 [22-90] years). Out of 283 ERCPs, 96 pts (33.9%) were admitted with difficult CBD stones. We performed a large sphincterotomy (LS) alone in 73 (76%) and an endoscopic papillary balloon dilation at 13mm (EPBD) after an endoscopic sphincterotomy (EST) in 22 pts (23%). The success rate (SR) of LS and the combination of EST and EPBD were 85% (62/73) and 72.7% (16/22) respectively. In cases that both techniques failed, we performed cholangioscopy and electrohydraulic lithotripsy (EHL) with a success rate $>95\%$. The total ERCP SR was 95.8% (92/96). No complication of EPBD, LS or EHL was reported during the 24-hour hospital stay.

Conclusions LS alone and EPBD combined with EST are two simple and effective techniques for endoscopic extraction of difficult CBD stones (SR = 81%). In our cases, EHL through cholangioscopy constituted an effective assist for difficult CBD stones after EPBD or LS. The combination of these 3 techniques performed a SR that exceeds 95%. Cholangioscopy is a technique that should be widely performed due to its high SR and low complication rate.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP350 Mortality in association with percutaneous endoscopic gastrostomy

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DOI 10.1055/s-0043-1765634

Aims Percutaneous Endoscopic Gastrostomies (PEG) is a well-established method for placing a feeding tube directly from the skin of the abdominal wall into the stomach. However, the 30-day mortality rate in the literature is often high. We wanted to investigate in more detail what causes of death the patients had and associated risk factors for mortality within 30 days.

Methods We did a retrospective study of all patients who received a PEG at Karolinska University Hospital between 1st January 2007 and 31st December 2019. Patients deceased within 30 days were included. Clinical data and laboratory results were collected from the patient's medical records.

Results 2255 patients received PEG during the study period. 30-day mortality after PEG insertion was found to be 8.8% (198 patients), and 7-day mortality 1.6% (37 patients). Most patients died as a result of their underlying disease. 0.1% (3 patients) died as a direct complication after the PEG procedure. A correlation between low albumin (P value <0.001), low BMI (P value 0.0499) and high CRP (P value <0.001) was found in relation to 30-day mortality.

Conclusions Our study confirms that 30-day mortality is high in patients receiving a PEG. Since the vast majority of patients die as a result of their underlying disease, patients where PEG placement is considered should be better selected. In patients who are not expected to live more than 30 days, other methods of nutrition should be preferred.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP351 Contribution of colonoscopy in the diagnosis of melenas: About 57 cases

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DOI 10.1055/s-0043-1765635

Aims Melenas are diagnostic and therapeutic emergencies that can jeopardize the patient's vital prognosis. They can testify to an oesogastric, small bowel or colonic digestive haemorrhage.

The aim of this work is to report the role of colonoscopy in the etiological diagnosis of melena, specifying the different endoscopic aspects encountered.

Methods Descriptive retrospective study over 3 years (September 2019-September 2022) collecting all patients referred for melenas and who underwent a colonoscopy after a normal gastroduodenal oesophageal fibroscopy.

Results 57 patients were included: 42 men and 15 women. The average age was 64.2 years (40-93 years), with a peak during the sixth decade. Melenas were isolated in 48 cases and associated with rectal bleeding in 2 of the patients and anemia in 7 of the cases. An AVK overdose was noted in 3 patients. Colonoscopy was complete in 49 patients (86%). On the other hand, it was incomplete in 8 patients (15.7%) due to poor preparation or poor tolerance. In the other cases, she objectified colon cancer (4 cases), colon polyp (14 cases), right colonic angiodysplasia lesions (3 cases) and colonic diverticulosis (8 cases). Colonoscopy was normal in 20 cases (35%).

Conclusions Colonoscopy is always recommended in cases of melena with normal FOGD. It leads, however, to the etiological diagnosis in only about a third of cases. This encourages us to improve the performance of colonoscopy and to push explorations, in particular entero-CT and videocapsule when the colonoscopy is normal.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP352V "Apple core" endoscopic submucosal dissection for the treatment of a symptomatic bronchoesophageal fistula

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DOI 10.1055/s-0043-1765636

Abstract Text 20 y.o. man with symptomatic bronchoesophageal fistula (chronic cough, recurrent pneumonitis). History of a type C esophageal atresia

surgically treated and secondary anastomotic stricture of the ascended intestinal loop treated with endoscopic balloon dilations. A barium swallow showed an abnormal flow of contrast from the mid esophagus to the left main bronchi. Fistula was confirmed with an EGD. Endoscopic treatment consisting in combination of an "apple core" ESD, APC coagulation and clipping. Radiological follow-up after 6 weeks : no residual contrast leakage. Clinical follow-up after 8 weeks : less coughing, less respiratory secretions, no recurrence of pneumonitis [1–5].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Yang J, Zeng Y, Zhang J. Endoscopic submucosal dissection-based suture combined with medical adhesive for complicated tuberculous bronchoesophageal fistula: a case report. *J Int Med Res* 2022; 50 (2): 3000605221080723. doi:10.1177/03000605221080723

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[5] Patel H, Singh R, Mobin N. The Unexpected Formation of a Broncho-Esophageal Fistula of the Right Main Stem Bronchus Status Post Esophageal Stent Placement: A Case Report. *Cureus.* 2022; 14 (1): e2164

eP353 Radiofrequency ablation versus Argon plasma coagulation for treatment of radiation proctitis

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DOI 10.1055/s-0043-1765637

Aims Chronic radiation proctitis (CRP) is a late side effect that arises months to year after pelvic radiotherapy. Bleeding from the rectal mucosa is a typical symptom which can require endoscopic treatment. The traditional endoscopic treatment of CRP has been argon plasma coagulation (APC), but radiofrequency ablation (RFA) has in recent years proved to be a promising method. However, comparative data between the two methods is deficient in the literature.

Methods We did a single-center, retrospective cohort study of patients with radiation proctitis treated with either APC, RFA, or both methods. Clinical data were collected from medical records. Measurements of efficacy were endoscopic and clinical success and measurement for safety was number of procedure related complications.

Results 91 patients received treatment with APC alone, 12 with RFA alone, and 14 received both treatments. Endoscopic success was achieved for 89% within the APC group, 100% within the RFA group, and 79% of the dual treatment group (p-value 0.167). Within the APC group mean follow-up was 55.0 ± 43.1 months and. Mean follow-up within RFA and the dual treatment groups was 30.0 ± 19.6 and 28.4 ± 19.5 months, respectively. Two APC cases had complications while there were no complications after RFA.

Conclusions Both RFA and APC are effective for treatment of CRP and both methods are safe. Presence of fewer complications and technical advantages of RFA suggests that RFA can be a good alternative to APC in the treatment of CRP, in particular in more extensive cases.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP354 Quality of colonic preparation in patients with a digestive stoma: About 58 cases

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DOI 10.1055/s-0043-1765638

Aims It is sometimes necessary, at the end of an intervention, to set up a protective digestive stoma. The aim of our work is to study the quality of colonoscopy in patients with digestive stoma.

Methods This is a retrospective study spread over 2 years, collecting all patients who have been operated and who have benefited from a colonoscopy as part of the pre-restoration of continuity assessment. Colonic preparation was rated as good, average, or poor.

Results A total of 58 patients were included. The average age was 59.8 years with extremes (34–90). 40 patients were over 50 years old. A male predominance was noted (32 men against 26 women). Indications for surgery with digestive bypass were: colonic neoplasia in 33 cases (56.8%), rectal neoplasia in 11 cases (18.9%), stenotic Crohn's disease in 5 cases (8.6%), gangrene of the perineum in 3 cases (5%), iatrogenic perforation transverse colon in 2 cases (3.4%), complicated diverticular sigmoiditis in 2 cases (3.4%), sigmoid volvulus in 1 case (1.7%) and rectal perforation by a foreign body in 1 case (1.7%). Colonoscopy was complete in 36 cases (62%) while it was incomplete due to insufficient preparation in 22 cases (37.9%). Colonic preparation was judged to be good in 18 cases (31%), average in 13 cases (22.4%) and poor in 27 cases (46.5%). A second colonoscopy was necessary in 29 cases (50%), of which 12 patients (20.6%) were revised due to the presence of solid matter in the distal colon. 14 colonoscopies (24%) revealed the presence of colonic polyps.

Conclusions In our study, the use of a 2nd attempt at colonoscopy was noted in half of the cases. A rate considered significant requiring additional efforts to carefully list the causes of failure.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP355 Colonoscopy: what contribution to the etiological assessment of chronic constipation in young adults?

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DOI 10.1055/s-0043-1765639

Aims Constipation is still a very common symptom, often poorly treated. Its etiologies are multiple. Colonoscopy is required in any patient with chronic constipation resistant to symptomatic treatment or in the presence of warning signs. The objective of this work is to determine the contribution of colonoscopy in the etiological assessment of chronic constipation in young adults.

Methods This is a descriptive retrospective study spread over a period of 3 years (2019–2022), collecting all patients under the age of 50 and having undergone a colonoscopy as part of the exploration of chronic constipation.

Results A total of 120 cases were included. The average age was 40.3 years (19–49 years) with 69 men (57.5%) and 51 women (42.5%). Constipation was isolated in 37.5% (n = 45) of cases, associated with abdominal bloating in 15% (n = 18), rectal bleeding in 21.6% (n = 26), abdominal pain in 18.3% (n = 22), alternating diarrhea constipation in 6.6% (n = 8) or iron deficiency anemia in 13.3% (n = 16). Colonoscopy was normal in 74% of cases (n = 89). When she was pathological, she objectified: rectocolic polyps in 10% of cases (n = 12), colonic diverticulosis in 6.6% of cases (n = 8), colo-rectal neoplasia in 4% of cases (n = 5) and dolichocolon in 5% of cases (n = 6).

Conclusions It is always necessary to remain vigilant in the face of the banality and the frequency of chronic constipation which can be the expression of an organic disease. In our study, colonoscopy made it possible to detect signif-

icant lesions (recto-colic polyps, rectocolic neoplasia) in 14% of cases aged less than 50 years.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP356 Interest of upper endoscopy in the etiological assessment of iron deficiency anemia: About 160 cases

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DOI 10.1055/s-0043-1765640

Aims Iron-deficiency anemia is one of the most common causes of chronic anemia, which affects around 15 to 30% of the world's population. Digestive bleeding and malabsorption are the most common causes, thus requiring systematic endoscopic exploration as part of the etiological assessment. The aim of our study is to evaluate the contribution of upper endoscopy in the etiological diagnosis of anemia.

Methods Retrospective study (September 2020 – September 2022) bringing together patients who had upper endoscopy as part of the etiological assessment of iron-deficiency anemia. We specified for each patient the epidemiological characteristics, the biological data, and the results of endoscopy.

Results 160 patients (88 women and 72 men) were collected, with an average age of 51.8 years [13-94 years]. Among them, 35 presented digestive signs (21.8%) and 4 had digestive hemorrhage (2.5%). The mean hemoglobin value was 8.3g/dl [5-11g/dl].

Upper endoscopy showed abnormalities in 55 cases (34.3%): 25 cases of gastro-duodenal ulcerations (15.6%), 3 cases of oesogastric varices (1.8%) inaugurating cirrhosis, 4 cases of celiac disease (2.5%) confirmed with histology, 10 cases of esophagitis (6.2%), 6 cases of gastric neoplasia (3.7%), 5 cases of gastric polyp and 2 cases (1.2%) had duodenal angiodysplasia.

Conclusions The upper endoscopy retains an important place in the etiological assessment of iron deficiency anemia and must be done systematically even in the absence of digestive symptoms.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP357 Performance and safety of motorized spiral enteroscopy: a systematic review and meta-analysis

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DOI 10.1055/s-0043-1765641

Aims The introduction of motorized spiral enteroscopy (mSe) into clinical practice holds diagnostic and therapeutic potential for small bowel investigation. This systematic review with meta-analysis aims to evaluate its performance in diagnosing and treating small bowel lesions.

Methods A systematic search in Medline and Cochrane databases was performed through September 2022. The primary outcome was diagnostic suc-

cess, defined as the identification of a lesion relative to the indication. Secondary outcomes included successful therapeutic manipulations, total enteroscopy rate (examination from the duodenojejunal flexion to the cecum), technical success (passage from the ligament of Treitz or ileocecal valve for anterograde and retrograde approach, respectively) and complication rates. The results were reported as percentages with 95% Confidence Intervals (95% CIs).

Results Nine studies (959 patients) were considered eligible and included in analysis. The diagnostic success rate of mSe was 78% (95% CI: 72-84). Considering secondary outcomes, total enteroscopy was attempted in 460 cases, and completed with a rate of 51% (95% CI: 30-72), whereas therapeutic interventions were successful in 98% (95% CI: 96-100) of cases where attempted. Technical success rates were 96% (95% CI: 94-97) for anterograde and 97% (95% CI: 94-100) for retrograde approaches, respectively. Finally, the incidence of complications was 17% (95% CI: 13-21), albeit the vast majority included minor adverse events [16% (95% CI: 11-20) vs major = 1% (95% CI: 0-1)].

Conclusions Motorized spiral endoscopy provides high rates of diagnostic and therapeutic success with a low prevalence of severe adverse events.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP358 Metastatic melanoma as a rare cause of GI hemorrhage

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DOI 10.1055/s-0043-1765642

Aims

Methods

Results Female patient, 53 years old, with a recent diagnosis of umbilical melanoma with multiple metastasis (nodal, skin, muscle, bone, peritoneal, liver and lung), undergoing palliative treatment with radiotherapy and nivolumab. She was medicated with buprenorphine, paracetamol, metamizole, naproxen, dexamethasone and morphine for pain control. She was admitted to the hospital due to SARS-CoV-2 pneumonia, with a progressive worsening of her general condition. During the hospital stay, she had a single episode of hematemesis, without other symptoms. We performed an upper GI endoscopy which identified an grade A esophagitis (Los Angeles classification) and in the stomach, at the level of the proximal body, a 5cm irregular lesion with dark pigmentation. She also had two more lesions like the described above at the level of the lesser curvature of the distal body and an ulcerated area of the duodenum. There was no evidence of gastrointestinal bleeding at the time of the examination. Considering the clinical background, the macroscopic characteristics of the lesions, and the clinical condition of the patient, it was assumed an upper GI hemorrhage due to gastric and duodenal metastases of the umbilical melanoma. It was decided to proceed with conservative therapy, with an unfavorable evolution to death 2 weeks after [1-3].

Conclusions Gastrointestinal metastasis from malignant melanoma is a rare clinical entity. The present clinical case illustrates a presumed case of gastric and duodenal metastasis by this neoplasm, emphasizing the exuberance of the lesions in the collected iconography.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP359V Retrovaginal fistula: minimally invasive endoscopic approach

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DOI 10.1055/s-0043-1765643

Abstract Text Female patient, 89 years old, with a history of chronic constipation, requiring frequent treatment with enemas. She was referred to our department due daily enteric/fecaloid vaginal discharge with 1 year of evolution. She performed a rectosigmoidoscopy, which identified an apparent orifice in the anterior wall of rectum, which could correspond to a fistulous tract. Pelvic MRI confirmed the fistulous tract between the rectum and the vagina. A new rectosigmoidoscopy was performed, with the closure of the orifice with an 11 mm OTS-clip without complications. One month after the procedure, the patient remained asymptomatic and with a substantial improvement in her quality of life [1–4].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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[2] Weiland T, Fehler M, Gottwald T, Schurr MO. Performance of the OTSC System in the endoscopic closure of iatrogenic gastrointestinal perforations: a systematic review. *Surg Endosc* 2013; 27: 2258–2274

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eP360 Contribution of upper digestive endoscopy in the evaluation of caustic lesions of the upper digestive tract: About 90 cases

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DOI 10.1055/s-0043-1765644

Aims The ingestion of caustic products (CP) is a medico-surgical emergency requiring multidisciplinary management. The aim of our work is to study the epidemiological, clinical and endoscopic characteristics in case of ingestion of CP.

Methods This is a retrospective study spread over a period of 10 years between September 2012 and September 2022, collecting all cases of CP ingestion referred to the Gastroenterology department of Habib Bougatfa hospital in Bizerte. The Di Costanzo classification was used.

Results We collected 90 patients including 52 women and 38 men, sex ratio F/M: 1.3. The average age was 27.5 years with extremes (5–86 years). A psychiatric history was noted in 8.8% (8 patients). PC ingestion was voluntary in 71% of cases. The caustics ingested were oxidants in 76.4% of cases and bases in 23.6% of cases. Endoscopy was normal in 47 patients (52.3%). Of these, 75.4% of patients had ingested bleach and ingestion was accidental in 79% of cases. In 47.7% of cases, the endoscopic lesions found were caustic esophagitis stage I in 13.9% and stage II in 23.3%, caustic gastritis stage I in 32.5%, stage II in 14% of cases and stage III in 9.4% of cases and caustic bulbo-duodenitis stage I in 6.9% of cases. The most severe endoscopic lesions were associated with the voluntary ingestion of soda. The evolution was favorable in 97.7% of cases. Late complications had occurred in 2 of our patients in the form of esophageal stenosis requiring endoscopic dilation sessions.

Conclusions In our study, the severity of digestive lesions is less important when the ingestion is accidental and when the CP is an oxidant which calls into question the interest of a systematic upper digestive endoscopy in this case.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP361 Capsule Endoscopy findings during and after severe COVID-19. A prospective, longitudinal study

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Aims Aims: To describe endoscopic changes in small bowel mucosa secondary to severe SARS-CoV-2 infection in patients with and without gastrointestinal symptoms during acute infection and 3 months follow-up, and its association with inflammatory serum markers.

Methods Capsule endoscopy (CE) (Pillcam) was performed in COVID-19 patients during hospitalization (n = 20), and 3 months after discharge (n = 17). We measured serum biomarkers (sCD14, sCD163, I-FABP, MCP-1, CXCL-1). We collected duodenum and/or ileum biopsies in 10 patients with GI symptoms at follow up. SARS-CoV-2 IHC was performed in 4.

Results CE findings in the small bowel during hospitalization showed atrophy of villi and hyperemia (45%), red spots (40%), ulcers (5%) and denuded mucosa (5%) mainly at duodenum and jejunum. CE study was normal in 30% of cases. After a median of 96 days, mucosal intestinal inflammation (edema or red spots) remained in 13 cases, including 3 with villi shortening and 2 denuded jejunum mucosa. Histopathology observation confirmed villi atrophy in 6 of 10 patients. IHC showed viral persistence in duodenum and ileum of the 4 studied patients. We found a significant increase in sCD163 plasmatic levels at follow-up compared to basal (median 1054.5 and 862.3, respectively; p = 0.01) [1–3].

Conclusions This study provided evidence that endoscopic changes along the small bowel, specifically in villi, and mainly at proximal intestine, occurred frequently in severe COVID-19 patients and persisted several months after acute infection as shown by CE and histological findings. Persistent intestinal inflammation may be related with viral reservoirs in the gut compartment that could induce macrophage activation, as suggested by sCD163 levels.

Conflicts of interest Blanco-Velasco is speaker of Medtronic

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eP362 Lemmel's syndrome as a Rare cause of prolonged right hypochondrial pain and obstructive jaundice

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DOI 10.1055/s-0043-1765646

Aims Lemmel syndrome correspond to cholestatic disease secondary to compression of Common bile duct by a periampullary duodenal diverticulum

Methods We report a case of 66 year old male patient presenting with recurrent obstructive jaundice, and right upper quadrant abdominal pain since 2 month. He was diagnosed with Lemmel's syndrome after performing Endoscopic ultrasound, MRCP & ERCP. He was successfully managed by ERCP with endoscopic Papillotomy [1].

Results 66 year old man presented to emergency department with itching all over body since 2 month (8/2022), intermittent yellowish discoloration sclera and urine since last 2 month (3/10/2022), right upper quadrant pain since 10 days (3/10/2022) with h/o of deranged liver function test which was waxing and

Waning in nature. No h/o of any hepatotoxic medication. Patient had history of open cholecystectomy which was uneventful. Physical examination revealed jaundice and mild right upper quadrant tenderness with no lump no ascites. Laboratory test revealed Bilirubin-4.76mg/dl.USG abdomen show mild IHBRD. MRCP suggestive of external compression on CBD. EUS was done which show perampullary diverticulum compressing CBD and subtle sludge in distal CBD. He was successfully managed by ERCP with endoscopic Papillotomy.

Conclusions we recognize the importance of considering this extraordinary cause of obstructive jaundice in order to be able to make diagnosis and importance role of EUS in such cases.

Conflicts of interest Authors do not have any conflict of interest to disclose.
[1] Lemmel G Arch Digestion Dis 1934; 56: 59–70

eP363 Booklets to improve bowel preparation quality in colonoscopy: systematic review with meta-analysis

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DOI 10.1055/s-0043-1765647

Aims A good bowel preparation for colonoscopy is fundamental to improve the quality of colonoscopy. We aimed to perform a systematic review with meta-analysis of randomized controlled studies (RCT) to ascertain whether booklets may be useful in this setting.

Methods Literature search was performed in July 2022, in main databases. Only RCTs were selected. We estimated odd ratios (OR), mean differences (MD) or standardized mean differences (SMD). All analyses were performed using RevMan version 5.4.1.

Results Six studies were selected, enrolling overall 1755 patients. Adequate bowel preparation was achieved in the 86.7% (743/857) of booklet preparation versus the 77.5% (696/898) in the control group, with an OR of 2.31 in favour of booklet (95% CI 1.20-4.45, p=0.01). In four studies a 4-L PEG-based preparation was used without any difference compared to controls; when sodium phosphate and magnesium citrate or sodium phosphate or PEG were used, preparation with booklet was better than in controls (OR=5.10, 95% CI 1.82-14.27, p=0.002). Two studies were performed in inpatient setting, without difference between booklet and controls while outpatients receiving booklets were better prepared (OR=7.13, 95% CI 5.39-9.45, p<0.001). ADR was similar between the two groups (OR=0.93 95% CI 0.75-1.16, p=0.53). The mean number of polyps per patient did not differ between the two groups (MD=0.22, 95% CI -0.14-0.58, p=0.23).

Conclusions The present meta-analysis demonstrated that booklets are useful to enhance bowel preparation. Outpatients and non PEG-based preparations seem to benefit more from booklets, while no effect on ADR has been observed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP364 Safety And Efficacy of Novel Endoscopic Full Thickness Fundoplication Device In Gastro-Oesophageal Reflux Disease Patients: A Three Years Follow-Up

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Aims Endoscopic full thickness fundoplication (EFTP) by GERD-X device is a novel and easy to use technique for proton pump inhibitors (PPI) dependant Gastro-oesophageal reflux disease (GERD) patients, has proven efficacy and safety on short term follow-up, but data regarding long term safety and efficacy is lacking [1–3].

Methods In this single centre prospective study, GERD patients undergoing EFTP were evaluated for GERD health-related quality-of-life questionnaires

(GERDQ score), heartburn and regurgitation scores, daily PPI consumption and 24-hour pH impedance parameters.

Results Thirty-six patients with mean (SD) age 36 (±8) years, 72.2% males, mean (±SD) duration of procedure 17.4 (±4) min underwent EFTP. At baseline 70% had non-erosive reflux disease with mean DeMeester score (IQR) of 20.9 (19.8). There was significant improvement in quality-of-life indices and non-acidic refluxes. (Table 1) No significant improvement in DeMeester score (p=0.18) and total number of refluxes (p=0.32) were noted. 83.3% of the patients were off-PPI at three years with no major procedure related adverse event.

Conclusions EFTP using novel device is safe in PPI dependant GERD patients at long term follow-up with durable improvements in subjective parameters; objective parameters showed limited response (► Table 1).

Conflicts of interest Authors do not have any conflict of interest to disclose.
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	Baseline	At 3 years	% Change	P Value
GERDQ Score Mean (SD)	38.6 (16)	4.4 (9.7)	78.9%	<0.001
Heartburn Score Mean (SD)	19 (8.9)	1.9 (4.1)	90%	<0.001
Regurgitation Score Mean (SD)	17.7 (9.4)	2.1 (5.6)	88.1%	<0.001
Total Number of Non-Acidic Refluxes n(IQR)	34 (18-71)	14.0 (3-28)	58.8%	0.01

► **Table 1** Change in various subjective & objective parameters after EFTP on three years follow-up.

eP365 Direct peroral cholangioscopy with conventional upper gastrointestinal endoscope

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DOI 10.1055/s-0043-1765649

Aims Direct peroral cholangioscopy with conventional upper gastrointestinal endoscope can be useful in management of biliary duct stones, especially in patients with altered anatomy.

Methods We describe a case of a patient with altered anatomy, undergoing direct peroral cholangioscopy with conventional upper endoscope, in order to remove biliary duct stones.

Results An 83-year-old male with a history of Whipple procedure due to pancreatic cancer, underwent endoscopic retrograde colangiopancreatography for acute cholangitis. Because of the altered anatomy, an upper gastrointestinal endoscope was used. Severe stricture of the hepaticojejunal anastomosis was found. The anastomotic stricture was dilated with a 12mm through-the-scope balloon under fluoroscopy and direct visualization. Right and left ducts were explored with Dormia basket and balloon, with extraction of bile duct stones and pus. Cholangioscopy with upper gastrointestinal endoscope was performed and residual cholesterol stones were identified in the hepatic duct and these were removed with the stone extraction balloon under endoscopic visualization [1–3].

Conclusions Direct peroral cholangioscopy using a conventional endoscope provides high quality endoscopic imaging, enabling access to virtual chromoendoscopy and the 2.8 mm diameter working channel allows for interventional procedures. This strategy is useful and economical, helping confirm clearance of common bile duct stones, while allowing extraction of any residual stones. New, cost effective scopes for peroral cholangioscopy are needed to improve the safety and success rate.

Conflicts of interest Authors do not have any conflict of interest to disclose.
 [1] Lee YN, Moon JH, Lee TH, Choi HJ, Itoi T, Beyna T et al. Prospective Randomized Trial of a New Multibending versus Conventional Ultra-Slim Endoscope for Peroral Cholangioscopy without Device or Endoscope Assistance (with Video). Vol 91. American Society for Gastrointestinal Endoscopy; 2020
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eP366 Factors affecting bowel preparation for colonoscopy in inpatient setting: a prospective, case-control study

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DOI 10.1055/s-0043-1765650

Aims It is well known that inpatients more frequently undergo inadequate bowel preparation for colonoscopy. We therefore aimed to investigate factors associated to inadequate bowel preparation in a group of hospitalized patients.
Methods We prospectively enrolled inpatients at University Hospital Policlinico of Bari, who underwent colonoscopy in the last year. Outpatients represented a control group. For each patients we collected data about age, diseases and drugs consumed. all patients received a 4-L polyethylenglycole (PEG) based preparation in a split regimen. t-test and chi-square test were used for univariate analysis. Binomial logistic regression was used to find factors associated to inadequate preparation and estimate of risk was defined as odds ratio (OR).

Results We recruited 167 hospitalized patients and 167 controls. Inpatients were more commonly bedridden ($p < 0.001$) and were older than controls (64.7 ± 16.3 versus 50.9 ± 18.6 , $p < 0.001$). Adequate preparation was attained only in the 73.6% of hospitalized patients versus the 88.0% of outpatients ($p = 0.001$), and the BBPS was lower in inpatients (6.8 ± 1.7 versus 5.8 ± 2.5 , $p < 0.001$). Adequate preparation was more often achieved if patients was admitted in Gastroenterology (81.6% vs 67.7%, $p = 0.04$). Adenoma detection rate was higher when preparation was adequate (28.5% vs 13.6%, $p = 0.05$). At multivariate analysis, inadequate preparation was associated with admission in a ward other than Gastroenterology (OR = 1.88)

Conclusions Hospitalization negatively impact on the quality of bowel preparation for colonoscopy. Admission in Gastroenterology Unit allows a better preparation, maybe due to a better care of medical and nurse personnel.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP367 Endoscopic versus percutaneous biliary drainage for perihilar malignant obstruction: a French tertiary center experience

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DOI 10.1055/s-0043-1765651

Aims The best biliary drainage procedure in patients with hilar malignant strictures remains controversial. This study compared efficiency and safety of endoscopic and percutaneous transhepatic approaches.

Methods Patients with hilar malignant obstruction Bismuth type II, III or IV who underwent either endoscopic biliary drainage or percutaneous transhepatic biliary drainage in a tertiary center between 2015 and 2021 were retrospectively included. Primary outcome was clinical success. Procedures, complications, mortality and survival were also compared.

Results Endoscopic biliary drainage (EBD) was performed in first intention in 73 patients and percutaneous transhepatic biliary drainage (PTBD) was the first drainage procedure in 33 patients. Clinical success rate was 69.9% with EBD and 60.6% with PTBD ($p = 0.3481$). Overall survival was similar between the two groups. In the EBD group, 46.6% of patients presented at least one adverse event and 36.4% of patients in PTBD group ($p = 0.3260$) of whom 22.5% and 36.4% presented cholangitis in EBD and PTBD group, respectively ($p = 0.1389$). The mean number of procedures per patient was significantly higher in EBD group (1.7 vs 1.2; $p = 0.0020$). Median survival was significantly longer in case of initial successful drainage comparatively with failure of drainage (81 vs 50 days; $p = 0.0171$).

Conclusions Efficiency of EBD and PTBD is similar in hilar malignant obstruction. Complication rate did not differ significantly but with a median number of procedures per patients higher in the EBD group suggesting lower complications per procedure with EBD.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP368V CMV Gastritis in an immunocompetent patient as a manifestation of primary infection

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DOI 10.1055/s-0043-1765652

Abstract Text 36-year-old man with no medical history, admitted with abdominal pain, hematemesis, and fever. An abdominal CT revealed gastric thickening. In gastroscopy we identified multiple deep gastric ulcers. Treatment with PPI was started, with null response. Gastroscopy biopsies shed viral inclusions and cultures were positive for CMV. After starting ganciclovir treatment, he had favorable evolution, with gastric ulcers in healing phase in gastroscopy 3 weeks later. CMV infection in immunocompetent patients as invasive disease is very rare, being the gastrointestinal tract the most affected. Symptoms and endoscopic findings are inespecific, so the diagnosis depends on the characteristic histopathological features [1–4].

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP369 Histopathological Characteristics of Screening-Detected Colorectal Cancers. An Eight-year Single Institution Experience

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DOI 10.1055/s-0043-1765653

Aims The survival benefit of screening-detected colorectal cancers (CRCs) persists even when adjusted for stage. The characteristics underlying this more favourable prognostic profile are unclear. We aimed to evaluate the histopathological features of screening-detected CRCs with comparison to a cohort of symptomatic cases.

Methods We analysed a database of all screening-detected CRCs in our institution since screening began in 2012, with comparison to a cohort of symptomatic patients from 2019–2020. Histopathological reports were reviewed for prognostic factors such as lymphovascular invasion (LVI), perineural invasion (PNI) and tumour budding [1–3].

Results 194 screening-detected CRCs were identified from January 2013 to December 2021. 358 symptomatic presentations were identified for comparison. Rates of stage I cancers were significantly higher in the screening group (33% vs 19%, $p < 0.0001$). Screening-detected CRCs had lower rates of PNI (7% vs 16%, $p = 0.0021$), mismatch-repair protein (MMR) deficiency (7% vs 14%, $p = 0.017$) and LVI (34% vs 52%, $p = 0.0001$), mainly due to lower rates of extramural venous invasion (11% vs 28%, $p < 0.0001$). Rates of tumour budding were similar. Screening-detected rectal cancers also had higher complete response rates to neoadjuvant therapy (42% vs 16%, $p = 0.012$).

Conclusions Population screening for CRC results in cancer detection at an earlier stage. Screening-detected CRCs have a more favourable risk profile, with lower rates of adverse prognostic factors such as venous and perineural invasion. Tumour budding rates were similar, indicating that this is an early-stage phenomenon.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP370 A “sugar-coated” problem: elevated hemoglobin A1c levels are associated with prolonged gastric transit time in diabetic patients undergoing capsule endoscopy

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DOI 10.1055/s-0043-1765654

Aims Gastroparesis is common in patients with Diabetes *mellitus*, especially in those with poor glycemic control. Due to this association, diabetic patients are at risk of prolonged gastric transit time (PGTT) when undergoing small-bowel capsule endoscopy (SBCE). In this investigation we aimed to assess if there was an association between hemoglobin A1c levels and PGTT in diabetic patients undergoing SBCE.

Methods Single-center retrospective study including all consecutive diabetic patients undergoing SBCE for two years. Patients without a valid hemoglobin

A1c measurement within 3 months from SBCE were excluded. The assessed outcome was PGTT (defined as SBCE remaining in the stomach for > 1h, requiring prokinetic administration and/or endoscopically assisted capsule delivery into the duodenum). Possible confounders were also assessed.

Results Final sample included 77 patients, 40 (51.9%) of them males, with a mean age of 70 ± 10 years. PGTT occurred in 33 (42.9%) individuals. Mean hemoglobin A1c levels were significantly higher in diabetic patients with PGTT ($7.4 \pm 0.8\%$ vs $6.5 \pm 0.8\%$; $p < 0.001$). In a multivariate analysis including significant confounders, hemoglobin A1c levels were still an independent predictor of PGTT ($B = 1.35$; $p < 0.001$). Single-handedly, hemoglobin A1c levels demonstrated very good acuity in predicting PGTT ($AUC = 0.80$; $p < 0.001$), with an optimal cut-off of $HbA1c \geq 6.8\%$ (sensitivity 81% and specificity 73%).

Conclusions Hemoglobin A1c levels significantly influenced the occurrence of PGTT in diabetic patients undergoing SBCE. This may eventually allow the performance of preemptive measurements to avoid PGTT in diabetic patients with poor glycemic control.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP371 EUS-FNA and EUS-FNB safety and efficacy in gastrointestinal lesions characterization: an interim analysis

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DOI 10.1055/s-0043-1765655

Aims The aim of our study was to compare the diagnostic yield of FNA and FNB needles and to evaluate the FNA and FNB performance in different type of lesions.

Methods A total of 162 patients who underwent FNA (63,39%) or FNB (99,61%) were included in the analysis. Several different needles were used, including 19- and 25-gauge (Olympus Ez Shot 3 Plus 19 G, 25G) FNA needles and 19- (Olympus Ez Shot 3 Plus 19 G) and 20- gauge (Cook -Procore Echo Tip 20 G) FNB needles, according to the availability at that time. We assessed sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) to establish the FNA and FNB accuracy. The FNA and FNB diagnostic adequacy on different lesions was subsequently compared

Results FNA versus FNB sensitivity, specificity, PPV and NPV were 80% (95% IC 69-91) vs 95% (95% IC 90-99), 63% (95% IC 30-96) vs 69% (95% IC 46-95), 92% vs 95% and 36% vs 69%, respectively. No differences were observed in specificity between the two groups ($p = 0.37$), while FNB compared to FNA showed a better sensitivity ($p = 0.002$). The most common lesions were pancreatic masses (118,73%). The median number of needle passes was 2,56 (range 1-4) regardless the type of lesions. We did not find significant difference in the samples diagnostic adequacy using FNA or FNB needles ($p = 0.53$) even when we subdivided pancreatic versus non pancreatic lesions ($p = 0.72$). No adverse events were reported, except for those related to sedation.

Conclusions EUS-guided FNA and FNB are equally efficacy and safe procedures in gastrointestinal masses characterization. According to our results FNB shows higher sensitivity.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP372 Endoscopic band ligation versus clipping for diverticular bleeding: a systematic review with meta-analysis

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DOI 10.1055/s-0043-1765656

Aims Bleeding from diverticula is one of the most common complications of diverticulosis and, despite it is usually a self-limiting event, it may lead to ane-

mia or shock. We performed a meta-analysis comparing clipping versus endoscopic band ligation (EBL) for diverticular bleeding.

Methods Literature search on main databases was performed in November 2022. Studies comparing clip versus EBL for acute diverticular bleeding were selected. Short term effectiveness, early rebleeding, tardive rebleeding and need for surgery or radiologic embolization were analyzed. Pooled odds ratios (OR) with 95 % confidence intervals (CI) were calculate according to Mantel-Haenszel method.

Results Seven studies were selected, overall enrolling 2322 patients (979 in EBL and 1343 in clip groups). Immediate haemostasis was achieved in the EBL and clipping group respectively in the 96.8 % and 96.5 % (OR = 0.94, 95 % CI 0.59-4.19, $p = 0.79$). Early rebleeding was observed more frequently in the clipping (25.0 %) than in the EBL group (11.8 %), with an OR = 0.40 (95 % CI 0.32-0.51, $p < 0.001$). Similarly, tardive rebleeding was more common in the clipping arm (37.4 %) than in the EBL (24.5 %), OR = 0.39, 95 % CI 0.22-0.68, $p = 0.0001$. Patients receiving clipping needed more frequently salvage surgery or embolization than EBL (1.48 % versus 0.53 %, OR = 0.40, 95 % CI 0.17-0.93, $p = 0.03$).

Conclusions Despite EBL and clip have similar effectiveness in achieving immediate haemostasis, EBL showed better effectiveness in maintaining it on longer interval times, with less probable need for major surgical/radiologic interventions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP373 Adenoma miss rate in back-to-back endocuff-assisted colonoscopy. A single-center prospective study

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DOI 10.1055/s-0043-1765657

Aims To conduct a back-to-back endoscopy study and to evaluate the contribution of endocuff assisted colonoscopy to the detection of missed adenomas in a mixed population of colorectal cancer (CRC) screening/surveillance and symptomatic patients. To the best of our knowledge, this is the first study on this issue.

Methods It is a prospective study conducted from March 2021 to March 2022 in a tertiary endoscopy department. Two consecutive same day, endocuff assisted, colonoscopies were performed in 124 patients. ClinicalTrials.gov Identifier: NCT04805567.

Results 124 patients were enrolled (58.9 % male/ median age 62 years). All examinations were complete (100 % cecum intubation, 54 % ileal intubation). The indications were CRC screening (77 patients, 62.1 %), post-polypectomy surveillance (24 patients, 19.4 %) and diagnostic assessment (23 patients, 18.5 %). 54.8 % of the patients had diverticulosis. 368 polyps were overall found and removed. 321 in the first and 48 in the second examination. Only 4 patients with no adenoma found in the first examination had one adenoma found in the second examination. The overall miss rate for adenomas was 12.01 % and 11.32 % for adenomas ≥ 10 mm.

Conclusions This back-to-back study has shown that endocuff- assisted colonoscopy has a low adenoma miss rate. These data further strengthen the existing evidence recommending the use of endocuff for decreasing the adenoma miss rate.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP374 Utility, performance and safety of single balloon enteroscopy in patients with hereditary polyposis syndromes

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DOI 10.1055/s-0043-1765658

Aims Patients with hereditary polyposis syndromes are at high risk of developing polyps in the small bowel. We aimed to investigate the effectiveness of small bowel enteroscopy (SBE) in detecting and removing such polyps and to compare diagnostic yield to videocapule endoscopy (VCE) in such patients.

Methods We retrospectively recruited patients undergoing SBE and VCE in our center for familial adenomatous polyposis (FAP), Peutz-Jeghers syndrome (PJS), Cowden syndrome (CS) and juvenile polyposis syndrome (JPS). K Cohen concordance index and sensitivity, specificity, positive negative predictive value (PPV-NPV) and odd ratios (OR) were calculated.

Results We recruited 16 patients (10 females, 6 males, age range 29-82), undergoing 34 SBE procedures (in 7 JPS, 6 PJS, 4 CS and 14 FAP), 24 anterograde, 6 retrograde and 1 bidirectional. Small bowel polyps were found in 20 cases (58.8 %), in 6 JPS, 4 PJS, 3 CS and 7 FAP, with size ranging 3 mm-3 cm. The risk of small bowel polyps was not linked to presence of gastric (OR = 1.12, $p = 1$), nor duodenal polyps (OR = 0.89, $p = 1$). Compared to VCE, the k index was 0.33 ± 0.16 , with sensitivity 79 % (CI 54-94 %), specificity 53 % (CI 27-79 %), PPV 68 % (CI 45-86 %), NPV 67 % (CI 35-90). Agreement was higher for polyps > 1 cm ($k = 0.53$) than for small ones ($k = 0.35$). Thirteen polypectomy sessions were performed in polyps > 1 cm, removing median 3 polyps per session (range 1-6). We observed only one early bleeding, treated with clips, and two cases of post-procedural abdominal pain.

Conclusions Small bowel polyps may be commonly found in polyposis syndrome. Concordance VCE-SBE is only fair. Polypectomy may be easily performed during SBE, with a low complication rate.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP375V Endoscopic Characterization of Small Bowel Amyloidosis

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DOI 10.1055/s-0043-1765659

Abstract Text This video demonstrates the endoscopic findings of small bowel amyloidosis, which are variable and include: erosions, ulcers, erythema, mucosal edema, purplish discoloration, lymphangiectasias, white lesions, nodularity and pseudotumors. The most efficient method for diagnosis is histology with enteroscopy and histology, also utilizing Congo red stain. Because there are other diseases leading to small bowel ulcers a high index of suspicion is mandatory, otherwise the diagnosis will be missed or delayed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP376 Impact of colonic cleansing with improved instructions

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DOI 10.1055/s-0043-1765660

Aims To evaluate the quality of colonic cleansing using the Boston scale, comparing the "improved colonic preparation instructions" with conventional instructions.

Methods Prospective case-control study that analyzed the results of the colonic cleansing in subjects undergoing a colonoscopy between November 2021 and September 2022. Intestinal cleanliness was evaluated using the Boston scale. Enrolled subjects were randomized into two groups "according to time of intervention", in group A or cases (from November 2021 to May 2022) conventional cleaning instructions were provided and in group B or group of intervention (from May to September 2022), in addition support was provided with improved instructions (audiovisual support and attention phone/WhatsApp, sent 3 to 5 days before the colonoscopy)

Results In group A or conventional instructions, a total of 213 cases were analyzed, 54.9% women (117) and 45% men (96), with a mean age of 58.9 years (range 19 to 89 years). In 88.2% of cases (189) there was a Boston of 9 to 6 (adequate preparation) and in 11.7% (25 cases) Boston was less than 6 (inadequate preparation). Cecal intubation was 98.1% (209 cases). In group B or enhanced instructions, data were analyzed for 207 procedures performed on 61.3% women (127) and 38.6% men (80), with a mean age of 54.5 years (range 19 to 89 years). In 92.7% of the controls (192) presented a Boston of 9 to 6 (adequate preparation) and in 7.2% (15) the Boston was less than 6 (inadequate preparation). Cecal intubation was performed in 99% of the controls (205).

Conclusions The improved instructions are an effective support to optimize internal cleaning allowing us to meet quality standards [1–12]

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP377V A case of pre-operative endoscopic management of a small pancreatic insulinoma

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DOI 10.1055/s-0043-1765661

Abstract Text We present a case of a 57-years old woman with a FNB diagnosis of insulinoma in the body of the pancreas with a size of 13 mm; during the diagnostic work up in MRI a pancreas divisum was discovered. Due to the small size of the lesion, a laparoscopic enucleation was planned. Before surgery she was referred for tattooing of the lesion in EUS to improve lesion's localization. In the same session a prophylactic pancreatic duct stent was positioned to reduce the risk of duct damage, acute pancreatitis and the development of fistula [1].

Conflicts of interest Claudio Giovanni De Angelis is a consultant for Boston Scientific, Olympus and Medi-Globe

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eP378 Chronic ischemic gastroduodenitis: an unusual endoscopic finding

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DOI 10.1055/s-0043-1765662

Aims Case report of chronic ischemic gastroduodenitis

Methods We will describe the case of this 71 years old woman as reported below.

Results A 71 years-old woman referred to our Endoscopy Unit for recurrent post-prandial epigastric pain. She was a smoker (40 packs/year) with a history of systemic hypertension and breast cancer. Since 2019, the patient had undergone several esophagogastroduodenoscopies (EGDs), which showed patchy erosions of the gastric antrum. The histological report evidenced mild gastritis (OLGA score I). A previous abdominal CT scan (without contrast medium) showed no pathological features. During the last three weeks, she has complained of worsening symptoms after an episode of suspicious gastroenteritis. We decided to repeat EGD, showing a hypoperistaltic stomach with ulcers and pale mucosa in the whole gastric antrum. The duodenum has also been involved with multiple erosions and hyperemic appearance. An abdomen CT scan with contrast medium showed a proximal abdominal aortic aneurism with total occlusion of the celiac trunk and mesenteric superior artery without radiological findings suggesting acute gastric ischemia. The patient has been treated with enteral nutrition, iv antibiotics, antiplatelet agents, high-dose statin and infusion of prostaglandins with clinical improvement. An EGD has been repeated with a demonstration of partial healing of the described ulcers and reduced palish appearance of the gastric and duodenal mucosa. The patient has been referred to Vascular Surgeon for endovascular treatment.

Conclusions Chronic ischemic gastroduodenitis is a rare condition with only few case reports described.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP379V An uncommon case of pancreatic metastasis

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DOI 10.1055/s-0043-1765663

Abstract Text We report a case of a 76-years-old woman affected by small cell lung cancer (SCLC) metastatic to mediastinal lymph nodes; after chemotherapy and radiotherapy the disease was stabile until she presented jaundice with CT evidence of an obstructive mass in pancreatic head. At endoscopic ultrasound plus e-flow, contrast-enhanced harmonic EUS and sonoelastography the mass showed typical morphologic and vascular features of neuroendocrine tumours. Pancreas can rarely be a metastatic site of a primitive SCLC: in this case EUS plus CH-EUS, e-flow and elastography well characterized the mass even before EUS-FNB revealed the histological diagnosis of neuroendocrine carcinoma [1].

Conflicts of interest Claudio Giovanni De Angelis is a consultant for Boston Scientific, Olympus and Medi-Globe

[1] Gonlugur U, Mirici A, Karaayvaz M. Pancreatic involvement in small cell lung cancer. *Radiol Oncol.* 2014; 48 (1): 11–9

eP380 A Study on the Complexity of Colon Shape Using 3D Modeling for Colonoscopist

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DOI 10.1055/s-0043-1765664

Aims From the endoscopist's point of view, this study was conducted to find out the changes in the complexity of the colon according to age and gender using 3D CT colonography.

Methods 3D modeling was performed using CT colonography files obtained from the cancer image archive website. From the endoscopist's point of view, a qualitatively classified scoring system according to the complexity of the shape of the colon was suggested. Classification criteria were scored according to the length of the colon segment, acuteness of bends, degree of displacement, etc. The more uncomplicated factors, the lower the score, and the more complex features, the higher the score. The relationship between complexity scores according to the age and gender of examinees was statistically analyzed. [1–2]

Results Eight hundred eleven models were analyzed. Complexity scores range from 1 to 5, with higher scores indicating greater complexity. Of these, 38 (4.7%) scored 1, 143 (17.6%) scored 2, 428 (52.8%) scored 3, 165 (20.3%) scored 4, and 37 (4.6%) scored 5.

The mean scores of males and females were 2.84 and 3.23, respectively, with statistically significant ($p < 0.0001$). For the complexity score, multivariate analysis was conducted on gender and age group, and both women and older age groups significantly increased the complexity score ($p < 0.0001$).

Conclusions Through the 3d colon model, it was found that the in-situ shape of the large intestine tends to become more complicated in the case of women and with increasing age.

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP381 Analysis of deeper sections from initial false-negative diagnosis after cold snare polypectomy of small adenomas < 10mm

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DOI 10.1055/s-0043-1765665

Aims While performing a realtime CADx study a negative histopathological diagnosis was obtained in a portion of specimens from lesions detected as adenoma by CADx and/or endoscopists. In the present study, we asked, if small adenomatous lesion can be found in the deeper section within the remaining embedded tissue.

Methods The polyps (cold snare polypectomy) in our CADx study were sent to a local pathology institute. Two experienced pathologists reviewed the histopathological slides independently. Standard work up is cutting 6-8 sections of the paraffin block per polyp. In our prospective CADx study cohort of 262 polyps, 34 lesions were diagnosed as non-adenomas on routine histology while AI and/or endoscopists diagnosed "adenoma". In a second step, the paraffin blocks of these polyps were completely cut in multiple serial sections. The section with most adenomatous tissue was described with number and depth of positive crypts.

Results 34 polyps (27 patients) were re-evaluated as described. In 11 (32.4%) of 34 polyps the final diagnosis changed from non-adenomatous to tubular adenoma (LGIN) and one lesion (2.9%) to sessile serrated polyp. The number of positive crypts varied from 5-70 (mean 21.42 SD 18,63), the depth of positive crypts from 20-100% (mean 65, SD 29.69). Remaining non-adenomas were 18 (52.9%) hyperplastic polyps, 2 (5.9%) lymphoid aggregates, 1 (2.9%) non-adenomatous colon mucosa, and 1 (2.9%) colonic ganglioneuroma.

Conclusions A relevant portion of adenomas was missed on standard histopathological work up. Cutting deeper sections in cases with discordant diagnosis is inevitable to correct final diagnosis. This might have an impact on the recommended surveillance intervals after polypectomy.

Conflicts of interest Oliver Pech has received speaker honorarium from Medtronic Norgine, Olympus and Fujifilm. The remaining authors declare that they have no conflict of interest.

eP382V Endoscopic Characterization of Henoch-Schönlein Purpura

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DOI 10.1055/s-0043-1765666

Abstract Text This educational video demonstrates the clinical and endoscopic findings of Henoch-Schönlein purpura (HSP), which is an immune complex IgA vasculitis. HSP can present in a wide range of ages, from children to adults. The main symptoms of HSP are abdominal pain, diarrhea, gastrointestinal bleeding and a purpuric rash involving the trunk and lower extremities. In children, Henoch-Schönlein purpura may also present with acute abdomen due to intussusception. The endoscopic spectrum of HSP is broad and includes mucosal edema, purple discoloration, erosions, ulcers, and frank necrosis. The colitis induced by HSP may be indistinguishable from ischemic colitis and inflammatory bowel disease

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP383V Ablation in stead of enucleation

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DOI 10.1055/s-0043-1765667

Abstract Text Case: 80 year old vital female. No relevant medical history. Progressive complaints fitting with recurrent hypoglycemia's. Fasting glucose 2 and insuline 21.4. Imaging showed pancreatic insulinoma of 11mm. MDT advised enucleation/ pancreatic tail resection. Alternatively EUS RFA was discussed with the patient. EUS RFA was successfully performed. Contrast enhanced EUS

prior and directly after EUS RFA showed a complete ablation of the insulinoma. The hypoglycemia's were immediately gone and did not reoccur during follow up (> 1 year). No complication occurred.

Conflicts of interest Research support from medical and Boston scientific. Speakers fee of Boston Scientific, Mylan, and Zambon

eP384 Terminal ileum assessment in screening colonoscopy. Retrospective single center 4-year study

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DOI 10.1055/s-0043-1765668

Aims The colonoscopy quality measures do not include routine ileocecal valve intubation and terminal ileum assessment. In our study we wanted to check whether and how often the endoscopists assess the terminal ileum on screening colonoscopy; how does it influence the procedure time, patients comfort, and does it reveal the pathological findings.

Methods The retrospective analysis of the screening colonoscopy examinations, performed in our department in the years 2017-2020 was performed. The included patients were divided into two groups: patients in whom only the cecum was intubated, and those in whom the small intestine was reached. We retrieved the procedure duration (minutes), patient age (years) and sex, and the results of screening colonoscopy. The pain scale (1-5) was obtained from a survey completed by the patients right after the examination.

Results A total of 2288 screening colonoscopy examinations were performed. Patients were divided into two groups: cecum reached (2023 patients), or terminal ileum intubated (265 patients). These two groups did not significantly differ in sex or reported pain score, while the patients were significantly younger (55.0 ± 6.3 vs 56.2 ± 5 years, $P = 0.006$) and the colonoscopy duration was significantly longer (22.4 ± 9.6 vs 17.9 ± 10.2 , $P < 0.001$) in the terminal ileum group. Pathological conditions in the small intestine were reported in 5/265 patients mainly non-specific inflammatory lesions in 4 patients, and nodular hyperplasia in 1.

Conclusions Small intestine intubation in screening colonoscopy, was associated with longer colonoscopy duration, and revealed few pathological conditions with no significant clinical meaning

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP385 Exploring the spectrum of incidental gastric polyps in autoimmune gastritis

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DOI 10.1055/s-0043-1765669

Aims Gastric polyps originate from abnormally proliferative gastric mucosa. Chronic atrophic autoimmune gastritis (CAAG) is an organ-specific autoimmune disease targeting parietal cells and leading to hypo/achlorhydria and hypergastrinemia, which exert a proliferative effect on the gastric mucosa. We examine the association between incidental gastric polyps and CAAG.

Methods This retrospective study evaluates consecutive histologically confirmed CAAG patients, diagnosed and followed up from January 1990 until June 2022. Clinical, biochemical, and serological data of each included patient were collected. Morphological and histological characteristics of the detected polyps and their therapeutic management were noted.

Results A total of 176 consecutive CAAG patients were included. Eighty-nine (50.5%) of them had 163 endoscopic polypoid incidental lesions. Seventy-six patients (85%) showed 130 non-endocrine lesions, 33 (37%) gastric neuroendocrine neoplasms (gNENs), and 21 (23.6%) both. Among the 130 non-neuroendocrine lesions, 118 (90.7%) were inflammatory polyps, 6 (4.6%) tubular

adenomas, and 4 (3%) fundic polyps. No differences among clinical, biochemical, or histological characteristics were highlighted between CAAG patients, except for circulating gastrin and CgA levels, higher in patients with polyps (median 668 pg/mL vs 893 pg/mL, $p = 0.0237$, and 146 ng/mL vs 207 ng/mL, $p = 0.0027$, respectively) (► Fig. 1).

Conclusions CAAG is characterized by a high occurrence of both gNENs and exocrine lesions, with an unknown risk of malignant transformation. As a pivotal driver of gastric mucosa trophism, monitoring of serum gastrin could assess the risk of aberrant epithelial proliferation in CAAG.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	CAAG patients without polyps	CAAG patients with polyps	p value
APCA positivity (n. of patients)	78 (89.7%)	67 (75.3%)	1.00
OLGIM II-III-IV (n. of patients)	34 (39.1%)	42 (47.2%)	0.49
Gastrin (median)	668 pg/mL [IQR 340-1200]	893 pg/mL [IQR 481-1300]	0.02
Chromogranin A (median)	146 ng/mL [IQR 106-219]	207 ng/mL [IQR 126-360]	0.00

► Fig. 1

eP386 Incidence and prevalence of gastric neuroendocrine tumors in patients with chronic atrophic autoimmune gastritis

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DOI 10.1055/s-0043-1765670

Aims The incidence of type I gastric neuroendocrine neoplasms (gNEN) has increased substantially over the past 50 years, although studies evaluating the association with chronic autoimmune atrophic gastritis (CAAG) in the long term have been inconsistent. The main aim was to evaluate the incidence of type I gNENs in a cohort of CAAG patients with a long follow-up.

Methods From October 2020 to May 2022, patients with a histologic diagnosis of CAAG were enrolled; circulating levels of chromogranin A (CgA) and gastrin were assessed at enrollment. Included patients underwent regular endoscopic follow-up, to assess for gastric neoplastic lesions, enterochromaffin-like (ECL) cell hyperplasia, and the development of gNEN.

Results We included 176 patients [142 women, median age 64 years (51-41)], diagnosed with CAAG from January 1990 to June 2022. At enrollment, 116 patients (65.9%) had ECL hyperplasia, of which 29.5% had simple/linear, 30.7% had micronodular, and 5.7% had macronodular. The median follow-up was 5 years (3-7.5). After 1032 person-years, 33 patients developed a total of 33 gNEN type I, with an incidence rate of 0.032 person-years, corresponding to an annual cumulative incidence of 3.2%. Circulating gastrin levels were significantly higher in CAAG patients who developed gNENs [median 992 pg/mL IQR = 449-1500 vs 688 pg/mL IQR = 423-1200, $p = 0.03$]; similarly, circulating CgA levels were significantly higher in patients with gNENs [median 227 ng/mL IQR = 124-421 vs 174 ng/mL IQR = 77-265, $p = 0.01$].

Conclusions Type I gNENs represent a non-negligible complication in patients with CAAG, due to hypergastrinemia. Circulating CgA levels are associated with the presence of gNENs.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP387 Endoscopic predication of invasive depth in early gastric cancer by magnifying endoscopy with narrow-band imaging: a pilot feasibility trial

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DOI 10.1055/s-0043-1765671

Aims Accurate prediction of the depth of invasion in early gastric cancer (EGC) is a crucial step in selecting patients suitable for endoscopic resection. A few studies have shown the potential for magnifying narrow-band imaging (M-NBI)

to play a beneficial role in predicting invasion depth. Therefore, this study aims to estimate the accuracy and feasibility of a simplified M-NBI classification for predicting invasion depth of early gastric cancer.

Methods A total of 72 patients undergoing M-NBI before endoscopic or surgical resection for EGC were included. Exclusion criteria were previous gastrectomy, liver cirrhosis, chronic kidney disease, and the use of anti-thrombotic agents or non-steroidal anti-inflammatory drugs. Previously proposed M-NBI features were adopted to assess feasibility and accuracy. We classified NBI findings into three categories according to the surface and vascular patterns as follows: abnormally dilated and tortuous blood vessels (Type 1), sparse and irregular microvessels (Type 2), and avascular areas (Type 3).

Results The mean age of the enrolled patients was 68.7 ± 10.2 years, and 49 patients (68%) were male. The lesions were mainly located in the mid (44.4%) and lower (40.3%) third part of the stomach. Of 72 patients, 14 (33.3%) had submucosal cancer based on final pathologic results. Although the sensitivity of each category (type 1–3) was low (31.2, 51.1, and 69.1%), specificity was relatively high (72.5, 83.1, and 95.1%). Likewise, negative predictive values of each category were high (93.4, 94.6, and 95.9%).

Conclusions Although the result showed disappointing accuracy of M-NBI for predicting the depth of invasion, it still has the potential to discriminate mucosal cancer before endoscopic resection.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP388V Endoscopic treatment of gastric perforation, bilio-digestive anastomosis dehiscence and jejunal stamp leak after radical pancreatectomy

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DOI 10.1055/s-0043-1765672

Abstract Text A 63-years-old man underwent duodenopancreatectomy for an adenocarcinoma of the Ampulla of Vater. Ten days after the procedure, since pancreaticojejunal anastomosis leak was documented, the patient underwent radical pancreatectomy. A few days after, the patient presented ischemic gastric perforation, biliodigestive anastomosis and jejunal stamp leaks, so endoscopic exam was performed. After peritoneal necrosectomy, multiple enteral and colonic fc-SEMS were placed to connect the two cavities and to exclude the necrotic collection and a biliary fc-SEMS was placed. Fifty-four days after, a fibrotic tunnel connecting gastric cavity and jejunal stamp was documented and no extraluminal passage of contrast medium was observed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP389 Diagnostic accuracy of probe-based confocal laser endomicroscopy and narrow band imaging in detection of gastric neoplasia

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DOI 10.1055/s-0043-1765673

Aims Probe-based confocal laser endomicroscopy (pCLE) and magnified narrow band imaging (mNBI) have been introduced as methods to reduce biopsy, but studies comparing the two are rare. In this study, we estimate the accuracy of pCLE and mNBI for diagnosis of gastric neoplasia.

Methods MNBI and pCLE were performed for patients in whom WLE and initial endoscopic biopsy failed to discriminate between malignant and benign. The histopathology diagnosis was used as reference standard.

Results In 50 study participants, 58 lesions in the stomach were examined. A comparison of pCLE and mNBI shows a numerically higher accuracy and sensitivity for pCLE in the lesions with gastric cancer. The accuracy, sensitivity, and specificity of pCLE were found to be 81.0%, 87.5%, and 73.0%, respectively, as

compared with 70.6%, 59.3%, and 84.6%, respectively. However, only sensitivity was statistically significant ($P = 0.01$).

A comparison of pCLE and mNBI shows a statistically significant higher accuracy ($P < 0.005$) and sensitivity ($P < 0.001$) for pCLE in the lesions with gastric cancer or high-grade dysplasia. The accuracy, sensitivity, and specificity of pCLE were found to be 87.9%, 94.2%, and 78.2%, respectively, as compared with 65.5%, 54.2%, and 82.6%, respectively (Table 1). The Area under curve (AUC) for pCLE and mNBI were 0.863 (95% CI, 0.747–0.939, $p < 0.0001$) and 0.684 (95% CI, 0.549–0.800), $p = 0.0017$) (► Table 1).

Conclusions Our study suggests that pCLE has superior accuracy and sensitivity as compared with mNBI for detection of cancer and high-grade dysplasia in gastric lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	pCLE	mNBI	P value
Accuracy (%)	87.9	65.5	0.0045
Sensitivity (%) / Specificity (%)	94.2 / 78.2	54.2 / 82.6	0.0001 / 0.7101
PPV (%) / NPV (%)	86.8 / 90.0	82.6 / 54.2	0.6569 / 0.0070

► **Table 1** Comparison of the accuracy, sensitivity, specificity, PPV and NPV of pCLE to mNBI.

eP390 Are the colonic ESD french results with on-demand double-clip-traction strategy reproducible in other Western centers? Analysis of a Belgian non-academic multicenter registry

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DOI 10.1055/s-0043-1765674

Aims We aimed to evaluate the outcome of colonic ESD with on-demand double clip traction (DCT) strategy in 3 Belgian non-academic tertiary referral centers.

Methods Using a common prospectively maintained database, we retrospectively analyzed the results of all consecutive colonic ESD performed between September 2019 and September 2022 in three Belgian non-academic centers. Rectal ESD were excluded from the analysis.

Results 73 colonic ESD were performed in 3 centers by 5 operators (2019-20:n=11; 2020-21:n=8; 2021-22:n=54). The mean age of the patients was 69.3 years. The mean size of the lesions was 47.6mm (LST-G: 66%). Lesions localizations were sigmoid:31, left:8, splenic flexure:1, transverse:7, hepatic flexure:2, right:11, caecum:10, ileo-cecal valvula:3. The mean duration time was 93.4 min with a mean speed of 18 mm²/min. DCT with rubber-band strategy was used in 59% of the cases. The en-bloc, R0 and curative resection rate were 97%, 90% and 89%, respectively. The perforation rate was 2.7%, all managed endoscopically. Six patients (8.2%) required secondary surgery because of complete failure of endoscopic resection (2/73) or for unfavorable histological reasons (4/73). Delayed bleeding occurred in 4.1%. The mean hospitalization duration was 1.1 days. Final specimen histology was SSA: 1.4%, LGD: 46.5%, HGD: 32.9%, intramucosal adenocarcinoma (ADC): 6.8%, sm1ADC: 6.8%, >sm1ADC: 5.5%.

Conclusions This Belgian non-academic multicenter registry analysis shows that colonic ESD is safe and reproducible, with results in terms of en-bloc, R0, curative resection rate, speed and complication rate comparable with those of large french teams.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP391 Does the quality criteria of the exploration with capsule endoscopy improve after intervention?

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DOI 10.1055/s-0043-1765675

Aims To assess whether an endoscopy unit stepped up its results in the quality analysis in capsule endoscopy after starting improvement measures.

Methods A retrospective descriptive study. We firstly analysed the ESGE quality standards in capsule endoscopy in 2021. To improve, we presented the results to colleagues and informed them about the appropriate indications, we used simethicone before the capsule ingestion, and we standardized the report. The quality analysis was repeated in 2022.

Results We performed 81 capsule endoscopy procedures in 2021 and 62 in 2022. Compliance of quality criteria and evolution from 2021 to 2022 are summarized in Table 1.

Conclusions 1. Appropriate indications are associated with higher diagnostic yields, protect patients from potential harms and optimize the use of limited resources. Formation of colleagues is an intervention which may help to perform this procedure only according to clinical guidelines.

2. Currently, the assessment of preparation is based on subjective judgments. In our centre we use simethicone and we recommend maintaining 2 hours of fasting and 4 hours without solids after taking the capsule. However, other measures should be evaluated to reach the target standard in cleanliness [1].

3. The capsule endoscopy is a diagnostic procedure. If lesions are found, the enteroscopy should be considered. We include the recommendation in the report based on the availability of double balloon enteroscopy. Disposing of spiral enteroscopy would improve our results (► **Table 1**).

4. Routine analysis of performance results is an effective measure to improve the outcomes and provides quality health care.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Spada C, McNamara D, Despott E] et al. Performance measures for small-bowel endoscopy: a European Society of Gastrointestinal Endoscopy (ESGE) quality improvement initiative. *United European Gastroenterol J* 2019; 7 (5): 614–641

Domain	2021 (n=81)	2022 (n=62)	Target standard (compliance: yes/no)	Evolution 2021 → 2022
Indication according to ESGE guideline	78.82% In anaemia 59.52%	93% In anaemia 83.3%	≥95% (no)	↑
Rate of adequate bowel preparation	64.21%	66.1%	≥95% (no)	↑
Lesion detection rate	69%	54.4%	≥50% (yes)	↓
Appropriate referral for enteroscopy	29.79%	35.71%	≥90% (no)	↑

► **Table 1**

eP392 Comparative Diagnostic Performance of Different Techniques for Endoscopic Ultrasound-Guided Fine-Needle Biopsy of Solid Pancreatic Masses: A Network Meta-analysis

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DOI 10.1055/s-0043-1765676

Aims There is limited evidence on the comparative diagnostic performance of tissue sampling techniques for endoscopic ultrasound (EUS)-guided fine-needle biopsy (FNB) of pancreatic masses. We performed a systematic review with network meta-analysis to compare these techniques.

Methods Rates of sample adequacy and blood contamination using FNB needles were evaluated. Direct and indirect comparisons were performed among slow-pull technique, “dry suction”, “modified wet suction”, or “no suction”. Results were expressed as risk ratio (RR) and 95% confidence interval (CI).

Results Overall, 9 RCTs (756 patients) were identified. On network meta-analysis, “no suction” technique was significantly inferior to the other techniques (RR 0.85, 95% CI 0.78-0.92 vs slow pull; RR 0.85, 0.78-0.92 vs “dry suction”; RR 0.83, 0.76-0.90 vs “modified wet suction”) in terms of sample adequacy. Consequently, “modified wet suction” resulted as the best technique (SUCRA 0.90), with “no suction” showing poorer performance in terms of sample adequacy (SUCRA score 0.14). “Dry suction” was associated with significantly higher rates of blood contamination as compared to slow pull (RR 1.44, 1.15-1.80), whereas “no suction” led to less blood contamination of samples.

Conclusions “Modified wet suction” seems to provide high rates of integrity and adequate samples, although with high blood contamination. “No suction” technique performs significantly worse than other sampling strategies.

Conflicts of interest Alessandro Fugazza: Consultant for Boston Scientific; Stefano Francesco Crinò: Consultant for Steris Endoscopy; Silvia Carrara: Consultant for Olympus; Benedetto Mangiavillano: Consultant for Taewoong Medical; Cesare Hassan: Consultant for MicroTech and Boston Scientific; Alessandro Repici: Consultant for Boston Scientific and Medtronic, grant support from Fujifilm. All other authors disclosed no financial relationships.

eP393 TOP 100 and detection of colorectal lesions in colon capsule endoscopy: more than meets the eye

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DOI 10.1055/s-0043-1765677

Aims Colon capsule endoscopy (CCE) can identify colorectal lesions (CRL). However, there are no studies reporting the accuracy of TOP100, a CCE software tool, for automatic detection of CRL in CCE. We aimed to evaluate the perfor-

mance of TOP100 in detecting CRL in patients submitted to CCE for incomplete colonoscopy(IC) compared to classic reading(CR).

Methods Retrospective cohort-study including all adult patients submitted to PillCam COLON2 Medtronic for IC between 2017-2022. One experienced reader performed CR and other, blinded to CR results, used TOP100 to identify CRL. Detection of CRL, namely polyps, angiectasia, blood, diverticula, erosions/ulcers, neoplasia and subepithelial lesions(SEL) was assessed and TOP100 performance was evaluated.

Results 188 CCE were included. Prevalence of polyps, angiectasia, blood, diverticula, erosions/ulcers, neoplasia and SEL using TOP100 and CR, was 45.7%vs45.7%, 9.0%vs8.0%, 1.6%vs1.6%, 48.4%vs48.4%, 0.5%vs0.5%, 0.5%vs0.5%, 0.5%vs1.1%, respectively. TOP100 and CR had a strong agreement(Kappa 0.897,P<0.001) regarding the presence of CRL and in detecting polyps(Kappa 0.893,P<0.001), angiectasia(Kappa 0.932, P<0.001), blood(Kappa 1.000,P<0.001), diverticula(Kappa 0.957,P<0.001), erosions/ulcers(Kappa 1.000,P<0.001), neoplasia(Kappa 1.000,P<0.001) and SEL(Kappa 1.000,P<0.001). There was 88.3%(n=166) of complete agreement in the detection of CRL. However, in eleven CCE, TOP100 identified lesions missed using CR and in eleven CCE CR identified lesions missed using TOP100.

Conclusions TOP100 is a useful tool in assisting the reader in decreasing missed CRL and should be systematically assessed after CR of the entire video of CCE.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP394 Diagnosis of pancreatic and adrenal metastases of uterine leiomyosarcoma with endoscopic ultrasound fine needle aspiration and biopsy (FNA/B): a case report

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DOI 10.1055/s-0043-1765678

Aims Uterine leiomyosarcoma is a rare and aggressive tumor. The most frequent sites of metastasis are the lung, skin and peritoneum with anecdotal cases of pancreatic and adrenal localizations. In selected cases, surgical excision of metastases is possible, but previous histological confirmation is essential. EUS FNA/B is becoming pivotal for characterization of secondary lesions difficult to approach with standard methods (i.e. videolaparoscopy).

Methods We report the case of a 66-years-old woman who was diagnosed with uterine leiomyosarcoma in May 2020 and who underwent bilateral hysterectomy. A follow-up PET/CT scan performed in August 2022 showed a 34 x 32 mm hypercaptating left adrenal mass and a 20 mm pancreatic body-tail formation. To histologically characterize the lesions, an EUS FNA/B was performed. On ultrasonographic exploration, an inhomogeneous hypoechoic pancreatic mass of 50 x 38 mm in size and a hypoechoic with internal anechoic areas adrenal mass measuring 38 x 36 mm were detected. FNA respectively with 22G and 19G Boston needles were performed on both lesions.

Results Histological examination on both masses showed leiomyosarcoma. After multidisciplinary team discussion, the patient started chemotherapy, which is still ongoing.

Conclusions Only rare cases of pancreatic and adrenal metastases of leiomyosarcoma are described in literature. Differential diagnosis between primary and secondary lesions is critical. The retroperitoneal localization makes histologic typing challenging; however, in our case both lesions were approachable echo-endoscopically. Echoendoscopy is a minimally invasive method, cost effective, that does not require hospitalization, reducing stress for the patient.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP395 Impact of biliary stents on diagnostic yield of endoscopic ultrasound-guided tissue acquisition of solid pancreatic head lesions: a systematic review and meta-analysis

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DOI 10.1055/s-0043-1765679

Aims There is a paucity of evidence assessing the impact of biliary stents on endoscopic ultrasound fine-needle biopsy or fine-needle aspiration of pancreatic head masses. Aim of the study was to compare the diagnostic performance of endoscopic ultrasound-guided tissue sampling in patients with or without biliary stents.

Methods We searched PubMed/Medline and Embase databases through March 2022 and identified 7 studies (2458 patients). Primary outcome was diagnostic accuracy. We performed a pairwise meta-analysis using a random effects model and expressed results as odds ratio or mean difference along with 95% confidence interval.

Sensitivity analysis concerning the primary outcome (diagnostic accuracy)					
Variable	Subgroup	No. of Studies	No. of patients	Odds ratio (95% CI) p value	Within-group heterogeneity (I ²)
Type of stent	Plastic	5	Stent: 573 No stent: 1095	0.89 (0.51-1.54) 0.67	21%
	Metal	4	Stent: 342 No stent: 1021	0.54 (0.17-0.97) 0.05	17%
Needle	FNB	3	Stent:471 No stent: 744	0.64 (0.43-0.95) 0.03	7%
	FNA	1	Stent: 150 No stent: 64	1.36 (0.38-4.82) 0.63	NA
Availability of ROSE	Yes	2	Stent: 225 No stent: 169	0.69 (0.23-2.06) 0.51	34%

Abbreviation: CI, Confidence Interval; FNA, fine-needle aspiration; FNB, fine-needle biopsy; NA, Not Applicable; ROSE, rapid on-site cytologic evaluation

► Table 1

Results Pooled accuracy was 85.4% (95% confidence interval 78.8%-91.9%) and 88.1% (83.3%-92.9%) in patients with and without stent, respectively with no significant difference between the two approaches (odds ratio 0.74, 95% confidence interval 0.53-1.02; p=0.07). Patients with plastic stents showed no statistical difference (odds ratio 0.89, 0.51-1.54; p=0.67) whereas patients with metal stents demonstrated a significant difference (odds ratio 0.54, 0.17-0.97; p=0.05) (Table). Diagnostic accuracy with fine-needle biopsy was significantly lower in patients with biliary stents (odds ratio 0.64, 0.43-0.95; p=0.03), however, no difference was observed with fine-needle aspiration (► Table 1).

Conclusions Compared to a plastic stent, the presence of a metal stent negatively impacts the diagnostic yield of endoscopic ultrasound tissue sampling for pancreatic head lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP396 Could the Boston bowel preparation scale in colonoscopy help to predict an inadequate preparation in capsule endoscopy?

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DOI 10.1055/s-0043-1765680

Aims To evaluate the Boston bowel preparation scale (BBPS) in the colonoscopy in patients who undergo a capsule endoscopy and analyze its relationship with the cleanliness in the capsule.

Methods A retrospective descriptive study of the capsule procedures performed in our hospital between 2021-22. The preparation in capsule endoscopy is categorized as adequate/inadequate according to the adequacy assessment of Brotz. [1]

Results Of the 143 capsule explorations, there is a previous colonoscopy and registration of the BBPS in 133 (93%). Of these 133 examinations, in 87 (65.4%) the preparation in the capsule was adequate, and in 46 (34.6%) inadequate. In the procedures with adequate preparation, the mean BBPS value was 7.9, median 9, and mode 9. 50.6% of patients with adequate preparation had a previous colonoscopy with BBPS 9.

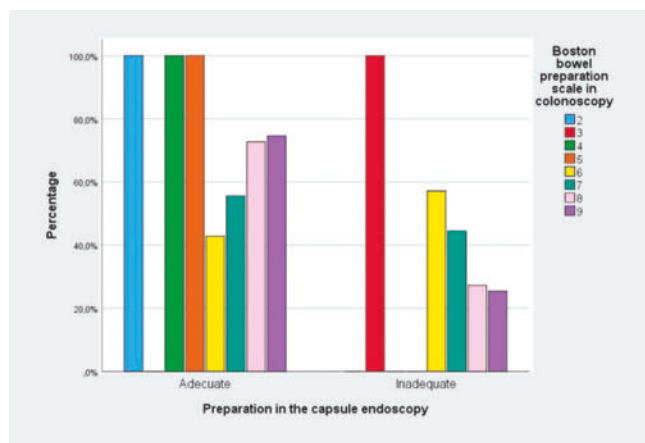
Meanwhile, in patients with inadequate preparation, 97.8% had the previous colonoscopy with BBPS ≥ 6 . The mean Boston value was 7.35, the median 7, and the mode 6.

Conclusions 1. In our series, although 97.8% of patients with inadequate preparation in capsule have a BBPS ≥ 6 , the mean and the median value of the BBPS was lower than in patients with adequate preparation (► Fig. 1).

2. Half (50.6%) of the patients with adequate preparation in the capsule had a previous colonoscopy with excellent preparation (BBPS = 9).

3. The value of the BBPS in the colonoscopy prior to the capsule endoscopy could be used as a predictor of the preparation in the capsule and thus take additional measures.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Rondonotti E, Spada C, Adler S et al. Small-bowel capsule endoscopy and device-assisted enteroscopy for diagnosis and treatment of small-bowel disorders: European Society of Gastrointestinal Endoscopy (ESGE) technical review. *Endoscopy* 2018; 50 (4): 423–446



► Fig. 1

eP397 Modified Multiplier SES-CD (MM-SES-CD) and laboratorial Crohn's disease activity parameters: is there any association?

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DOI 10.1055/s-0043-1765681

Aims Modified Multiplier Simple Endoscopic Score for Crohn's Disease (MM-SES-CD) is a new endoscopic severity assessment tool that can predict one-year endoscopic remission (ER) in patients with Crohn's Disease (CD). However, there is scarce data regarding its relationship with laboratorial parameters, namely C-reactive protein (CRP) and fecal calprotectin (FC). We aimed to analyze the association between MM-SES-CD and these laboratorial parameters.

Methods Retrospective cohort-study including all ileocolonoscopy performed in adult CD patients between January 2020–October 2022 with CRP (mg/dL) and FC (ug/g) collected within one month. MM-SES-CD was calculated, and severity categories were defined as ER (< 14), mild (≥ 14 to < 31), moderate (≥ 31 to < 45), and severe (≥ 45). MM-SES-CD values were correlated and compared, according to severity categories, with laboratorial biomarkers.

Results A total of 272 ileocolonoscopy from 218 CD patients were included. Patients with ER had significantly lower median CRP (2.9 vs 7.7, $P < 0.001$) and FC (128 vs 587, $P < 0.001$) than patients with active disease. Additionally, median CRP (2.9 vs 6.0 vs 16.0 vs 30.7, $P < 0.001$), and median FC (128 vs 531 vs 637 vs 877, $P < 0.001$) were significantly different between MM-SES-CD severity categories (remission vs mild vs moderate vs severe), respectively. CRP and FC optimal cut-offs for ER were 8.5 mg/dL (Se 74.7%, Spe 43.6%, NPV 77.4%, PPV 40.0%) and 471.5 ug/g (Se 62.6%, Spe 87.3%, NPV 82.3%, PPV 71.3%), respectively.

Conclusions This is the first study reporting an association between CRP and FC and increasing degrees of CD disease activity assessed by MM-SES-CD. A CRP < 8.5 mg/dL and a FC < 471.5 ug/g are suggested as cut-offs associated with ER.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP398 Unusual GI hemorrhage case report

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DOI 10.1055/s-0043-1765682

Aims We will present the case of an 84-year-old patient with a history of high blood pressure presented to the emergency room with lower abdominal pain and hematochezia.

Methods Clinical: hemodynamically stable. Biological: WBC 32700 /microL, hemoglobin = 8.1 g/dL, CRP = 292 mg/L. CT-scan: No contrast extravasation in the digestive tract, infrarenal aortic aneurysm (130 mm cranio-caudal), plus a retroaortic abscess with stenosis of the inferior vena cava. Vascular surgery consultation: no surgical indication -> admission to the gastroenterology department. Emergency upper endoscopy: adherent clot in the fornix, stasis fluid. Rectosigmoidoscopy: mucosal lesions suggestive of ischemic colitis.

Results Re-evaluation of the CT-scan: suspicion of an aorto-duodenal fistula. Second upper endoscopy: gastric mucosa, bulb and D2 lined with fresh blood. On withdrawal, an infrapapillary lesion suggestive for an aortoenteric fistula. Duodenoscopy Re-examination: an erosion with a diameter of 10 mm with a deep punctate hole – most likely aortoenteric fistula. The patient was transferred to the cardio-vascular surgery section: double-layer duodenorrhaphy and aorto-aortic interposition of a silver Dacron prosthesis were done.

Conclusions The particularity of the case was represented by the rare cause of haemorrhage with difficult diagnosis. The approach and treatment required a multidisciplinary team and a good cooperation. The patient was discharged after 17 days with a good general condition.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP399V Combined over-the-scope and through-the-scope clips for endoscopic closure of a gastropleural fistula after Ivor-Lewis esophagectomy

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DOI 10.1055/s-0043-1765683

Abstract Text A 48-year-old male with a persistent gastric conduit leak after Ivor-Lewis esophagectomy, despite 3 sessions of EVT, was referred to our team. Endoscopy confirmed persistence of a 25mm long defect, however, no contrast extravasation could be seen. Retroflexion allowed identification of a 4mm orifice, located deeply in the defect's proximal end, not visible in antelexion. Contrast instillation and guidewire passage confirmed the presence of a gastropleural fistula. A TTS-clip was placed at defect's distal end and an OTS-clip was deployed at defect's proximal end, enveloping the area of the 4mm orifice. One additional TTS-clip was placed between OTS-clip and previous TTS-clip to ensure complete closure of the fistula orifice [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.
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 [2] Laad AM, Al-Bayati I, Shah P et al. Endoscopic closure of a gastropleural fistula. *Endoscopy* 2015; 47: (Suppl 1): E131–132
 [3] Merrit RE, Kneuert PJ, D Souza DM et al. Total laparoscopic and thoracoscopic Ivor Lewis esophagectomy after neoadjuvant chemoradiation with minimal overall and anastomotic complications. *J Cardiothorac Surg* 2019; 14: 123

eP400 Gender authorship in major US and European gastroenterology journals: the gap is still unfilled

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Aims It is well known that journal authorship is associated with career advancement. In 2012 in USA-based journals the percentage of first female author (FA) was 29.3% and of senior female author (SA) was 14.5%. The aim of this study is to evaluate gender equity in authorship in major GI American and European journals in the past three years.

Methods Group 1 journals (G1-USA) were *Gastroenterology*, *Hepatology*, *American J. of Gastroenterology*, *Clinical J. of Gastroenterology and Hepatology (CGH)* and *Gastrointestinal Endoscopy (GIE)*. Group 2 (G2-European) included *J. of Crohn's and Colitis*, *Digestive and Liver Disease*, *J. of Hepatology*, and *Endoscopy*. Original articles and editorials included were. Data points collected were first, second and senior authors' gender, institutional nationality, type of the article, study design, type of research and topic. A chi-square (χ^2) test and univariable logistic regression analysis were used [1].

Results A total of 3748 articles were included. The overall proportion of FA was 33.1% (31.4% in G1 and 35.6% in G2); for SA was 21.1% (20.1% in G1 and 22.5% in G2). The lowest percentage of FA was in GIE (24.5%), the lowest SA was in CGH (9.1%). Stratified by topic, the lowest rates of FA and SA were in

operative endoscopy (20.0% and 13.0%). The highest rates of FA were in lower GI (39%), the highest SA in Hepatology (24%). Finally, a female physician has a higher possibility to be a FA if the senior is female than male ($p < 0.002$).

Conclusions Gender biases are still present, shown by the significant association of female first/female senior author and the stratification by the topic.

Conflicts of interest Authors do not have any conflict of interest to disclose.
 [1] Long MT, Leszczynski A, Thompson KD, Wasan SK et al. Female authorship in major academic gastroenterology journals: a look over 20 years. *Gastrointest Endosc* 2015; 81 (6): 1440–1447

eP401 30-day mortality after percutaneous endoscopic gastrostomy: validation of Sheffield Gastrostomy Score and determination of other risk factors

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DOI 10.1055/s-0043-1765685

Aims Insertion of percutaneous endoscopic gastrostomy (PEG) tube allows enteral feeding but isn't free from risks. The Sheffield Gastrostomy Score (SGS) was developed to predict 30-day all-cause mortality among patients undergoing PEG insertion based on age and serum albumin. The result varies between 0 and 3 and is associated to mortality risk. Our aim was validation of the SGS and determine other risk factors associated with mortality [1–2].

Methods Demographic, biochemical and outcome data were obtained from all patients undergoing PEG insertion between August 2017 and November 2021. Observed 30-day mortality rates were then compared to those predicted by the SGS using the chi-square test. Univariate analysis and receiver operating characteristic (ROC) curve were made to determine the score's discriminative capacity.

Results Complete records were obtained from 134 procedures. Forty five (33.6%) were female and the main indication for procedure was neurological disease. Mean age was 67 years (+14.7). The 30-day mortality rate was 16.4% and significantly higher in patients with lower levels of albumin ($p < 0.001$), high levels of C-reactive protein ($p < 0.001$) and age > 65 years ($p = 0.044$). Observed and expected 30-day mortality rates given SGS are demonstrated in Table 1. The calculated area under the ROC curve was 0.728 (95% confidence interval: 0,624–0,833, $p = 0,001$).

Conclusions Although showing good predictive capability, only SGS of 1 obtained a mortality like expected. Another possible predictive factor identified was C-reactive protein. This suggests that other unknown variables can be subject of study and a new score be created (► Table 1).

SGS	No. patients	No. deaths	Observed	Expected (p-value)
0	24	1	4.2%	0.0% (0.024)
1	54	3	5.6%	7.0% (0.677)
2	52	18	34.6%	21.3% (0.026)
3	4	0	0.0%	37.3%

► Table 1 Observed vs. expected 30-day mortality in patients undergoing PEG.

Conflicts of interest Authors do not have any conflict of interest to disclose.
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[2] Leeds J, McAlindon ME, Grant J, Robson HE, Morley SR, James G et al. Albumin level and patient age predict outcomes in patients referred for gastrostomy insertion: internal and external validation of a gastrostomy score and comparison with artificial neural networks. *Gastrointest Endosc* 2011; 74 (5): 1033–9

eP402V “Over-the-scope bleeding”: endoscopic management of an unexpected complication

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DOI 10.1055/s-0043-1765686

Abstract Text An 83-year-old male with history of iatrogenic colonic perforation in a diverticulum ostium, successfully closed with an 14/6t over-the-scope clip (OTS-clip), presented two weeks later with significant rectal bleeding. Colonoscopy was performed and the previously placed OTS-clip was identified without evidence of dehiscence. Nevertheless, an adherent clot was seen over the mucosa embedded in the OTS-clip. After clot detachment with water, oozing bleeding from a protruded vessel was identified. Bleeding was stopped after injection of diluted adrenaline and placement of four through-the-scope clips. We hypothesize that the bleeding may have originated in an eroded vessel from the diverticulum wall entrapped in OTS-clip [1–2].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Paspatis GA, Arvanitakis M, Dumonceau JM et al. Diagnosis and management of iatrogenic endoscopic perforations: European Society of Gastrointestinal Endoscopy (ESGE) Position Statement – Update 2020. *Endoscopy*. 2020; 52: 792–810

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eP403 Management of iatrogenic biliary injuries in a tertiary medical-surgical center

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DOI 10.1055/s-0043-1765687

Aims We wanted to report the experience of our center concerning the patients with iatrogenic biliary injuries. The primary objective was the long-term outcome of iatrogenic biliary injury management. Secondary objectives were the success rate of each repair techniques, according to injury location, the evaluation of complications, the correlation between cholangio-MRI and cholangiography on injury location, and the contribution of EUS.

Methods We retrospectively included all patients managed in our center for iatrogenic bile duct injury with biliary fistula. Success was defined as the absence of dependence on biliary drainage, revision surgery, secondary biliary cirrhosis, or biliary injury-related death.

Results We included 64 patients (55% of post-cholecystectomy injuries). 67% had primary endoscopic management (83% in total). We report an overall success rate of 91.2%, 95.1% for endoscopic management, 86% for percutaneous and endoscopic management, 77.8% for surgical management. The key treatment for success was endoscopy in 69% of cases. We report a failure rate of 8.2% and 5% of endoscopic complication. The success rate was significantly better in case of Strasberg A injury ($p=0.0337$). The concordance rate on the characterization of the biliary injury between cholangio-MRI and the cholangiography was 89%. There was a trend in disfavor of success when time to diagnosis increased ($p=0.0652$). The other factors studied did not show a significant difference.

Conclusions The management of an iatrogenic sub hilar biliary injury must be managed by exclusive endoscopy as soon as possible. In case of diagnostic doubt on the localization or a complex injury, a transfer to a tertiary center for a combined management is essential.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP404V Single-Tunnel Z-POEM

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DOI 10.1055/s-0043-1765688

Abstract Text This video illustrates a modified Z-POEM with creation of a single tunnel instead of two, in an effort to simplify the procedure and reduce the total duration. After the initial mucosal incision, the lifting agent is injected in both sides of the septum. A single tunnel is then created at side of the diverticulum, followed by division of the septum. The submucosal cushion at the esophageal side is maintained by repeated injections of the lifting agent. This is crucial to avoid damage of the esophageal mucosa during myotomy. At the end of the procedure the mucosotomy is closed with clips.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP405 Application of the modified ALDRETE score in the assessment of resuscitation after gastrointestinal endoscopy: preliminary results of a randomized clinical trial

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DOI 10.1055/s-0043-1765689

Aims The modified ALDRETE score evaluates recovery of patients after administration of anesthesia for surgical procedures. Aim of this study is to evaluate application of the modified ALDRETE score in monitoring of patients after undertaking gastrointestinal endoscopy procedure.

Methods Prospective randomized study enrolling patients undergoing diagnostic or therapeutic gastrointestinal endoscopy, with 1:1 randomization into two groups (Group A: assessment in resuscitation room using the modified ALDRETE score, exit when score = 9 and Group B: exit after empirical evaluation). Possible late events or complications were recorded by contacting participants by telephone 24 hours post endoscopy.

Results 200 patients were randomized (Group A: 101 and Group B: 99), 105 (52.5%) are women with average age 64.2 ± 10.6 yrs. Mean dose of medications used (midazolam, fentanyl and flumazenil) were comparable between the two groups. Average time in the resuscitation room was 20.2 ± 7.6 minutes overall; this time was statistically significantly longer ($p < 0.001$) for patients in group B (24.1 ± 8.2 minutes) compared to group A (16.2 ± 4.1 minutes). At 24-hours follow-up, significantly more patients in group B compared to group A ($p = 0.003$) reported headache (37.6% vs. 19.2%).

Conclusions Preliminary results of this study show that application of the modified ALDRETE score to monitor patients after gastrointestinal endoscopy is associated with shorter length of stay in the recovery room.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP406V Successful Closure of a Refractory Gastro-bronchial Fistula Combining Endoscopic Submucosal Dissection and Argon Ablation plus single-loop-and-clip Techniques

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DOI 10.1055/s-0043-1765690

Abstract Text A 78-year-old male, late fistula after Ivor-Lewis esophagectomy, communication between gastroplasty-right bronchus. Refractory to several endoscopic therapies (clips, tissue adhesive, stents). Fistula closure after combination of submucosal dissection assisted by clip-with-line traction technique of the mucosal flap (to allow deep dissection) plus over-the-scope-clip; and ablative technique (argon plasma coagulation) with single loop-and-clips technique (KING-Closure) In two consecutive endoscopic procedures. Comments: Successful treatment of a chronic persistent fistula between the digestive tract and the trachea-bronchial tree, by combination of various endoscopic closure techniques. [1]

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Lafeuille P, Wallenhorst T, Lupu A et al. Endoscopic submucosal dissection combined with clip for closure of gastrointestinal fistulas including those refractory to previous therapy. *Endoscopy* 2022; 54: 700–705

eP407 Prospective and comparative observational study between Single-Balloon Enteroscopy and Motorized Spiral Enteroscopy

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DOI 10.1055/s-0043-1765691

Aims Motorized Spiral Enteroscopy (MSE) emerged as a technique with higher insertion depth and shorter exploration time. However, comparative studies with previous techniques are scarce. We aimed to compare Single-Balloon Enteroscopy (SBE) and MSE efficacy and safety.

Methods Prospective and comparative observational study conducted on patients undergoing SBE or MSE in a tertiary hospital from December 2019 to July 2022. Demographic characteristics, procedure indication, small bowel exploration time (SBET), technical success, depth of maximum insertion (DMI), diagnostic, therapeutic, interventional yield and adverse events (AE), were collected. Data was analyzed using IBM SPSS Statistics 28.0 [1–5].

Results A total of 323 enteroscopies (152 SBE and 171 MSE) were performed in 267 patients. Suspected small bowel bleeding was the most frequent indication (72.2%). Insertion was antegrade in 213 cases (123 SBE/ 90 MSE) and retrograde in 110 cases (29 SBE/ 81 MSE). Technical success was 98% with SBE and 92.35% with EMS ($p = 0.019$), performing complete enteroscopies only with MSE (0% vs 10.4%, $p < 0.001$). For the antegrade route, SBE showed significantly lower DMI than MSE (229.80 ± 76.32 cm vs 430.55 ± 211.98 cm, $p < 0.001$). No statistical differences were found regarding SBET (39 min vs 34.22 min, pNS). The diagnostic yield was 72.3% and 65% (pNS), the therapeutic yield was 63.8% and 40.9% ($p < 0.001$), and interventional yield was 86.8% and 68.4% for SBE and MSE, respectively ($p < 0.001$). No differences were found regarding AE rate (4.6% vs 9.3%, pNS).

Conclusions Both techniques, SBE and MSE, are effective and safe. SBE has better performance in the therapeutic and interventional yield. MSE allows a higher DMI for the antegrade route.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Giordano A, Casanova G, Escapa M et al. Motorized Spiral Enteroscopy is Effective in Patients with Prior Abdominal Surgery [published online ahead of print, 2022 Sep 14]. *Dig Dis Sci* 2022. doi:10.1007/s10620-022-07688-1 [2] Beyna T, Arvanitakis M, Schneider M et al. Motorised spiral enteroscopy: first prospective clinical feasibility study. *Gut* 2021; 70 (2): 261–267

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eP408V EUS-guided gallbladder drainage (EUS-GBD) in an elderly patient with voluminous gallstone. What about the future?

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DOI 10.1055/s-0043-1765692

Abstract Text We present an 85 years-old-man case with abdominal pain, fever and elevation of inflammatory serum markers. He performed Abdominal-US and CT that showed acute cholecystitis and gallbladder entirely inhabited by stones. Patient was unfit for surgery; thus EUS-GBD was planned. After procedure there was a clinical improvement. Therefore, EUS-GBD with no fluid gallbladder and voluminous gallstone could be technically unfeasible. Stone mobilization could create the adequate space for LAMS releasing. In a frail patient the approach should be tailored in terms of LAMS removal or not, timing of LAMS removal, indication to cholecystolithotomy and/or cholecystolithotripsy.

Conflicts of interest Claudio Giovanni De Angelis is a consultant for Medi-Globe, Olympus and Boston Scientific

eP409 Esophagopleural fistula associated with citomegalovirus – close it to solve it

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DOI 10.1055/s-0043-1765693

Aims The esophagopleural fistula (EPF) caused by cytomegalovirus (CMV) in the immunocompetent patient is rarely described in the literature. The use of fully covered self-expanding metallic stents (FCSEMS) as an adjuvant in the multimodal approach to EPF leads to better outcomes. We share the case of an EPF complicated with empiema in a immunocompetent patient.

Results A 75-year-old male patient presented in the emergency department with the diagnosis of EPF related to CMV complicated with empyema and upper digestive haemorrhage. After the endoscopic characterization of the EPF, a FCSEMS of 110mm, with anti-migration mechanism, was placed. After molecular confirmation of CMV infection, recommended medical therapy was instituted. The stent had remained in situ during 1 month after which an upper endoscopy (UE) was realized. During that period the patient strated enteric nutrition. No orifice was found and a regenerative mucosa in the distal oesophageal was notice. A second UE was performed and a complete resolution was notice. No recurrence was identified in the subsequent six month's.

Conclusions CMV oesophagitis in the immunocompetent patient is rare, and complications (haemorrhage and perforation) are even rarer. The use of FCSEMS in this benign condition has a role in the multimodal treatment, allowing oesophageal tissue regeneration and healing. EPF it's associated with a poor

prognosis, having a high risk of recurrence and an estimated 1-year mortality of 25-28% [1-4].

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP410 Development and Validation of ColonCAD – an artificial intelligence platform for the automatic segmentation, detection and classification of colon polyps

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DOI 10.1055/s-0043-1765694

Aims Colorectal cancer is the 3rd most prevalent and 2nd deadliest worldwide, so that an efficient screening is essential. The ColonCAD project aims to an Artificial Intelligence based system, that allows the automatic segmentation, detection, and classification (SD&C) of colon polyps. We aimed to assess ColonCAD's accuracy in the SD&C of polyps in colonoscopy images.

Methods A convolutional neural network (CNN) algorithm was developed for the SD&C of colon polyps (adenomas or hyperplastic). 3181 images of 644 polyps were used, from a database of patients submitted to polypectomy in a single-center, between november 2019-august 2022. The training data-set comprised 70% of the pooled images, with the remaining being used for validation. The performance of the CNN was compared to delimitation of polyps by 2 colonoscopy experts. The performance of ColonCAD for segmentation was evaluated by Dice coefficient and F1-score. For detection, mean Average Precision and F1-score were used. Sensitivity, specificity and negative/positive predictive values (NPV/PPV) were used to assess classification.

Results The segmentation model showed a Dice coefficient of 0.93 ± 0.14 and F1-Score of 0.92 ± 0.33 . The detection model achieved a mean Average Precision of 89,3% and F1-Score of 1 ± 0.2 . The CNN classification model presented an overall accuracy of 90%. Adenomas were detected with a sensitivity of 80%, 82.4% of specificity, 86.9% of VPP and 73.7% of VPN. For hyperplastic polyps, sensitivity was 82.4%, specificity 80%, VPP 73.7%, and VPN 86.9%.

Conclusions ColonCAD platform successfully identified colon polyps and allowed their differentiation into adenoma or hyperplastic with high accuracy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP411 Efficacy and safety of underwater endoscopic submucosal dissection in difficult colorectal lesions: a single-center experience

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DOI 10.1055/s-0043-1765695

Aims Endoscopic submucosal dissection (ESD) has become essential for the resection of advanced gastrointestinal endoluminal lesions. However, especially in difficult lesions, the ESD proves to be very difficult and more adverse events occur. Underwater resection techniques are allowing a safer and faster resection. This retrospective study in particular aims to evaluate the efficacy and safety of underwater ESD in difficult colorectal lesions [1-3].

Methods Over a 3-month period (September 2022 – November 2022), nine patients (7 men, 2 women) with a mean age of 83 years (range 74-87) and who presented colorectal lesions (3 rectal, 6 colonic) underwent ESD. First of all, a standard ESD was performed, but shortly after was changed to the underwater technique due to the characteristics of lesions (> 30 mm in diameter and with severe fibrosis) and loss of the submucosal plane during the standard procedure. Primary outcomes were the en bloc resection rate and the histological R0. We also recorded the adverse events rate and the median procedure time.

Results En bloc resection was obtained in all patients (100%). Also the histological R0 was achieved in all patients (100%). The perforation rate was 0%. In particular we observed a great exposure of the submucosal plane during the procedure and less thermal damage. An intra-procedural mild to moderate self-limited bleeding occurred in only 2 cases (22%). The median procedure time was 67 minutes (range 49-81).

Conclusions Underwater submucosal dissection is a novel, efficacy and safety technique for difficult colorectal lesions, but more evidence is needed to apply this technique routinely.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP412 Use of fully covered self-expandable metal stents in management of difficult common bile duct stones: a case series

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DOI 10.1055/s-0043-1765696

Aims Difficult common bile duct stones (dCBDs) often require repeated attempts and advanced techniques for their extraction. Fully covered self-expandable metal biliary stents (SEMSc) could make easier this clearance especially when the bile duct is tapered. AIM: To describe the effect of SEMSc placement on CBD anatomy and its impact on complete clearance of dCBDs during second ERCP.

Methods From a multicenter prospective endoscopy database (2019-2022) we analyzed the patients with dCBDs who underwent temporary biliary stenting at the first ERCP. SEMSc were placed into distal CBD. Complete clearance rate (CCr) without endoscopic papillary large balloon dilation (EPLBD) and/or cholangioscopy-guided lithotripsy (CGL) requirement and the remodeling of distal CBD at the second ERCP were evaluated [1-4].

Results In 944 ERCP, 129 (13.67%) dCBDs were diagnosed. In 14 (10.85%) of these patients, a SEMSc was placed. Mean age: 78 years-old, 50% women. At the second ERCP, the CCR reached 90%. In cases of tapered CBD (n = 9) and intradiverticular papilla (n = 5) the SEMSc placement remodeled distal CBD rising up to CCR = 85.7% and = 71%, respectively. There were 2 complications: bleeding and perforation after EPLBD. However they appeared in whom SEMSc placement failed to achieve clearance. These complications were successful solved with a further SEMSc placed during the same ERCP.

Conclusions SEMSc could remodel the distal CBD and they could let us reach a higher complete clearance rate without EPLBD and/or CGL requirement. Therefore, SEMSc placement would be an effective and safe alternative in management of dCBDs

Conflicts of interest Dr González-Huix was Boston consultant Dra Zaragoza was speaker for Boston

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eP413 Colonoscopy demand: historical trend analysis, forecast, capacity planning and validation

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DOI 10.1055/s-0043-1765697

Aims Demand prediction of endoscopic procedures is critical to better plan capacity and resource allocation, improving productivity and efficiency. However, to date, no software allows extrapolating future demand from the analysis of past data. Therefore, the authors aimed to apply business analytic techniques to develop and validate a model predicting the need for colonoscopy in a Portuguese tertiary hospital.

Methods A query to our unit endoscopy database was done to retrieve colonoscopy demand from 2015 to 2021. The graphical inspection allowed us to infer trend and seasonality and to select the best forecasting model. The actual demand in the first two quarters of 2022 was used to validate the model.

Results During the 7-year period, 21.985 colonoscopies were requested. In the time series, analysis seasonality without trend was detected. Using simple seasonal exponential smoothing, 3.679 colonoscopies are projected to be required during 2022. Considering a 40 hours-dedication to endoscopy, 1.44 full-time equivalent endoscopists will be required to perform all colonoscopies throughout the year. Concerning model validation, the actual demand in the first two quarters of 2022 was within the predicted range (998 versus 985 [95%CI 831-1139] and 830 versus 923 [95%CI 751-1095] for the first and second quarters of 2022).

Conclusions The addition of predictive analytics to the endoscopy reporting system may generate dashboards that may be used to better tailor endoscopic activity, improving health care. Future studies may improve these models, by predicting the demand for other healthcare professionals besides endoscopists, as well as adding more variables.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP414 Comparison of two types of needles for endoscopic ultrasound – guided fine needle biopsy in solid pancreatic masses

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DOI 10.1055/s-0043-1765698

Aims Comparing the diagnostic accuracy of two types of 22 gauge biopsy needles for endoscopic ultrasonographic (EUS) fine-needle biopsy (FNB) and associated predictive factors in the diagnosis of pancreatic masses. We compared the performance of Franseen tip needle (FN) with a newly designed multi-blade three-prong tip needle (TPTN).

Methods We performed retrospective analysis. We identified patients with solid pancreatic lesions who underwent EUS-FNB between 2020 and 2022. We calculated diagnostic accuracy and related factors. We compared sensitivity, specificity, positive and negative predictive value and diagnostic accuracy of the two needle types using as the gold standard criterion either the definitive malignant histology, surgical resection or at least 6 months clinical follow-up.

Results We identified 219 patients during the study period. 102 (46.6%) were biopsied with TPTN and 117 (53.4%) with FN. The obtained specimens were adequate in all cases. No adverse events related with the procedure were noted. The multivariate analysis showed that lesion size and number of passes were the factors influencing diagnostic sufficiency (P < 0.05). The type of a biopsy needle did not affect diagnostic adequacy (OR 0.89, 95% CI 0.49-0.157, P 0.600). For FN we calculated sensitivity (97.9%), specificity (95.2%), diagnostic accuracy (97.4%), positive predictive value (98.9%), and negative predictive value (90.9%). Respectively for TPTN – sensitivity (97.7%), specificity (100%), diagnostic accuracy (98.3%), positive predictive value (99.8%), and negative predictive value (89.2%).

Conclusions The type of the needle does not affect the diagnostic accuracy of EUS-FNB. The only factors influencing diagnostic sufficiency are size of the lesion and number of needle passes.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP415 The Evaluation of the Esofagogastric Valve, by HILL classification, in the analysis of the RELATIVE RISK of endoscopic occurrence of hiatus hernia and/or esophagitis

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DOI 10.1055/s-0043-1765699

Aims To analyze, using the Hill classification, the frequency of occurrence of HH (hiatus hernia) and/or RE (esophagitis) in the different types of EGVFlap, and, mainly, the relative risk (RR) of the patient to have these alterations, in according to the type of EGVFlap.

Methods 1474 patients were prospectively evaluated endoscopically the state of EGVFlap and the association, with HH and/or RE. Special emphasis was given to RR analysis of each group with the occurrence of HH/RE. We used, for comparison between the groups, the chi-square procedure, and in situations of low counts we opted for Fisher's exact test. To verify the strength of the association between the type of valve and the abnormalities, we calculated the relative risk and CI 95%. Findings with p < 0.05 were considered statistically significant. Programs: WinPepi v10.5 and IBM-SPSS version 25.0 [1–2].

Results Was observed the type I valve in 1034, with HH, RE, or both, in 117 cases (11.3%). The type II was in 342 patients with HH, RE, or both, in 122 cases (35.7%). The type III in 80 patients with HH, RE or both in 72 cases (90.0%). And the type IV was in 18 cases and in all 18 there was HH, RE, or both (100.0%). The comparative analysis of the finding of RE in the 4 different

types was statistically significant ($p < 0.0001$), and the same with HH in the 4 different types ($p < 0.0001$), and also with RE + HH, in the 4 different types, ($p < 0.0001$). The RR CI 95% was very significant in all analysis, how shows the conclusions (► **Table 1**).

Conclusions With Hill Classification, was observed an RR (95% CI) of having HH and/or RE, in the different types of valve, of the order of 3.16 \times if it has type II, 7.94 \times if it has type III, and 8.84 \times if it has type IV.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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Analysis of the distribution of sex, and analysis of the occurrence of hiatal hernia and/or esophagitis (abnormalities) in the different types of esophageal gastric valve, according to the Hill classification.					
TOTAL CASES STUDIED: 1474					
	Type of valve				
Distribution	I n = 1034	II n = 342	III n = 80	IV n = 18	p
Female n ^o (%)	695 (77,3)	217 (63,4)	53 (66,2)	13 (72,2)	0,591
Abnormalities n ^o (%)					
esophagitis	103 (10,0)	51 (14,9)	5 (6,3)	0 (0,0)	<0,001
hiatal hernia (HH)	7 (0,7)	26 (7,6)	36 (45,0)	7 (38,9)	<0,001
HH + esophagitis	7 (0,7)	35 (10,2)	31 (38,8)	11 (61,1)	<0,001
TOTAL	117 (11,3)	122 (35,7)	72 (90,0)	18 (100,0)	<0,001
Relative risk (IC95%)	–	3,16 (2,53 – 3,94)	7,94 (6,62 – 9,62)	8,84 (5,10 – 13,95)	

► **Table 1**

eP416 Predicting treatment intensification in Crohn's Disease – usefulness of capsule endoscopy

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DOI 10.1055/s-0043-1765700

Aims Pan-enteric capsule endoscopy (PCE) allows a non-invasive assessment of endoscopic healing, which has been associated with improved long-term outcomes in Crohn's disease (CD). We intended to evaluate the impact in the clinical practice of PCE in patients with established and suspected CD.

Methods A retrospective analysis of all consecutive PCE studies performed in a tertiary centre between March 2018 and September 2022 in patients with established/suspected CD was undertaken. Endoscopic activity was assessed using CECDALic score. Concerning patients with established CD, the rates of disease upstaging and change in medical management after PCE were evaluated and multivariate binary logistic regression analysis was applied to identify independent predictive factors of treatment intensification.

Results 82 PCE studies were included in this study – 33(40.2%) for suspected and 49(59.8%) for established CD. Concerning patients with established diagnosis of CD, PCE upstaged Montreal Classification in 9(18.4%) patients, changed disease management in 17(34.7%) and resulted in treatment intensification in 15(30.6%). CECDALic score ($p = 0.004$) and L4 disease ($p = 0.046$) were independent predictors of treatment intensification. On the other hand, disease location and behaviour, presence of L4 disease, PRO-2 score, and C-reactive protein were not.

Conclusions This study corroborates the usefulness of PCE in assessing mucosal activity in CD, and its impact in disease management in a real life scenario.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP417 Successful jejunal variceal obliteration with n-butyl-2-cyanoacrylate injection

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DOI 10.1055/s-0043-1765701

Aims A 65-year-old woman was brought to the emergency department due to a transient loss of consciousness with head trauma and melena since the previous day. She denied other episodes of syncope, as well as hematemesis or hematochezia. Past medical conditions included alcoholic liver cirrhosis (Child-Pugh B classification). On physical examination the patient was initially hemodynamically stable and the neurologic examination was normal. Blood studies revealed mild normocytic normochromic anemia (hemoglobin 11.1 g/dL).

Methods On upper endoscopy, no blood or bleeding lesions were identified. Later however, the patient became lethargic and hemodynamically unstable despite fluid resuscitation. A contrasted computed tomography was performed, revealing several ectopic intestinal varices located in the Treitz angle, however no unequivocal signs of active bleeding were described.

Results Due to the possibility of small-bowel portal hypertensive bleeding, an antegrade balloon assisted enteroscopy was performed, revealing active bleeding from a jejunal varix. Successful jejunal variceal obliteration was performed with injection of 1 mL of n-butyl-2-cyanoacrylate. The patient was then admitted in the intensive care unit and begun vasopressor treatment with terlipressine and received antibiotic prophylaxis. She was discharged from the hospital two weeks later without evidence of rebleeding.

Conclusions Ectopic varices comprise 1-5% of all cases of intrahepatic portal hypertensive bleeding. Management of this rare event might be particularly challenging, given its frequent presentation with massive bleeding, complex underlying vascular anatomy and absence of clear management guidelines in this setting.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP418 Local Recurrence Rates After Resection of Large Colorectal Serrated Lesions

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DOI 10.1055/s-0043-1765702

Aims Our aim was to evaluate local recurrence rates (LRR) after resection of large colorectal serrated lesions (SLs) and the use of margin ablation in preventing recurrence.

Methods Patients with resection of colorectal SSL, TSA, or HP polyps ≥ 15 mm from 2010-2022 with a colonoscopy follow-up within 18 months were identified through pathology database and electronic medical records search. Hereditary CRC syndromes, follow-ups longer than 18 months or no follow-up, surgical resection were excluded. The primary outcome was LRRs (either histologic or visual) during the first 18-month follow-up. Secondary outcomes were LRRs according to size, LRR after margin ablation and cold snare polypectomy (CSP).

Results 188 polyps in 168 patients were resected (55.1% women; mean age, 63.8 years). The mean size of polyps was 22.9 mm, with 114 (60.6%) ≥ 20 mm. 128 (67.0%) polyps were resected with hot EMR, 27 (14.4%) with CSP including 24 with submucosal injection, and 38 (20.2%) polyps received margin ablation. Mean first surveillance colonoscopy was 8.2 months. Overall LRR for the first 18-months was 13.3% (25/188) [95% confidence interval (CI) 8.8-19.0] (12.2% for polyps 15-19mm, 14.0% for ≥ 20 mm, 14.6% for ≥ 30 mm). LRR was signif-

icantly lower after hot EMR with margin ablation when compared with no margin ablation (2.6% vs 17.0%; $p=0.026$) or CSP (2.6% vs 18.5%; $p=0.029$). There was no difference in LRR between EMR without margin ablation and CSP ($p=0.86$).

Conclusions The local recurrence rate for SLs ≥ 15 mm is high with 13.3% overall recurrence. EMR with thermal ablation of the margins is superior to both no ablation and CSP in reducing LRRs.

Conflicts of interest DvR is supported by the "Fonds de Recherche du Québec Santé" career development award and has received research funding from ERBE, Ventage, Pendopharm and Pentax and is a consultant for Boston Scientific and Pendopharm

eP419 Comparing margin ablation techniques after endoscopic mucosal resection of large nonpedunculated colorectal polyps

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DOI 10.1055/s-0043-1765703

Aims This study compared local recurrence rate (LRR) after EMR without margin ablation, when using STSC margin, APC margin or hybrid APC (h-APC) margin and surface ablation.

Methods A retrospective analysis was performed from several prospective collected EMR studies (NCT04220905, NCT04015765, NCT04117100). Data from 18–89-year-old patients undergoing hot snare EMR without ablation and with STSC margin ablation, APC margin ablation or h-APC margin and surface ablation were compared from 2017 to 2022. The included EMRs were taken from periods where margin ablation was historically not known to reduce recurrence as well as periods where margin ablation became routine practice. Patients with at least one follow-up colonoscopy with inspection of the post-EMR site for recurrence were included. The primary outcome was LRR at the first follow-up colonoscopy.

Results A total of 411 patients (mean age: 65.1y, SD: 10.1, 46.4% female) with 441 EMRs were included. At surveillance colonoscopies recurrence rate was 22.6% (33/146, 95% Confidence Interval [CI]= 16.1-30.3) in cases without ablation, 11.5% with STSC (16/139, 95%CI= 6.7-18.0), 23.5% with APC (12/51, 95%CI= 12.8-37.5), and 1.9% with h-APC ablation (2/105, 95%CI= 0.2-6.7). Post-EMR LRR was significantly lower for h-APC compared to STSC ($p=0.004$), and significantly lower for STSC compared to no ablation ($p=0.013$). There was no significant difference for LRR between APC ablation and no margin ablation

► **Table 1**.

Conclusions EMR with h-APC margin and surface ablation resulted lower post-EMR recurrence rates compared to all other modalities. Both, h-APC and STSC significantly reduced LRR compared to no ablation. APC alone did not reduce LRR compared to no ablation.

Conflicts of interest DvR is supported by the "Fonds de Recherche du Québec Santé" career development award and has received research funding from ERBE, Ventage, Pendopharm and Pentax and is a consultant for Boston Scientific and Pendopharm.

	No Ablation	STSC	hAPC	APC
Median size (mm)	25	30	30	30

STSC: Snare Tip Soft Coagulation, APC: Argon Plasma Coagulation, hAPC: Hybrid Argon Plasma Coagulation

► **Table 1**

eP420 Long term outcomes of EFTGR with sentinel L/N navigation surgery for 10yrs

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DOI 10.1055/s-0043-1765704

Aims The aim of the current study was to assess the feasibility of hybrid NOTES, which consists of endoscopic full-thickness gastric resection and a laparoscopic lymph-adenectomy.

Methods This was a prospective pilot study at a single tertiary care referral center. A total of 75 patients with EGC located above the lower third of the stomach underwent hybrid NOTES. Clinically, the patients had contraindications to exclusive treatment using endoscopic submucosal dissection (ESD). The main outcome measure was technical success of hybrid NOTES.

Results All cases were resected en bloc with negative surgical margins. 16 cases were m cancers, and 59 cases were sm cancers, The median tumor size was 23mm. Lymphovascular invasion found in 16 cases without LN metastasis. The median number of obtained LN was 18 (range 7-67) LNM was discovered in one case of undifferentiated sm cancer without LVI. Hybrid NOTES was conducted without intraoperative or postoperative adverse events in 10 cases. The median operating time and estimated blood loss of successful cases were 143min-utes and 16ml, respectively. The median hospital stay was 7days, Seven cases were converted to STG for various reasons. Excluding 19 patients with f/u loss after surgery, Our study showed 100% of current survival rate Without recurrences

Conclusions Hybrid NOTES could be a bridge between endoscopic resection and laparoscopic surgery and may prevent extensive gastrectomy in patients with EGC

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP421 The efficacy and safety of intraductal radiofrequency ablation in the treatment of recurrent benign bile duct tumor

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DOI 10.1055/s-0043-1765705

Aims Benign papillary tumors such as adenomas are the most significant risk factors for malignant. We investigated the efficacy and safety of radiofrequency ablation (RFA) for recurrent intraductal papillary adenoma.

Methods This study is a multicenter prospective study and will be conducted from January 2021 to December 2022. The RFA procedure is performed for about 1.5-2 minutes at an intensity of 7W on the recurred area. The effect of RFA was determined by recurrence, and safety was determined by whether complications occurred after surgery. After the procedure, blood tests and symptoms were evaluated for one week to determine whether complications occurred.

Results So far, a total of 6 patients have participated, and the procedure has been successfully completed in all patients. The histologically confirmed recur-

rent adenoma showed low-grade dysplasia in 5 patients and high-grade dysplasia in 1 patient. The length of the recurrent intraductal papillary adenoma lesion was 13 ± 7 mm, and the RFA excision time was 1.80 ± 0.27 min. All patients received 1 RFA session and the RFA electrode length was 11 mm. There was no pancreatitis, cholangitis, complete inflammation, or cholecystitis in all patients after treatment. One patient (16.7%) had mild bleeding that improved without a blood transfusion. Over a median follow-up period of 268 days, no recurrence has been observed.

Conclusions Endoscopic RFA seems to be safe and effective. Endoscopic RFA seems to be an option for patients with recurrent papillary adenoma.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP422 Clinical impact of the implementation of in-hospital on-call in the management of upper digestive bleeding

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Aims The timing of gastroscopy execution in UGB is still controversial; the main scientific societies recommend its performance in the first 24 hours. The implementation of an in-hospital gastroenterology shift could mean an optimization of the time until endoscopy, meaning a greater number of endoscopic treatments, thus leading to a reduction in hospital stay and/or mortality. Our purpose is the analysis of the clinical impact of the implementation of a in-hospital on-call GI system in the management of UGB [1–4] (► Fig. 1).

Methods Prospective collection with consecutive inclusion of all gastroscopies performed on patients who come to the Emergency Department with suspicion of UGB from the beginning of the system (18 months). Demographic, clinical, analytical, and endoscopic data are collected. It is compared with a historical cohort of patients with suspected UGB who underwent gastroscopy during a via telephone on-call period (18 months); data extraction from the Endobase system. T-student and Chi-square tests for statistical analysis.

Results The main results are presented in the table:

Conclusions To the best of our knowledge, the impact of in-hospital on-call on the management of UGB has not been previously described. The implementation of face-to-face duty has allowed a higher rate of gastroscopies performed in the first 12 hours, this difference being statistically significant, leading to a greater application of hemostatic therapy without affecting optimal endoscopic visualization. There were no differences in the number of hospital admissions, transfusion requirements, or in-hospital mortality.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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	IN-HOSPITAL	VIA TELEPHONE
N: Male/Female n(%)	348: 237/111 (68,1/31,9)	350: 223/127 (63,7/36,3)
Glasgow-Blatchford score*	10,1+4,2	9,5+4,2
<12h Gastroscopy n(%)	288 (82,9)	269 (77,1)
Endoscopic therapy n(%)	159 (45,7)	139 (39,71)
Rebleed n(%)	31 (8,9)	20 (5,7)
In-hospital mortality n(%)	19 (5,5)	24 (6,86)

► Fig. 1

eP423 Comparison of standard capsule endoscopy versus magnetically controlled capsule endoscopy (MCCE) in the evaluation of gastric disorders

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DOI 10.1055/s-0043-1765707

Aims Our aim was to compare the Ankon magnetically controlled capsule endoscopy system (MCCE) and traditional gastroscopy in the evaluation of gastric disorders in outpatients who underwent both examinations on the same day.

Methods Between August 2018 and October 2022, consecutive outpatients were enrolled to study who underwent MCCE and was referred to traditional gastroscopy and biopsies due to the found pathologies on capsule endoscopy. UBT test was done just before MCCE.

Results Overall 62 outpatients (36 male, 26 female, 45 years old in average) underwent gastroscopy and MCCE on the same day in our Endoscopy Unit. UBT test were positive in 13 patients (21%), H.pylori positivity were found in 16 patients (25.8%) during histopathology. MCCE revealed no pathologies in 11 patients. By MCCE, focal lesions were found in overall 15 patients (1 gastric polyp, 5 erosions, 3 ulcer, 6 foveolar hyperplasia) and gastritis were described in overall 50 patients (39 distal gastritis, 10 pangastritis, 1 other gastritis). By gastroscopy, focal lesions were found in 8 cases (1 polyp, 4 erosions, 3 ulcers, 3 foveolar hyperplasia) and gastritis were found in 61 patients (51 lower, 9 pangastritis, 1 other gastritis). Gastroscopy was negative in 2 patients. Regarding focal lesions, the gastric polyp, 3 foveolar hyperplasias and 3 gastric ulcers were visualised by both endoscopy techniques, from the 2 out of the 4 gastric erosions were visualised both techniques.

Conclusions MCCE is an effective and safe diagnostic method to evaluate upper GI mucosal lesions. Useful diagnostic method to evaluate gastric mucosa and it can be the future non-invasive screening tool to decrease morbidity and mortality of upper GI disorders.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP424 Evaluation in a real-life setting of the performance of GI Genius Computed Aided Diagnosis (CADx) in characterizing superficial neoplastic lesions of the colorectum

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DOI 10.1055/s-0043-1765708

Aims We wanted to analyze the performance of the GI Genius CADx in a real life context, comparing its results with the outcome of the histological examination.

Methods We therefore collected 205 superficial neoplastic lesions. We excluded lesions excised from patients with active or quiescent IBD. The study was conducted at a single Endoscopy Centre with high-definition, white-light Pentax colonoscopes (► Fig. 1).

Results Our results were a sensitivity of 75.4% [CI 95%, 67.4–82.2], a specificity of 23.8% [CI 95%, 14.0–36.2], a positive predictive value of 78.1% [CI 95%,

70.2-84.7], a negative predictive value of 71.4% [CI95%, 47.8-88.7] and an accuracy of 77.2% [CI95%, 70.0-83.5]. Cohen's kappa was 0.32, i.e. a modest degree of agreement. The no-prediction rate was 23%.

Conclusions Our results were inferior than those of the first studies published in the literature, especially with regard to specificity and no-prediction rate, but this allows us to make several considerations. It is possible that, although GI Genius is fully compatible with all major brands of endoscopes, slight differences between the graphics processors of one brand and another may affect its performance. It would be interesting to verify this with a possible comparative study. In addition, unlike the first published studies, in the calculation of sensitivity and specificity we found it necessary to include in the denominator adenomas (or non adenomas) with a no-prediction outcome, because in our opinion all adenomas that CADx was unable to characterize should be considered for the sensitivity calculation, and the same applies to non adenomas in the specificity calculation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

		Esito CADx			Totale
		ADENOMA	NON ADENOMA	NO PREDICTION	
Esito Istologico raggruppato	ADENOMA	107	6	29	142 (69%)
	NON ADENOMA o SERRATO	30	15	18	63 (31%)
Totale		137 (67%)	21 (10%)	47 (23%)	205

► Fig. 1

eP425 The comparative study of the Stretta and anti-reflex Endoscopic surgery (ARES) in intractable GERD

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DOI 10.1055/s-0043-1765709

Aims There are two popular endoscopic treatment for medically refractory GERD; Anti-reflux endoscopic surgery (ARES) vs Stretta procedure. The aim of this study is to compare between the two groups of endoscopic treatments in terms of clinical outcomes such as efficacy and complications for refractory GERD patients.

Methods From April 2016 to September 2022, a total of 220 patients diagnosed with refractory GERD were enrolled in ARES group. And 194 patients with refractory GERD were enrolled Stretta procedure group. We compared the efficacy using such parameters as GERD symptom score (GERD-Q score), impedance planimetry, 24hr pH monitoring, esophageal manometry results, And short-term and long-term complications of two procedures are compared

Results The GERD-Q score and 24hr pH monitoring were significantly improved in both groups. In ARES group, Mean post-treatment GERD-Q score was 7.54 ± 2.6 , compared to 11.1 ± 2.7 pre-treatment ($p < 0.001$). In Stretta procedure group, GERD-Q score was 8.87 ± 3.0 , compared to 10.8 ± 2.8 pre-treatment ($P < 0.002$). No serious complications were occurred in both groups. But in ARES group, 6 patients undergo post-treatment strictures, and were treated with balloon dilatation and steroid injections. And 5 patients from ARES group has minor bleeding, successfully treated with argon plasma coagulation.

Conclusions Both ARES and Stretta are good alternative treatment options for refractory GERD patients rather than PPI therapy. Further study is needed to make better indication criteria for both procedures.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP426 Hybrid FTRD in the upper and lower GI tract: results of a large Swiss patient cohort

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DOI 10.1055/s-0043-1765710

Aims Hybrid FTRD has been described as an effective approach for large lesions in the duodenum and colorectum with non-lifting sign, as FTRD technique is limited by lesion size. Here we describe results of different hybrid FTRD approaches in a cohort of 40 patients.

Methods Retrospective analysis from data of 40 patients who underwent hybrid EMR-FTRD (16 Hybrid EMR, 8 CAP O Clip, 14 COL-FTRD) for a variety of lesions in the upper ($n = 7$), mid ($n = 8$) and lower GI tract ($n = 25$) was performed. Technical success, histological confirmation of margin-free resection and adverse events were assessed.

Results 32 of 40 (80%) lesions could be resected macroscopically complete. Full thickness resection was achieved in all cases. Histological work-up of the full-thickness specimens showed free lateral margins in 37 patients (92.5%) and positive margins in three patients. One of these patients received successful EMR treatment with negative histology on index endoscopy. In the hybrid EMR group there were three cases of bleeding requiring hospitalisation and one hospitalisation due to periprocedurally closed perforation while $n = 4$ patients were prophylactically hospitalized in the CAP O CLIP and COL FTRD collective due to old age.

Conclusions Hybrid EMR-FTRD and associated techniques seems to be safe and effective for lesions across the GI tract

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP427 Comparison of motorized spiral enteroscopy with single-balloon enteroscopy to reach the excluded stomach in Roux-en-Y gastric bypass patients

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DOI 10.1055/s-0043-1765711

Aims Device-assisted enteroscopy allows retrograde access to the excluded stomach in Roux-en-Y gastric bypass (RYGB) patients. We studied the efficacy of the motorized spiral enteroscope (MSE) and the single-balloon enteroscope (SBE) to reach the excluded stomach.

Methods 31 RYGB patients underwent endoscopy of the excluded stomach between January 2020 and April 2022. Different SBE enteroscopes (SIF-Q180, XSIF-180JY, SIF-H190) were randomly used and MSE was performed using PSF-1.

Results To reach the excluded stomach, SBE was used in 17 (54.8%) and MSE in 14 (45.2%) RYGB patients. Successful gastric intubation was achieved in 15 (88.2%) using SBE, and only in 8 (57.1%) using MSE ($p = 0.0490$ Chi-square). In failed MSE procedures insertion depth was the oesophagus ($n = 1$), the alimentary limb ($n = 1$), the biliopancreatic limb ($n = 2$) and the pylorus without intubation of the excluded stomach ($n = 2$). Successful gastric intubation was achieved after 29 ± 5 min (range 13-50) with MSE and 33 ± 5 min (range 9-80) with SBE ($p = 0.6061$ Student's t test). Minor (AGREE I) adverse events were encountered during MSE as superficial mucosal lacerations in the proximal oesophagus ($n = 4$, 29%). There were no differences in gender ratio (78.6% females

in MSE vs. 70.6% females in SBE, $p = 0.6132$ Chi-square) and in patient age (53 ± 3 years in both groups, $p = 0.8771$ Student's *t* test) with a range of 31-69 years in the MSE group and 35-72 years in the SBE group.

Conclusions MSE is a new endoscopic technique allowing fast and deep (and even complete) enteroscopy. However, it appeared to be less efficacious than SBE in reaching the excluded stomach in RYGB patients. This is due to the specific design of the MSE.

Conflicts of interest Olympus speaker's fee

eP428 Transrectal and transcolonic endoscopic ultrasound-guided drainage and necrosectomy in walled-off pancreatic necrosis: a retrospective, single-center case series

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DOI 10.1055/s-0043-1765712

Aims Walled-off necrosis (WON) extending to the paracolic gutters or pelvic cavity may pose a significant challenge for drainage and necrosectomy. We aim to report our technical experience and clinical outcomes in managing WONs with an EUS-guided transrectal/transcolonic (TR/TC) approach.

Methods Nine patients with infected WON not amenable for EUS guided transgastric drainage or VARD were retrospectively enrolled [1-3].

Results Drainage was performed through the colon in seven patients and through rectum in two patients. Double pigtail stents were used in six patients and LAMS was used in three patients. Transrectal/transcolonic necrosectomy was needed in 6 patients (60%). Drainage was successfully performed in all patients and clinical resolution was achieved in 8 out of 9 patients at follow-up (89%). The overall adverse event rate was 11% and included a colonic perforation in one patient where further transcolonic drainage was performed successfully (► **Table 1**).

Conclusions Transcolonic EUS-guided drainage and necrosectomy is a promising add-on technique to the transgastric/transduodenal approach in treatment of WON with proximity to the lower gastrointestinal lumen. Further studies are needed to explore the outcomes and safety profile of this technique.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Law R, Wong Kee Song LM, Baron TH. Simultaneous transgastric and transcolonic debridement of walled-off pancreatic necrosis. *Gastrointest Endosc* 2014; 80: 1172

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ID	Age (yr)	Etiology	Comorbidity	WON size and location	Index intervention	Transcatheter necrosectomy	Stent, type and size	Addressed events	Clinical status	Number of transcatheter procedures before resolution
1	57	Gallstones	Diabetes	10 x 11 cm, splenic flexure	Transcatheter	Yes	12 cm, 7 Fr	Yes, colonic perforation	Yes	2
2	52	Alcohol	None	3 x 4 cm, pelvic cavity	Transcatheter	Yes	12 cm, 7 Fr	None	Yes	1
3	52	Alcohol	None	7 x 3 cm, splenic flexure	Transcatheter	Yes	12 cm, 7 Fr	None	Yes	1
4	52	Post-BLCP	Biliary hilar dilatation and bile reflux	28 x 4 cm, pelvic cavity	Transcatheter	Yes	12 cm, 7 Fr	None	Yes	4
5	52	Alcohol	None	24 x 18 cm, splenic flexure	Transcatheter	Yes	LAMS (20 mm), AC200 (10 x 20 mm)	None	Yes	2
6	52	Post-BLCP	None	9 x 7 cm, transverse colon	Transcatheter	Yes	LAMS (20 mm), AC200 (10 x 20 mm)	None	Yes	3
7	52	Gallstones	Hypertension	11 x 8 cm, splenic flexure	Transcatheter	Yes	12 cm, 7 Fr	None	Yes	2
8	49	Gallstones	None	24 x 7 cm, at the left paracolic gutter extending medially to the splenic flexure	Transcatheter	Yes	LAMS (20 mm), AC200 (10 x 20 mm)	None	Yes	1
9	57	Alcohol	None	14 x 8 cm, splenic flexure	Transcatheter	Yes	12 cm, 7 Fr	None	Yes	2

► **Table 1** Overview of patients with WON who underwent transrectal/transcolonic EUS-guided drainage and necrosectomy.

eP429 Small bowel polypectomy in Peutz-Jeghers syndrome: comparison of endoscopes and resection techniques

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DOI 10.1055/s-0043-1765713

Aims Small bowel polyp resection in Peutz-Jeghers syndrome (PJS) is challenging because polyps may be difficult to reach with a considerable perforation risk. We aimed to analyse intestinal PJS polypectomy procedures with interest in endoscope type and polypectomy techniques.

Methods Retrospective analysis of a PJS cohort who were referred for small bowel polypectomy between 2014 and 2022.

Results 13 PJS patients (10 females) aged 37 ± 5 years (range 16-82) underwent 29 endoscopic polypectomy procedures. 6 patients (46%) underwent surgical intestinal resection during childhood. Endoscopes used: pediatric colonoscope PCF $n = 3$ (10%), single-balloon enteroscopy SBE $n = 19$ (66%) and motorized spiral enteroscopy MSE $n = 7$ (24%) (only intact small bowel). Antegrade enteroscopy in $n = 19$ procedures (66%), retrograde in $n = 9$ (31%) and peroperative enteroscopy $n = 1$ (3%). Targeted polyps were reached: 67% using PCF, 63% using SBE and 88% using MSE (with 2 antegrade panenteroscopy procedures) (Chi square $p = 0.206$). Small polyps (< 2 cm Paris Ip and Isp) were resected using hot snare, medium size pedunculated polyps (2-3 cm Paris Ip) using hot snare after placement of hemostatic clips onto the stalk, giant pedunculated polyps (> 3 cm Paris Ip) were strangulated using an EndoLoop and left in place, and giant sessile polyps (> 3 cm Paris Isp) were tattooed for future surgical resection. Using this approach, no adverse events occurred during therapeutic enteroscopy.

Conclusions Small bowel PJS polypectomy is safe when taking into account their location and anatomical characteristics. MSE allows deeper enteroscopy for PJS polypectomy.

Conflicts of interest Olympus speaker's fee

eP430V Endoscopic treatment of Intraductal Papillary Neoplasm of the distal bile duct

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DOI 10.1055/s-0043-1765714

Abstract Text Intraductal Papillary Neoplasm of the bile duct (IPNB) is a rare tumor of the biliary tree. Due to its low incidence there are no guidelines regarding its management, despite the risk of malignant transformation usually suggests indication to surgery. Some cases of endoscopic biliary radiofrequency ablation (RFA) has been reported for patients unfit for surgery, mainly to treat intrahepatic stenosis. We report a case of patient with a distal biliary duct IPNB treated endoscopically with RFA.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP431 Comparative analysis the effects of hemo-clips and endoloop-clips technique for closure of large sigmoid colon perforations in experimental simulation model. A REIS multicenter study

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DOI 10.1055/s-0043-1765715

Aims Large colon perforation is difficult to closure endoscopically, especially in the sigmoid colon, which is more difficult due to excessive mobility. Therefore, the aim of study was to evaluate the efficacy of the hemoclips and endoloop-clip technique for closure of large sigmoid colon perforations.

Methods This study was designed as a prospective, randomized controlled, and ex-vivo study. A total of 40 full-thickness, standardized defects measuring 3 cm were create in fresh ex vivo porcine sigmoid colon specimens. Two experienced endoscopists each completed 10 cases with conventional hemoclip technique (hemoclip group) and 10 cases with the endoloop-clips technique (endoloop-clip group). An independent observer measured the procedure time and performed an air insufflation test and a water leak test.

Results The mean total procedure time (10.8 2.5 vs 14.5 7.3 min, $P=0.044$) and number of ineffective hemoclip placement per case (0.05 0.22 vs 0.70 0.98, $P=0.009$) were significantly lower in the endoloop-clip group than the hemoclip group. the mean number of hemoclips used per case (9.1 2.4, 7.9 1.7, $P=0.083$), technical success rate, positive air insufflation test and complete closure rate by water leak test (hemoclip; 50% vs endoloop-clip; 65%, $P=0.337$) were not significantly different between two group. Multivariate analyses showed that the total procedure time was the only factor significantly associated with incomplete closure. (OR, 1.16; 95% CI, 1.003-1.334; $P=0.045$)

Conclusions The endoloop-clip technique seems to reduce the procedure time and ineffective hemoclip placement than conventional hemoclip technique in large perforations of sigmoid colon.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP432V Endoscopic cholecystolithotomy using Holmium laser after EUS-guided gallbladder drainage – a case report

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DOI 10.1055/s-0043-1765716

Abstract Text An 86-year-old woman was admitted with fever and vomiting. CT scan showed an acute cholecystitis complicated by a large liver abscess. Since the patient was unfit for surgery, an EUS-guided GB drainage was performed with a trans-gastric approach using a 15 mm Hot AXIOS Stent. A follow up CT scan showed a size reduction of the abscess and a residual gallstone next to the LAMS. At the endoscopic evaluation the LAMS was completely occluded by the residual stone. Endoscopic lithotripsy was performed using Holmium laser (HL). After accessing through the fistula, the HL split the stone in smaller fragments. Therefore HL after EUS-guided GBD should enter the shortlist of treatments in frail patients with gallstones [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP433 Frequency of Microscopic colitis in patients presenting with chronic diarrhea

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DOI 10.1055/s-0043-1765717

Aims to determine frequency of MC in patients presenting with chronic diarrhoea tertiary care hospital in Karachi, Pakistan

Methods Patients presenting in out-patient department of age > 18 years of any gender with history of diarrhea > 1 months, normal thyroid tests, negative antibodies (IgA, IgG), and normal colonoscopy findings including terminal ileum were included into the study. Study subjects were registered into the study with their written informed consent. Based on the clinical history of diarrhea and the associated histopathologic results on their colonic biopsies, patients were diagnosed with microscopic colitis.

Results Total 140 patients were enrolled into the study with median age of 38 (IQR = 28-54.8) years. Nearly half of the participants were males ($n=69$, 49.3%). Colonoscopy findings were normal in 130(92.9%) patients whereas 10(7.1%) showed erythema. Out of 140 patients, microscopic colitis was seen among 7(5%) cases. Out of total 7(5%) cases of microscopic colitis, 5(3.6%) were lymphocytic colitis and 2(1.4%) were collagenous colitis. None of patients' feature was significantly different among patients with and without MC

Conclusions A lower prevalence of microscopic colitis was found in the studied sample. Lymphocytic microscopic colitis is predominant than collagenous microscopic colitis. The finding of lower microscopic colitis in our local population should be validated in a multi-center larger sample size study

Conflicts of interest No conflict of interest

eP434 Primary prophylaxis with cyanoacrylate injection in patients with gastric varices: single center experience

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DOI 10.1055/s-0043-1765718

Aims Little is known about the primary prophylaxis of gastric varices with cyanoacrylate injection, so far only one study has been published on this topic showing a lower bleeding risk in patients treated with cyanoacrylate injection [1]. The primary aim is to evaluate the bleeding risk, the secondary aims are the safety and the mortality of the patients with gastric varices in primary prophylaxis with endoscopic injection.

Methods We conducted a retrospective cohort study analyzing a structured database, between January 2007 and November 2022. We enrolled consecutive patients with gastric varices detected at endoscopic examination and treated with cyanoacrylate injection as a primary prophylaxis. Data on bleeding and mortality were retrieved in structured and computerized medical reports in our institute.

Results A total of 29 patients were evaluated with a mean follow up of 76 months (IQR 44.0, 134.0); 52% were male, with a mean age of 56.8 years (SD \pm 14.9). The characteristics of the patients are described in Table 1. During the follow up, the bleeding was observed in 3 patients (12%) in primary prophylaxis with cyanoacrylate and the death occurred in 1 patient (6%). No major adverse events were observed during the primary prophylaxis (► Table 1).

Conclusions The primary prophylaxis with cyanoacrylate injection in patient with gastric varices is efficacy and safeness. Compared with the literature on the same topic, the bleeding risk is lower than non-selective betablockers (28% of bleeding risk reported) [1].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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	Patients	%
Gender		
male	15	52
Type of hypertension		
Cirrhosis	22	77
No cirrhosis	6	23
Bleeding	3	12
Mortality	1	6
	Median	IQ r
Child Pugh	5.5	5.0 - 8.5
MELD	10.5	9.0 - 16.5
Hb	11.4 gr/dl	9.1 - 12.1
PLT	83.5 x10 ⁶	71.0 - 196.0
INR	1.3	1.2 - 1.4
Follow-up	76.0 months	44.0 - 134.0

IQ r: interquartile range

► **Table 1** Patients' characteristics.

eP435V Dieulafoy lesions: a rare entity in gastrointestinal bleeding

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Abstract Text Five patients in our center presented recurrent gastrointestinal bleeding of uncertain origin, with multiple endoscopies performed. Colonic Dieulafoy lesions were finally identified in all of them. In most cases, endoscopic treatment was performed with placement of hemoclips with favorable evolution. Dieulafoy lesions represent a rare, although potentially fatal, cause of acute gastrointestinal bleeding. They constitute a diagnostic challenge because they can go unnoticed. Endoscopic hemostatic treatment has a high success and significantly reduce mortality rates. We must consider this type of lesion in the differential diagnosis of gastrointestinal bleeding. A meticulous endoscopy is essential for its diagnosis and treatment.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP436 Yield of single pass with Franseen needle compared to multiple passes with conventional FNA needles

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DOI 10.1055/s-0043-1765720

Aims Single pass FNA, FNB and/ or ancillary studies with Franseen needle without ROSE or MOSE compared with conventional FNA and/ or FNB with multiple passes using other needles.

Methods Retrospectively analysis of data of EUS FNA / FNB of 5 years. Before 2019 FNA done with 22 or 25 G FNA needles with 3-5 passes slow pull technique. FNB done using 22 G Procore (Group A). After 2019 only Franseen needles used. Single needle and single pass without stylet or slow pull for FNA, FNB and/ or ancillary studies (Group B).

Results Total 440. 277 male, 163 female. Sites: mediastinal LN (72), abdominal LN (116), liver (11), esophagus (6), gastric (2) rectal wall (3), periampullary (36), gall bladder (17). Diagnosis- malignancy 279, benign 139, nondiagnostic 22. Franseen in 270 (group B). Tissue adequacy 93.4% FNA and 91.6% FNB. Of 440 FNA, diagnosis not achieved 41 (27 inadequate, 1 false diagnosis). In 16 FNB helped. Of 276 FNB diagnosis 249. Diagnosis not reached in 25 FNB. 19 (4.3%) tissue inadequate. 12 FNA was positive. In 1 IHC got diagnosis. 2 mucosal biopsies. IHC 42 cases. 12 diagnosis not achieved by any modality. Duodenal

and ampullary biopsy in 3. Rest final diagnosis in followup. No difference in tissue & diagnostic accuracy in Group A & B. Diagnostic accuracy better in FNA in B compared to A for malignancy (p = 0.012).

Conclusions Single pass each for FNA, FNB and/ or ancillary studies with Franseen comparable to multiple passes with conventional needle. Malignant lesions, single pass FNA with Franseen better diagnostic accuracy than conventional FNA with multiple passes.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP437 Curative outcomes in small pT1 lesions resected by either ESD or EFTR: a Northeastern Italian experience

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DOI 10.1055/s-0043-1765721

Aims ESD (endoscopic submucosal dissection) and EFTR (endoscopic full-thickness resection) are treatments of choice in the endoscopic resection of small and submucosal invasive GI lesions. It is often challenging to assess the best curative option in this setting.

Methods We retrospectively analyzed all gastrointestinal pT1 lesions < 30 mm resected by either ESD or EFTR in our Unit from 2016 and 2022. As primary endpoints we assessed en bloc resection, R0 resection (clear margins) and curative resection (no further need for surgery) rate. As secondary endpoints we analyzed mean procedural time, cost and adverse events. Statistical analysis was performed with Pearson chi-square test.

Results 30 ESD and 28 EFTR were enrolled. En bloc resection was achieved in, respectively, 90 % (27/30) and 96% (27/28), with no statistical difference (RR 0.93, p = 0.9), likewise R0 resection (25/30, 83 % vs 27/28, 96 %, RR 0.86, p = 0.7) and curative resection (20/30, 66 % vs 18/28, 64 %, RR 1.03, p = 0.7). Mean procedural time was lower in EFTR, although not significantly (67 ± 37 min vs 50 ± 15.6 min, p = 0.7), while adverse events rate was similar (4/30, 13 % vs 3/28, 10%). Eventually, mean procedural cost per hospitalization day was lower in ESD than EFTR (1603 ± 360 € vs 2160 ± 210€).

Conclusions ESD and EFTR turned out to be equally successful in achieving R0 and curative resection in pT1 small lesions, so that ESD should remain gold standard in an experienced setting, even though EFTR could allow easier and faster en bloc resection in most challenging ESD, albeit more expensive.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP438 Efficacy of biliary cytology using a newly developed brush with rapid on-site evaluation for detection of malignant biliary strictures

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DOI 10.1055/s-0043-1765722

Aims In spite of its low sensitivity for the diagnosis of malignant biliary stricture (MBS), brush cytology is the most commonly used diagnostic method in conjunction with intraductal biopsies to evaluate malignant-appearing biliary strictures during ERCP. We evaluated the efficacy of biliary cytology using a newly developed brush device with rapid on-site evaluation (ROSE) for the detection of MBS.

Methods A total of 58 patients with the suspected intrinsic/mixed type of MBS on intraductal ultrasonography were enrolled. Strictures were brushed using a minimum of ten up-and-down motions, and up to two brush passes were planned until adequate tissue sampling was established by ROSE. The primary

outcome was diagnostic accuracy of brush cytology with ROSE, and secondary outcomes were tissue sampling adequacy, technical success, and adverse events.

Results Biliary cytology using a newly developed brush device was technically successful in all patients. The tissue sampling adequacy at the first brushing was 82.0% (47 of 58). Biliary cytology with ROSE afforded 75.5% sensitivity, and 79.3% accuracy, respectively. There were no procedure-related adverse events.

Conclusions Biliary brush cytology using a newly developed brush device with ROSE can be useful for the diagnosis of MBS.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP439 Analysis of 125 patients with endoscopically diagnosed human intestinal spirochetosis

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DOI 10.1055/s-0043-1765723

Aims Human intestinal spirochetosis (HIS) is defined by the presence of a layer of spirochetes attached by one cell end to the colorectal epithelium. *Brachyspira* species are the etiologic agents responsible for HIS. While many patients with HIS have no symptoms, some have chronic diarrhea and bloody stool. There is little known about pathogenicity of HIS, and awareness is still low. The characteristics of patients treated for HIS were reviewed.

Methods The clinicopathological features of 125 patients with HIS from January 2008 to December 2021 were retrospectively reviewed. HIS was diagnosed in all patients by colonoscopic biopsy.

Results The study cohort included 108 males and 17 females with an average age of 61 years. There were no symptoms in 92 patients, and 33 had symptoms. The most common symptom was diarrhea. There were various endoscopic findings including normal mucosa, erythema, erosions, ulcers and intestinal spirochetes attached to a polyp. Based on drug susceptibility testing, metronidazole was used to eradicate the spirochetes. Eradication therapy was used in 32 patients. Ten patients with no symptoms, unknown progress or other gastrointestinal diseases were excluded. Symptoms improved in 17/22 patients after eradication therapy.

Conclusions In the present study, HIS was noted to have no characteristic endoscopic features. Eradication was effective in patients with symptoms. Based on these results, asymptomatic patients do not need treatment. If patients infected with the spirochete have no other causes of gastrointestinal symptoms, symptomatic patients with HIS should undergo eradication.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP440 Spontaneous biliary digestive fistulas

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DOI 10.1055/s-0043-1765724

Aims Spontaneous biliary fistulas are observed in 0.3% of patients with biliary pathology. Our study aimed to identify the clinical, para-clinical, and therapeutic profiles of spontaneous biliary digestive fistulas.

Methods This was a monocentric retrospective study over 42 months, between June 2019 and September 2022, including all patients diagnosed with spontaneous biliary digestive fistula as revealed on imaging or during ERCP.

Results We enrolled 7 patients, the average age was 63 years with a sex ratio M/F was 6. sex patients presented with acute cholangitis 1 patient with liver abscesses associated with cholecystitis, 1 patient with upper gastrointestinal bleeding, and 2 patients were asymptomatic with a history of spontaneously resolved jaundice.

The diagnosis was confirmed by duodenoscopy in 6 patients and with upper endoscopy in 1 patient. The endoscopic aspect showed an orifice with bile liquid flow at the distal bulbar in five cases, on the papilla infundibulum in two cases, and at the duodenal genius superius in one case. Opacification with contrast medium at the level of the biliary fistula showed choledochoduodenal communication in all cases.

Lithiasis was found in 4 cases associated with acute pancreatitis in 2 cases and chronic pancreatitis in 1 case, a distal cholangiocarcinoma in 2 cases, and adenocarcinoma of the head of the pancreas in 1 case.

Conclusions Our study has objectified that spontaneous biliary digestive fistulas are not uncommon. The most finding was choledochoduodenal fistula, developed mostly in the context of cholangitis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP441 A novel endoscopic technique and device for bimanual rectosigmoidal ESD

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DOI 10.1055/s-0043-1765725

Aims Colorectal endoscopic submucosa dissection (ESD) is demanding and associated with a substantial risk of perforation. Key to increasing effectiveness and safety is to apply countertraction during resection. In this study, we present a novel endoscopic device developed to facilitate rectosigmoidal ESD by combination of rigid instruments and flexible endoscopy.

Methods The device includes a transanal port system and a specially developed grasper. Objectives of this preclinical study were to assess feasibility and compare the technique to conventional ESD. Overall, 32 ESD procedures were performed on explanted porcine colon; 16 by ESD novices (group 1) and 16 by ESD experts (group 2). Eight of these were each performed using conventional ESD technique and eight using the new device in different localizations (predefined resection area of 12.6 cm²). Procedural time, technical success and rates of muscularis injuries and perforations were assessed.

Results Mean total procedure time for EndoTEM versus conventional ESD was 126 vs. 146 min (p = 0.244, group 1) and 46 vs. 90 min (p = <0.001, group 2); mean time for resection (excluding circumferential incision) was 53 vs. 92 min (p = 0.023, group 1) and 26 vs. 71 min (p = <0.001, group 2). Overall, no perforation or muscularis lesion (ML) occurred using EndoTEM (vs. 24 perforations and 73 ML in conventional ESD); all resections were complete.

Conclusions Rectosigmoidal ESD using EndoTEM is feasible and safe. Compared to conventional ESD, the technique significantly reduced procedure time and risk of perforation in this ex vivo study.

Conflicts of interest Arthur Schmidt and Armin Kuellmer received lecture fees (Ovesco)

eP442 Endoscopic vacuum therapy of anastomotic leaks complicating colorectal surgery

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DOI 10.1055/s-0043-1765726

Aims Anastomotic leak is a common complication (4-15%) of colorectal surgery. Endoscopic vacuum therapy (EVT) is an innovative technique based on continuous negative pressure, leading to improved drainage and closure of the cavity. The aim of this study is to evaluate feasibility and efficacy of EVT to treat anastomotic leaks after colorectal surgery.

Methods Retrospective study in 2 university centers including all patients referred for EVT from 2015 to 2022. A gastroscope was introduced up to the

rectal anastomosis and into the para-anastomotic cavity under general anesthesia. The overtube was then inserted into the cavity and the sponge was positioned through the overtube into the cavity. A continuous negative pressure pump was connected to the sponge. The sponge needed to be replaced every 3 to 4 days until the cavity was reduced to less than 10 mm.

Results A total of 30 patients underwent rectal EVT during the study period. Among them, 23 patients were included (30% females, mean age 65 ± 9 years). Technical success with complete closure was achieved in 19/23 patients (83%), among them 16/23 (70%) without additional surgical intervention. In total 160 endoscopic procedures were performed with a mean of 7 sponge replacements. In 9/23 patients (40%) patients were treated on an ambulatory base. Adverse events rate was 22% (6/27 patients) without procedure-related mortality. Clinical success rate was 70% (16/23) at 1 month.

Conclusions EVT is feasible and efficient to treat anastomotic leaks with pelvic collections after colorectal surgery. It can also lead to a more healthier pelvic environment to improve redo surgery outcome.

Conflicts of interest Olympus EuropePrion MedicalBraun Medical

eP443 The impact of endoscopy nursing consultation on a quality colonoscopy

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Aims Adequate bowel preparation is an essential requirement to perform a safe and quality colonoscopy. To this end, it is essential that the patient is well informed through clear, precise and easy-to-follow instructions prior to the examination, as well as precautions to be taken in case of taking certain types of drugs that may influence the examination. In April 2019, we implemented a prep-scan nursing consultation where clinical data is collected and instructions are given to ensure proper colon preparation, reduce patient anxiety and increase quality of care. The main objective is to demonstrate the importance of a colonoscopy prep nursing consultation [1–5].

Methods Analytical case-control study in which the colonic preparation of 10,457 colonoscopies was analyzed using the Boston scale, between January 2017 and December 2021.

The control group received the intervention of a trained nurse in a colonoscopy prep consultation.

Results In the group of patients without previous nursing consultation, 4924 examinations were analyzed, observing a Boston between 7-9 in 83.49%, while in the group of patients who received a nursing consultation, 5533 examinations were analyzed, with a Boston between 7-9 in 91.03%.

Conclusions The results obtained have shown that the intervention of a trained nurse, before colonoscopy, improves the preparation of the colon, increasing the safety and quality of the examination.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP444V Unexpected and challenging: How to manage pancreatic lithiasis!

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DOI 10.1055/s-0043-1765728

Abstract Text Lithiasis in the main pancreatic duct (MPD) are uncommon in the absence of chronic pancreatitis and at an early age. A 29-year-old woman with a history of acute pancreatitis was referred for marked dilation, beading and sacculation of MPD seen on MRI. Ductal lesion could not be ruled so EUS was performed, showing a large 17mm intraductal lithiasis at the pancreatic neck. Pancreatoscopy with electrohydraulic lithotripsy was performed. Through ERCP a 7Fr x 12cm stent was placed after extraction of lithiasis fragments with a balloon. EUS is a useful tool for diagnosis of pancreatic lithiasis. Lithotripsy should be considered as a first line treatment.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP445 Redo Transoral Outlet Reduction (Re-TORe): technical feasibility and medium-term outcomes

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DOI 10.1055/s-0043-1765729

Aims Weight regain and dumping syndrome (DS) are two relevant long-term adverse events after Roux-en-Y Gastric Bypass (RYGB) related to the dilation of the gastro-jejunal anastomosis. Transoral outlet reduction (TORe) is a minimally invasive and repeatable endoscopic procedure that was introduced to treat these conditions when medical treatment fails. In this case series, we evaluate the technical feasibility and short and medium-term outcomes of re-TORe in patients with weight regain and/or DS recurrence after primary TORe.

Methods A retrospective analysis was done on a prospective database including patients that underwent TORe between January 2015 and October 2021; patients who received a re-TORe because of progressive loss of satiety and weight regain ($\geq 50\%$ of weight loss after primary TORe), or recurrence of DS were included in the analysis. DS recurrence was defined as Sigstad's dumping score ≥ 7 . Sigstad's score, early and late Arts Dumping Score questionnaires, and %TBWL were assessed at baseline, at 6 and 12 months after re-TORe.

Results Of 92 patients that underwent TORe, 10 required a re-TORe (3 patients for weight regain alone, 7 for both DS recurrence and weight regain). The median time between the primary TORe and the re-TORe was 28 months (range 14–64 years). Re-TORe was technically feasible in all patients. No periprocedural adverse events occurred. Re-TORe outcomes are summarized in [Table 1](#).

Conclusions Re-TORe is technically feasible and has good short and medium-term outcomes in terms of weight loss and DS control. As such, repeating the procedure should be considered before referring patients for revision surgery.

Conflicts of interest Prof Guido Costamagna: Consultant for food and beverage compensation from Cook Medical, Boston Scientific, and Olympus. Dr. Ivo Boskoski: Consultant for Apollo Endosurgery, Cook Medical, and Boston Scientific; board member for Endo Tools; research grant recipient from Apollo Endosurgery; food and beverage compensation from Apollo Endosurgery, Cook Medical, Boston Scientific, and Endo Tools. Dr Vincenzo Bove: Consultant for Apollo Endosurgery. All the other authors have nothing to declare.

	Baseline	6 months	12 months	P [#]
Sigstad's Score	14 (4.5)	7 (1-14)	4.5 (1-14)	0.04
EADS	5 (1-10.5)	4 (0-4)	4.5 (0-8)	0.01
LADS	8 (5.5-9)	3 (0-4)	2.5 (0-4)	0.06
%TBWL	NA	10.1% (-1.7-16.1)	10.1% (1.2-14.3)	

* Friedman test. Values are median (Q1-Q3)
EADS= Early Arts Dumping Score questionnaire; LADQ= Late Arts Dumping Score questionnaire.

► Table 1

eP446 An unusual case of Pancreatic Mass in a young male

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DOI 10.1055/s-0043-1765730

Aims Ewing's sarcoma is round cell tumour which rarely involves the pancreas. Most cases occur in the second decade of life with slight predilection for males

Methods We report an unusual case of pancreatic mass in a young male

Results A 24-year-old male presented with complaints of continuous upper abdominal pain with weight loss of 4kg for 2 months. On investigation, patient was found to have deranged LFTs with obstructive pattern. Triple phase CT (Computerized Tomography) of pancreas showed a heterogenous mass lesion seen involving head, uncinate process of pancreas which was seen closely abutting D1, D2, proximal D3 segment of duodenum with indistinct fat planes with abutment of SMV and MPV. EUS guided FNA of the lesion showed cells with round nucleus, which were CD99 and FLI1 positive on immunohistochemistry. PET scan showed FDG avid mass with metastatic right paratracheal lymph nodes. In view of surgical unresectability, patient was initiated on VAC/IE (Vincristine, Adriamycin, Cyclophosphamide, ifosfamide, Etoposide) based chemotherapy. Post 4 cycles of chemotherapy, repeat PETCT showed significant metabolic regression of mass and complete metabolic resolution of paratracheal lymph nodes [1–2].

Conclusions Ewing Sarcoma is a very rare malignant tumor with very high risk of recurrences. Complete surgical excision with adjuvant chemotherapy and with or without radiation therapy is the standard of care in case of resectable disease while chemoradiation is the only choice for metastatic disease with poor 5-year survival rate

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Miller DL, Roy-Chowdhuri S, Illei P, James A, Hruban RH, Ali SZ. Primary pancreatic Ewing sarcoma: a cytomorphologic and histopathologic study of 13 cases. *J Am Soc Cytopathol* 2020; 9 (6): 502–512

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eP447 Acute pancreatitis as a complication of PowerSpiral Motorized Enteroscopy: a case report

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DOI 10.1055/s-0043-1765731

Aims Motorized spiral enteroscopy (MSE) is a novel technique for evaluation and management of small bowel lesions. Two feasibility studies showed high success rates, adverse event rate ranged from 14.4% to 16.7%, including one perforation and one case of GI bleeding.

Methods A 73-year-old patient with a severe cardiopathy was admitted with a diagnosis of ileal ulceration. MSE (PowerSpiral Endoscope Olympus) with an antegrade approach (AA) successfully reached a large and deep ulcerated polypoid lesion in the mid-distal ileum. No immediate AE were recorded. Two days later he complained of low-grade fever and abdominal discomfort spontaneously resolved. However, a staging CT scan showed an oedematous acute pancreatitis.

Results The patient was hospitalized and discharged 72 hours later in good clinical conditions with a diagnosis of mild AP. The histological report after ileal resection described the lesion as an hamartomatous polyp [1–3].

Conclusions MSE is a great tool for diagnostic and therapeutic enteroscopy, however the AE rate is relatively high. Only one case of AP has been reported in a patient who underwent both unsuccessful anterograde and retrograde approach of unknown duration. AP has been described as the most common complication of double-balloon enteroscopy (DBE). The hypothesized mechanism, which suits also for our case, is the pancreatic stress caused by scope insertion and stretching movements, being more frequent after high insertion depth. Large prospective studies are needed to investigate operator-dependent factors and to identify additional patient-related risk factors that could explain AP development.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Kopacova M., Tacheci I., Rejchrt S. et al. Double balloon enteroscopy and acute pancreatitis. *World J Gastroenterol* 2010; 16 (19): 2331–2340 [2] Beyna T, Arvanitakis M, Schneider M et al. Motorised spiral enteroscopy: first prospective clinical feasibility study. *Gut*. 2021; 70 (2): 261–267 [3] Beyna T, Arvanitakis M, Schneider M, Gerges C, Hoellerich J, Devière J et al. Total motorized spiral enteroscopy: first prospective clinical feasibility trial. *Gastrointest Endosc* 2021; 93 (6): 1362–1370

eP448 Triamcinolone injection after balloon dilation is useful for esophageal stricture caused by ESD

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DOI 10.1055/s-0043-1765732

Aims Multiple endoscopic balloon dilatation (EBD) is sometimes required to resolve esophageal stricture due to endoscopic submucosal dissection (ESD). There have been no data about the efficacy of steroid injection after EBD. We evaluated the efficacy of triamcinolone injection after EBD for esophageal stricture caused by ESD.

Methods This was a single center retrospective study. Between 2008 and 2020, 98 consecutive patients were treated with EBD for esophageal stricture caused by ESD. Inclusion was patients who had esophageal stricture despite they received steroid injection immediately after ESD. Patients with addition esophagectomy, with previous chemoradiotherapy, and with cervical esophageal cancer were excluded. Outcome measure were the cumulative stricture resolving rate, the median time and the number of EBD required to resolve the stricture.

Results Seventy patients had esophageal stricture despite they received steroid injection after ESD. After exclusion, 8 received EBD without steroid injection, 34 received triamcinolone injection after EBD. No significant differences were found in background characteristics. Steroid injection decreased median time required to resolve the stricture (214.0 vs 59.5 days, $p=0.047$) and the number of EBD (6.0 vs 2.0, $p=0.006$). Cumulative stricture resolving rates of 3 months, and 6 months were 37.5% vs 61.8%, and 50.0% vs 73.5% (log rank test $p=0.055$). Using inverse probability of treatment weighting, EBD with

steroid injection resolved stricture more than without steroid (HR, 2.19; 95 % CI, 1.00-4.79; P=0.049, log rank P=0.04).

Conclusions Triamcinolone injection after EBD may effective to resolve esophageal stricture due to ESD.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP449 Express unroofing of SELs using cold snare in the upper GI tract

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DOI 10.1055/s-0043-1765733

Aims Subepithelial lesions (SELs) are neoplastic or non-neoplastic tumors originating from the various layers between mucosa and serosa anywhere in the gastrointestinal tract, often detected incidentally [1]. Little is known on the efficacy of cold snare unroofing [2].

Methods 11 patients with incidentally discovered SELs in the upper GI tract were evaluated. In 10 patients biopsies were taken using a standard forceps after cold snare unroofing. Location, final diagnosis and complications were recorded for all cases.

Results A diagnosis could be established in 9/10 cases (8 stomach and 2 duodenum, table 1). One patient was excluded with suspected lipoma because no biopsy was performed. 8/10 (80%) received an EUS examination. In one patient with a SEL arising in the 4th layer of the gastric corpus, biopsies were non-diagnostic and diagnosis was made after resection. Two patients (2/10, 20%) reported self-limiting epigastric pain after the procedure. In 5/10 (50%) patients, prophylactic clipping was performed (► Table 1).

Conclusions The diagnostic yield of this small case series is comparable to mucosal incision-assisted biopsy [3]. However, we believe the herein described technique offers the advantage of eliminating the need for electrocautery. Further studies are needed in order to clarify the role of express unroofing, particularly with respect to answer the question if SELs arising from the 4th layer can be sufficiently diagnosed as well.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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Diagnosis	n=patients (m/w)	Location	EUS (n=), layer	Complication
Lipoma	4 (0/4)	s=3, d=1	n=3, all in layer 3	mild pain (n = 1)
Ectopic pancreas	3 (2/1)	s=3	n=2, all in layer 3	mild pain (n = 1)
Leiomyoma /GIST	2 (1/1)	s=2	layer 4	none
Lymphangioma	1 (1/0)	d=1	layer 3	none

Location: s=stomach, d=duodenum

► Table 1

eP450 Impact of social media on training in endoscopy

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DOI 10.1055/s-0043-1765734

Aims Social media (SM) are part of our daily lives they allow experience exchange between doctors and offer new training perspectives.

The aim of our work is to assess the impact of SM on the learning process in endoscopy.

Methods In an international prospective study, we enrolled 521 endoscopists. Using self-administered questionnaires, we collected data on daily use of SM (length; purpose level of confidence SM information). Data analysis was done by Jamovi software 2.2.5.

Results SM were used by all the participants, the median age was 35years [32; 48], The majority of participants were specialists 427(82%), 94(18%) residents. 514(98,7%) of the participants reported using SM also for learning purposes. The average time spent on SM was 4.39 ± 1.56 hours/day, of which median 2 H is devoted to learning.

YouTube was the most used SM for this purpose 431(82.7%), followed by WhatsApp 373(71,5%), Facebook 371(71.2%) and Instagram of 221(42.4%). Digestive endoscopic videos and images are the most searched in SM 284(54,5%) then abstracts of scientific articles in 135(26%).

472(90,5%) think that SM can improve their knowledge; however, 368(70,6%) of the participants think that they cannot evaluate the reliability of information through SM.

Conclusions Most people are connected to SM. They became a learning channel making access to knowledge easier. careful attention should be made on how to improve contents authenticity and reliability.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP451 Motorized enteroscopy in clinical practice: a stunning experience

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DOI 10.1055/s-0043-1765735

Aims Review all motorized spiral enteroscopies (PSE) at our institution in a systematic fashion.

Methods All consecutive patients undergoing motorized power spiral enteroscopy (PSE) were entered in a database. Subsequently, we reviewed all data in a retrospective fashion and data were analyzed for diagnostic and therapeutic effectiveness, safety, length, and type of the procedure.

Results Until today, 53 consecutive patients were included. PSE was performed orally in 50 patients (under general anesthesia) and by the transanal route in 3 patients. In 9 patients, PSE was performed orally for biliary interventions in pts. with surgically altered anatomy. All patients were carefully selected. In 49 out of 53 pts.(92%), PSE permitted a definitive diagnosis and local treatment was applied to 46/53 patients. Out of 9 biliary interventions, PSE permitted access to the biliary system in 7 pts. (78%) and local therapy was applied successfully in 6 pts. Length of PSE was between 21-178 minutes. We encountered one serious adverse event requiring intensive care hospitalization (spiral obstruction of the upper esophagus after breakage) but this patients was treated effectively by conservative means. All other adverse events (n = 7) were of no or minor clinical importance.

Conclusions Motorized power spiral enteroscopy (PSE) is highly effective for diagnosis and treatment of intestinal and biliary lesions. In carefully selected patients PSE detects many relevant findings that can be treated endoscopically, or by surgical means, if necessary. The safety of the procedure is generally high, while unexpected technical problems can occur that can cause SAE's and hence deserve further attention in the near future.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP452 Median Arcuate Ligament Syndrome(MALS) – A Case Report On The Use Of EUS As A Diagnostic And Therapeutic Tool Prior To Definitive Surgery

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DOI 10.1055/s-0043-1765736

Aims Median arcuate ligament syndrome (MALS) is a rare condition with unknown etiology resulting from compression of the celiac artery by the median arcuate ligament (MAL). MALS is characterized by abdominal pain, weight loss, and abdominal bruit. CT angiography (CTA) may demonstrate compression of the celiac artery by the MAL. Data are limited on the value of EUS with celiac plexus block (CPB) for the treatment of MALS.

Methods This is a case of a 35-year-old female with several years of abdominal pain. She had a past surgical history of sleeve gastrectomy. Recent CTA showed celiac artery stenosis with post-stenotic dilatation suggesting MALS. Given her previous bariatric surgery, an initial minimally invasive approach was recommended by performing EUS with CPB to assess if there would be lasting pain relief and thus predict a subsequent beneficial surgical response.

Results EUS was performed and the celiac ganglia were identified. 7ml of 0.25% Bupivacaine was injected into the celiac plexus. Shortly after EUS, the patient reported no abdominal pain. Six weeks later, however, she was readmitted to hospital with recurrent abdominal pain. Repeat EUS with CPB was performed, and again an immediate therapeutic effect was reported. Given this positive therapeutic response, it was decided proceed with surgical intervention. Successful surgery with MAL release was performed. Persisting symptom relief has been achieved and repeat CTA demonstrates no celiac artery stenosis.

Conclusions In conclusion, for patients with suspected MALS, EUS with CPB can improve patient symptoms, and may help to selectively identify appropriate patients for subsequent surgical intervention.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP453V Circumferential dissections in squamous cell carcinomas on oesophageal lichen planus and application of haemostatic to prevent stenosis

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DOI 10.1055/s-0043-1765737

Abstract Text A 76-year-old woman was referred for ESD of two circumferential squamous cell carcinomas on oesophageal lichen planus (OLP). A 10cm distal circumferential ESD was performed (single tunnel technique). Oral steroids and a self-assembling peptide (SAP) was applied to prevent stenosis. Four weeks control showed no stenosis and the second ESD of the 5cm circumferential proximal lesion was performed; SAP was applied to both eschars. SAP was applied again in the 8 weeks control. No stenosis was developed in the follow up (10 months) showing that this combination could be used to decrease the risk of stenosis after very extensive resections.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP454 Triglyceride glucose index (TyG index) and risk of colorectal adenoma

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DOI 10.1055/s-0043-1765738

Aims Insulin resistance is associated with the risk of colorectal adenoma. Insulin resistance has been constantly associated with high triglyceride. Triglyceride glucose index (TyG index) is a useful indicator of insulin resistance. We investigated the association of TyG index with the risk of colorectal adenoma [1–5].

Methods This study was performed on 163 subjects who underwent colonoscopy at university hospital from March to December 2021. TyG index was calculated as formula: $\ln [\text{fasting triglycerides (mg/dL)} \times \text{fasting plasma glucose (mg/dL)} / 2]$. Variables were investigated using chi-squared test, t-test and Mann-Whitney U test, as appropriate. Logistic regression model was used to investigate the relationship between the risk of colorectal adenoma and TyG index.

Results The mean of fasting glucose, fasting triglyceride, and TyG index were all significantly higher in the group with colorectal adenomas ($p < 0.01$; $p = 0.012$; $p = 0.002$, respectively). Logistic regression analysis showed that fasting triglyceride (TG) [adjusted odds ratio (OR), 1.005; 95% Confidence interval (CI), 1.001–1.009; $p = 0.028$] and TyG index [adjusted odds ratio (OR), 2.049; 95% Confidence interval (CI), 1.121–3.745; $p = 0.020$] were positively associated with an adenoma detection. The subjects were divided into four groups according to the quartile of each parameter, and the adjusted odds ratios for the 4th quartile group of fasting TG and TyG index were statistically significant (► **Table 1**).

Conclusions TyG index may predict the presence of colorectal adenomas, which is particularly pronounced in the group with a high TyG index. Therefore, screening colonoscopy should be recommended for people with a high TyG index.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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TyG index	Adjusted OR (95% CI)*	P
Q1 (7.37–8.14)	1	
Q2 (8.15–8.62)	1.810 (0.603–5.430)	0.290
Q3 (8.63–9.08)	1.777 (0.590–5.358)	0.307
Q4 (9.09–10.44)	3.465 (1.167–10.287)	0.025

* Adjusted for age and sex

► **Table 1** The risk for colorectal adenoma by quartiles of TyG index.

eP455 Obliterating gastric varices with glue injection: efficacy, safety and rebleeding risk factors

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DOI 10.1055/s-0043-1765739

Aims Endoscopic management of gastric variceal (GV) bleeding has been premised on the injection of biological glue. The aim of this study was to assess the efficacy and safety of biological glue injection (GI) in the treatment of hemorrhagic GV and identify predictive risk factors of bleeding recurrence (BR).

Methods We conducted a retrospective study, over a period of 13 years [2010 – 2022], including patients with bleeding GV treated with biological GI. Demographic data and endoscopic findings were collected as well as follow-up information.

Results Thirty-eight patients were included with a mean age of 58.4 years. Portal hypertension syndrome was mostly caused by cirrhosis (81.6%). Clinical presentation of GV rupture was gastrointestinal bleeding (92.1%) and deglobulisation in the rest of the cases. Bleeding GV were type 2 gastroesophageal varices (57%), type 1 gastroesophageal varices (39.5%), and type 1 isolated GV (15.8%). GI was performed within a median time of 3 days after hospitalization without any incident. Primary hemostasis was obtained in 100% of cases. Endoscopic treatment was complicated in 2 cases by pulmonary embolism secondary to glue migration in one case and severe sepsis in the other. BR due to GV rupture was noted in 9 patients (23.6%). Risk factors associated with a bleeding recurrence were Child-Pugh B or C score ($p=0.04$), as well as hypertensive gastropathy ($p=0.03$). In multivariate analysis, only hypertensive gastropathy was significantly associated to recurrence.

Conclusions Factors predisposing to BR after obliteration of GV with GI are poorly studied and defined. Identification of these factors would help select most-eligible patients of stricter monitoring.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP456 Efficacy and safety of self-expandable metal stents for obstructing colorectal cancer: experience in the last 7 years at a university hospital

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DOI 10.1055/s-0043-1765740

Aims Colorectal cancer (CRC) is the most common malignant tumour worldwide, causing intestinal obstruction in 8-13% of patients with advanced CRC. In recent years, the use of self-expandable metal stents (SEMS) has been key in its management both in palliative intent and as a bridge before surgery [1]. Our purpose is to analyze the indication, effectiveness and safety of patients with placement of colonic SEMS for CRC in our center (► Fig. 1).

Demographic Data	
N	153
Clinical Data	
Localization CRC: rectum/ sigmoid + AC / TC+DC n (%)	9 (5.8)/108 (70.59)/ 17 (11.11)
Endoscopic Data	
Technical success n (%)	144 (94.12)
Clinical success n (%)	139 (90.85)
SEMS complications: Perforation/ Migration/ Obstruction n (%)	13 (8.5)/ 11 (7.19)/ 19 (12.42)
Follow-up Data	
Survival (days)*	311.94+/-372.23

* Mean +/- standard deviation
AC ascending colon, TC transvers colon, DC descending colon.

► Fig. 1

Methods Retrospective study of the total of SEMS in CRC carried out from 2014 to the present. Demographic, clinical and endoscopic data are collected. Data extraction from the Endobase system.

Results The main results are presented in the table:

Conclusions Technical and clinical success is achieved in most patients with less than 20% of complications. Stenting colonic obstruction is an effective and safe therapy in the management of advanced CRC.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] van Hooft JE, Veld JV, Arnold D et al. Self-expandable metal stents for obstructing colonic and extracolonic cancer: European Society of Gastrointestinal Endoscopy (ESGE) Guideline – Update 2020. *Endoscopy* 2020; 52: 389–407

eP457V Endoscopic treatment of iatrogenic perforation at the upper oesophageal sphincter after removal of an Ultraflex stent

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DOI 10.1055/s-0043-1765741

Abstract Text A 65-year old female underwent a circumferential endoscopic mucosal dissection (ESD) of a squamous cell carcinoma in the middle third of the oesophagus. One day after the ESD she presented a perforation. A partially covered stent was placed. One month later, the stent was removed and the initial perforation was closed. However, one day later she developed again subcutaneous emphysema. Endoscopy confirmed the presence of a 5 mm wide fistula at 2 cm below the upper oesophageal sphincter. The fistula was fully closed using a 9 mm over-the-scope clip. The patient recovered well and follow-up endoscopy confirmed complete healing of the ESD site without tumor recurrence and complete fistula closure.

Conflicts of interest Braun MedicalPrion medicalBoston ScientificOlympus Europe

eP458 Factors affecting dissection speed in endoscopic submucosal dissection (ESD) of colorectal superficial lesions

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DOI 10.1055/s-0043-1765742

Aims Tunnel ESD (T-ESD) and underwater ESD (U-ESD) can improve ESD procedure. A dissection speed of $\geq 9 \text{ cm}^2/\text{h}$ ($15 \text{ mm}^2/\text{min}$) has been recognized as mark of proficiency.

Methods We retrospectively analyzed colorectal ESD performed in our centre between 2014 and 2022. Recurrent lesions and those removed by hybrid ESD were excluded. ESDs were divided into fast ESD group (dissection speed $> 15 \text{ mm}^2/\text{min}$) and slow ESD group ($< 15 \text{ mm}^2/\text{min}$). Univariate and multivariate analyses were conducted to examine factors that may have influenced dissection speed (► Table 1).

VARIABLE	OR	CI	P
Submucosal fibrosis (F1,F2)	0,49	0,22 - 1,05	0,0677
Neoplasm diameter (>40 mm)	4,70	2,20-10,01	0,0001
Kudo pit pattern V	0,45	0,20 - 1,03	0,0588
Tunnel ESD	2,52	1,07-5,93	0,0342
Underwater ESD	1,55	0,69 - 3,48	0,2878

► Table 1

Results 183 colorectal ESD were considered. Mean dissection speed was $15,7 \text{ mm}^2/\text{min}$ (SD $11,0 \text{ mm}^2/\text{min}$); 108 procedures (59%) resulted as slow ESD and 75 (41%) as fast ESD. On univariate analysis, neoplasm diameter $> 40 \text{ mm}$ (OR 7,49), T-ESD (OR 5,28) and U-ESD (OR 1,96) were significantly associated with fast ESD; Kudo pit pattern V (OR 4,11) and submucosal fibrosis (OR 3,45) to

slow ESD. On multivariate analysis, diameter > 40mm and T-ESD were independently associated to fast ESD, U-ESD resulted non significantly related. No differences in en bloc resection, complete resection or adverse events rate emerged.

Conclusions Tunnel-ESD improve endoscopic submucosal dissection speed of colorectal lesions, underwater-ESD can speed up the procedure but this result was not confirmed on multivariate analysis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP459V EDGE procedure gone wrong: switch to NOTES

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DOI 10.1055/s-0043-1765743

Abstract Text A 66-year old male with a Roux-en-Y gastric bypass (RYGB) developed a post operative biliary stricture after cholecystectomy with choledochotomy. A two step EDGE procedure was performed. During the LAMS deployment, the distal flange immediately migrated out of the excluded stomach into the peritoneal cavity. The LAMS was removed while securing the guidewire into the excluded stomach. Then, a new LAMS was correctly deployed using the initial gastrogastrostomy fistula. Prophylactic antibiotic treatment was given and the patient was able to return home the next day. One week later, the actual EDGE-ERCP procedure with cholangioscopy was performed through the LAMS without adverse event.

Conflicts of interest Prion medical/Braun medical/Olympus Europe

eP460 Manometric hiatal hernia VS endoscopic hiatal hernia: is there a match?

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DOI 10.1055/s-0043-1765744

Aims We aimed to report the prevalence of hiatal hernia (HH) and to compare the epidemiological profiles of patients with manometric and endoscopic HH to those with manometric HH only.

Methods We conducted a retrospective, descriptive and comparative study, including patients who had had a high-resolution esophageal manometry (HREM) and an upper endoscopy (EGD) between January 2020 and November 2022. Group 1 included patients with endoscopic and manometric HH and group 2 included patients with exclusive manometric HH.

Results We included a total of 55 patients with HH from 131 initially screened (42%). The sex ratio M/F was 0.52. The mean age was 53 ± 15 years. The average duration of symptoms was 18 months, represented mainly by pyrosis (50.9%), regurgitation (41.8%) and dysphagia (80%). The average BMI was 26.15 Kg/m² [17–35] with 24.4% obese. Group 1 included 8 patients (14,5%) and group 2 included 47 patients (85,5%). Both groups were comparable for age, sex and medical history but patients in group 1 had a significantly higher mean weight (p = 0.029). There was no difference regarding the duration of clinical symptoms, the presence of pyrosis, regurgitation and dysphagia (p = 1, p = 0.32, p = 1, p = 0.64 respectively). However, esophagitis was much more prevalent in group 1 (50% vs. 6.4%, p = 0.006), without being severe. The lower esophageal sphincter was hypotonic in 27 patients (49.1%) equally in both groups (p = 1). The mean size of the HH was 2.19cm. HH greater than 2cm was noted in 45,5%, and more found in group 1 without a significant difference (75% vs 40% p = 0.12).

Conclusions Identification of HH is a frequent finding in HREM, far more than in EGD independently to its size. In fact, the diagnosis of endoscopic HH is assisted by the presence of esophagitis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP461 A Randomized Control Trial Comparing Water Exchange and Air Insufflation Using Non-Sedated Extended Flexible Sigmoidoscopy for Colorectal Cancer Screening

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DOI 10.1055/s-0043-1765745

Aims To determine the extent non-sedated extended flexible sigmoidoscopy (EFS) using the water exchange method (WE) is associated with a complete colon examination compared to the traditional air insufflation (AI) method in an average risk colorectal cancer screening population.

Methods This randomized control trial included 90 unsedated participants, screened by trained general surgery and gastroenterology physicians at Kelowna General Hospital, British Columbia, Canada, using two different scope insufflation techniques, WE and AI. The primary outcome of interest was the cecal intubation rates (CIR), while secondary outcomes included the adenoma detection rate (ADR) and reported pain scores. Other metrics, such as patient satisfaction rates and willingness to receive the procedure again at their next screening interval, were also recorded (► Fig. 1).

Results There were higher initial satisfaction rates in the WE group vs the AI (95% vs 77%, p = 0.012). CIR and ADR were higher in the WE group (CIR = 93% vs 91%, p = 0.710), (ADR = 40% vs 34%, p = 0.660), but these findings were not statistically significant [1–14].

Conclusions Non-sedated colonoscopy using either technique may produce a suitable performance for screening purposes while maintaining adequate patient safety and comfort. The WE method may optimize a patient's overall experience with scope-based screening and possibly reduce the patient hesitation that often comes with colonoscopy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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Characteristics	Air Insufflation N (%)	Water Exchange N (%)	p-value
Participant Reported Satisfaction		Opinion at Discharge	
9 or 10 / 10 (high satisfaction)	34 (77%)	38 (95%)	0.012
Willing to have the procedure again at next screening interval		Opinion at Discharge	
Yes	37 (84%)	37 (95%)	0.163

► Fig. 1

eP462 Ultrasound endoscopy -Guided Fine-Needle Aspiration of Porta Hepatis Lesions: A Retrospective Study

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DOI 10.1055/s-0043-1765746

Aims The aim of this study is to evaluate the diagnostic yield of Endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA) for lesions occurring in the porta hepatitis area.

Methods A retrospective study of 16 consecutive samples of porta hepatitis lesions obtained via EUS-FNA between 2020 and 2022 was conducted. Clinical histories and endoscopic findings were available prior to the diagnostic interpretation. The diagnosis of each lesion was based on its cytologic features on smears.

Results A total of 14 lesions (11 lymph nodes, 1 cysts and 2 masses) were biopsied in 13 patients.

Sixty one percent of the patients were female (n = 8) and 49 % were male (n = 5). There was an average age of 62.7 years in the cohort. Adequate samples were obtained in 100% of the cases, with an overall average of 1.4 passes (range 1–2). The most commonly seen sample type from the porta hepatitis area was lymph node and the second was mass or cyst.

Most of the lymph nodes were malignant (n = 6) 42 % of lesions, Of 7 patients with a history of known neoplasia and Porta hepatitis lymph node, 6 lymph nodes was metastatic. Porta hepatitis benign lesions include (n = 7): 04 lymph nodes (02 non metatic lymph nodes with known neoplasia, 01 tuberculosis lymph node, 01 tuberculoid granulomatous lymph nodes), and 01 cystic lymphangioma, 02 tumor of the bulboduodenal wall which extends towards porta hepatitis area (01 neuroendocrine tumor and one bulbo-duodenal GIST)

Conclusions EUS-FNA is an effective method for sample the porta hepatitis area, allowing easy access to the organs and lymph nodes surrounding the extrahepatic bile ducts, and the portal trunk

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP463 Successful endoscopic treatment of PPP syndrome

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DOI 10.1055/s-0043-1765747

Aims PPP syndrome (pancreatic disease, panniculitis and polyarthritis) is a rare syndrome with high morbidity and mortality. Joint and skin lesions are caused by lipolysis and secondary inflammation changes. We present a case series of four patients with successful treatment.

Methods Our group consists of 4 patients (3 men, 1 woman, mean age 55 years) in whom PPP syndrome was diagnosed in our department during period of last 8 years. Pancreatic disease was chronic pancreatitis in three patients and acinar pancreatic cancer in one patient. Panniculitis and arthritis were chief complaints in all patients, laboratory test revealed high inflammatory markers and elevated serum amylase and lipase. In two patients there was no history of pancreatic disease prior to diagnosis of PPP syndrome.

Results Two patients with chronic pancreatitis and stenosis of pancreatic duct were treated with endoscopic stent placement. Patient with chronic pancreatitis and apparent pancreatomesenteric fistula underwent duodenopancreatectomy and patient with acinar pancreatic cancer had left-sided pancreatectomy with splenectomy. In all cases treatment resulted in immediate normalization of serum amylase and lipase and no new skin or articular lesions were observed during follow-up period of mean 53 months (14-101).

Conclusions PPP syndrome can be treated endoscopically in some patients with chronic pancreatitis. When endoscopic decompression of pancreatic ductal system is not successful and in cases with pancreatic neoplasia surgical treatment is indicated.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP464V Large post-surgical duodenal leak treatment during enteroscopy session close it in one shot

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DOI 10.1055/s-0043-1765748

Abstract Text A 70-year-old-man affected by duodenal primary malignant stenosis was treated with Billroth II distal gastrectomy/duodenectomy and pancreatic neck enucleation, complicated by haemorrhagic shock, biliary leak and a duodenal perforation, all related to pancreatic fistula. Considering the difficulty of both a new surgery and a second enteroscopy session in a fragile patient, an endoscopic therapeutic one-session rescue procedure was attempted. We attempt to close the duodenal leak with a 11 mm OTS-clip, with 3 mm residual leak, “looping the clips technique” plus cyanoacrylate injection were then performed [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP465 Adaptation of the prone position during ercp. Take care of the patients by improving their comfort

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DOI 10.1055/s-0043-1765749

Aims The purpose is to evaluate whether a prone position adapted to the needs of endoscopic procedures can guarantee a correct and easy execution of the procedure, maintaining high levels of patient comfort [1–4].

Methods A group of 40 people was tested before in the traditional surgical prone position (as describe in literature), and then in the adapted prone posi-

tion, recording their different level of comfort using a scale from 0 (worst level of comfort) to 10 (best level of comfort).

Adapted prone position: Head is turned to allow the introduction of the endoscope, supported by “donut” gel headrest. To avoid abdominal compression a roll or wedge is placed on the right side of the chest (from the armpit to the hip bone). Lower leg is supported by a roll and knees are flexed. The left arm should be placed like “super man” surgical position, but the right arm is resting on the chest support. All the body is positioned on a gel mat, but every pressure point (knees, ankles, elbow) could be protect with further anti-decubitus devices.

Results 30 people described the adapted position as more comfortable than traditional one. 5 people described it as comfortable as the traditional one. Just 5 people didn't appreciate adapted position.

Conclusions From the results obtained, we consider necessary to proceed with the case control study, evaluating not only the level of comfort but also clinical parameters (ventilatory parameters in particular)

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP466 Ulcer with adherent clot: Detach or respect?

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DOI 10.1055/s-0043-1765750

Aims As for ulcers with adherent clot (stage IIb of Forrest), the endoscopist has the choice between detachment or respect of the clot; the aim of this study is to compare the two therapeutic attitudes while insisting on the recurrence and mortality rates.

Methods A retrospective study conducted between January 2005 and January 2022. We included all 145 cases of GI bleeding secondary to peptic ulcer with adherent clot. We studied 2 groups: the first group included 62 patients in whom the clot was detached and the second one included 83 patients in whom the clot was respected.

Results The median age of our patients was 48.70 years with a male predominance. Hemorrhagic shock was noted in 21 cases with a median hemoglobin of 8g/dl. Bulbar ulcer was observed in 110 patients. The ulcer's size exceeded 2 cm in 58 cases. In the first group, endoscopic treatment was possible only in 39 patients, whereas 23 patients were referred to surgeons.

Recurrence occurred in 3 and 15 patients in group 1 and 2 respectively. We deplored the death of 2 patients in the first group and 7 patients in the second one. Among the clinical, biological and endoscopic variables studied, a size of the ulcer exceeding 2cm and the respect of the adherent clot are the factors associated with the occurrence of hemorrhagic recurrence.

Conclusions Our study shows that endoscopic treatment is more effective and has a better prognosis than medical treatment alone in the management of ulcers with adherent clot.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP467 Post-ERCP acute pancreatitis in liver transplanted patients: a case-control study

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DOI 10.1055/s-0043-1765751

Aims The aim of this study is to perform a case-control study to evaluate the risk for post-ERCP pancreatitis (PEP) in post-liver transplantation (LT) patients

Methods This is a case-control retrospective study. All consecutive patients undergoing ERCP for the first time (native papilla) for post-LT biliary complications from January 2015 to September 2022, were included. The control group consisted of patients with native papilla undergoing ERCP for other indications from January 2019 to December 2019. Demographic data, technical data, and post-ERCP AEs were recorded. Rectal indomethacin was administered in all cases as PEP prophylaxis. Descriptive data are reported as mean/median ± standard deviation/range, or percentage. Categorical data were compared using the χ^2 test. P values < 0.05 were considered statistically significant.

Results 106 post-LT patients were included in the “case” group and 452 in the “control” group. Patients' characteristics (▶ **Table 1**). PEP prevalence was significantly higher in the case group (8/106, 7.5%) compared with the control group (15/452, 3.5%) (OR: 2.37, 95% CI: 0.98-5.75, P = 0.048). Double guide-wire cannulation prevalence was significantly higher in the case group (21/106, 19.8% vs. 54/442, 12.2%) (OR: 1.78, 95% CI: 1.02-3.10, P = 0.041).

Conclusions LT patients are at higher risk of PEP when compared with patients undergoing ERCP for other indication. Biliary cannulation seems to be more difficult in LT patients and this could explain the higher risk of PEP. The main limitations of this study are the retrospective design and the presence of a historic cohort group as controls. Prospective studies are needed to confirm these data.

Patients characteristics (n: number, LT: liver transplantation, AEs: adverse events, PEP: post-ERCP pancreatitis).

Conflicts of interest Authors do not have any conflict of interest to disclose.

	LT-group	Control group
Demographics:		
No. of patients, n	106	452
Age (years), mean ± SD	65.5 ± 12.7	69.9 ± 13.8
Sex (men), n (%)	81 (76.4)	213 (47.1)
Technical data:		
Biliary sphincterotomy, n (%)	106 (100%)	436 (96.4)
Pancreatic sphincterotomy, n (%)	0	16 (3.5)
Plastic stent placement, n (%)	77 (72.6)	44 (9.7)
Metal stent placement, n (%)	2 (1.8)	114 (25.2)
Double guide-wire cannulation, n (%)	21 (19.8)	54 (12.2)
Prophylactic pancreatic stent, n (%)	21 (19.8)	54 (12.2)
Naso-biliary drainage, n (%)	18 (16.9)	105 (23.2)
AEs:		
Bleeding, n (%)	3 (2.8)	10 (2.2)
Perforation, n (%)	0	0
PEP, n (%)	8 (7.5)	15 (3.5)

▶ **Table 1** Patients characteristics (n: number, LT: liver transplantation, AEs: adverse events, PEP: post-ERCP pancreatitis).

eP468 Novel Application of Artificial Intelligence to Measure Colonoscopy Inspection Time

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DOI 10.1055/s-0043-1765752

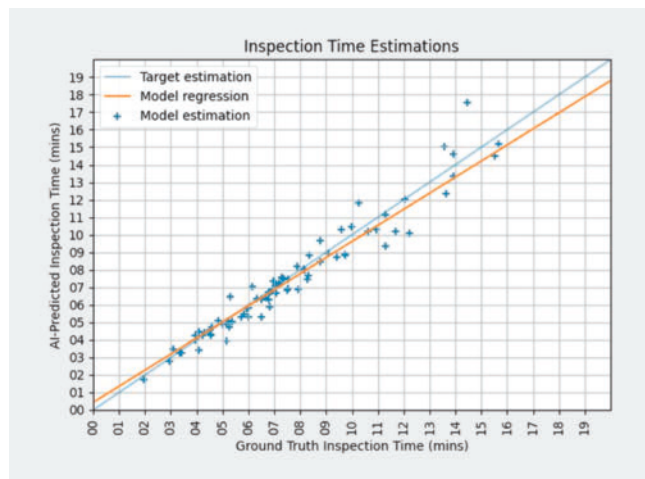
Aims We aimed to develop convolutional neural networks (CNN) to detect cleaning and polypectomy phases during withdrawal to facilitate automated measurement of colonoscopy inspection time (CIT) [1].

Methods Videos of withdrawal were annotated with labels of ‘cleaning’ (suctioning/washing), ‘polypectomy’ (injection/polypectomy/inspecting resection margins) and ‘inspection’. Using 98 annotated videos, two ResNet-101 CNNs were developed to detect cleaning (213936 frames) and polypectomy (56273 frames) events. The CNNs was then evaluated with 40 consecutive colonoscopy videos from 5 expert (ADR > 45%) and 40 videos from 6 non-expert (ADR < 30%) endoscopists. The video annotations were referenced as ground truth.

Results For the test set of 80 procedures, median withdrawal time (WT) documented in the endoscopy reporting system (EPIC) was 15.0 minutes (IQR 10.0–23.0), the annotated (ground truth) median CIT was 7.1 minutes (IQR 5.3–9.6), and the AI predicted median CIT was 6.9 minutes (IQR 5.1–9.0). For expert procedures (n = 40), these were 16.5 minutes (IQR 11.0–25.3), 7.1 minutes (IQR 5.1–8.6) and 6.9 minutes (IQR 4.9–8.8), respectively. Amongst non-expert procedures (n = 40), these were 14.0 minutes (IQR 10.0–22.0), 7.0 minutes (IQR 5.8–10.7) and 7.0 minutes (IQR 5.3–10.2), respectively. The AI system correctly categorised 95% (76/80) of procedures as less or more than 6 minutes CIT (► Fig. 1).

Conclusions We have demonstrated the feasibility of AI to differentiate the phases of withdrawal to automate measurement of CIT and the considerable difference in time between CIT and WT.

Conflicts of interest Professor Danail Stoyanov is a shareholder in Odin Vision. Professor Laurence Lovat is a consultancy and minor shareholder in Odin Vision. [1] Kader R., Carvalho T.D., Oh Ga Y. et al. Automated measurement of colonoscopy withdrawal time using convolutional neural networks. *Endoscopy* 2022; 54 (S 01): S92



► Fig. 1

eP469 Endoscopic Ultrasound with Tissue Acquisition of Lymph Nodes in Patients with Resectable Intrahepatic Cholangiocarcinoma

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DOI 10.1055/s-0043-1765753

Aims For patients with intrahepatic cholangiocarcinoma (iCCA), median survival after resection is 60 months. However, when regional lymph node (LN) metastases are found, survival drops to 20 months. Our aim was therefore to evaluate the yield of EUS with tissue acquisition (TA) of LN in resectable iCCA patients and determine the impact on clinical decision making.

Methods In this retrospective, multicentre cohort study, patients with potentially resectable iCCA who underwent preoperative EUS for various indications from 2010–2020 were included. The impact of EUS-TA was defined as the percentage of patients who did not undergo surgical exploration due to positive LN found with EUS-TA. Extraregional LN (e.g., aortocaval and celiac trunc) were distinguished from regional LN. EUS was not performed in a standardized manner and TA was performed at the discretion of the endosonographer.

Results A total of 56 patients were included. At EUS a total of 71 LN (29 regional; 42 extraregional) across 46 patients (82%) were described. In 55 LN EUS-TA was indicated and successful, with malignancy confirmed in 21 LN across 19 patients (35%). Fifteen (27%) out of those 19 patients had positive extraregional LN and 4 (9%) had positive regional LN. Surgical exploration was precluded due to positive LN in 17 patients (30%). In the 24 patients (43%) that finally underwent surgical exploration, positive LN that were missed by EUS, were identified in five patients (21%), of which 2 had extraregional LN (► Table 1).

	All resectable iCCA patients with preoperative EUS performed (n = 56)
Age at diagnosis, median [IQR], years	64 [IQR: 56 – 72]
Female gender – n (%)	32 (57%)
PSC – n (%)	7 (13%)
LN described on cross-sectional imaging – n (%)	51 (91%)

► Fig. 1

Conclusions Preoperative EUS in the setting of resectable iCCA potentially has clinical implications precluding surgical exploration in case of positive LN. A systematic approach by EUS including nodal mapping of all relevant stations with TA could potentially increase this yield.

Conflicts of interest The other authors have no conflicts of interest to declare. M.J. Bruno received research funding for industry initiated studies from Boston Scientific and Cook Medical. He received research funding for investigator initiated studies from Boston Scientific, Cook Medical, Pentax Medical,

Interscope, Mylan and ChiRoStim. He is a consultant to Boston Scientific, Cook Medical, and Pentax Medical. R.P. Voermans received research funding for investigator initiated studies from Boston Scientific and Prion Medical. He is a consultant with speakers fee for Boston Scientific.

eP470 Aspiration of capsule endoscopes: an update on this complication

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DOI 10.1055/s-0043-1765754

Aims Capsule endoscopy (CE) is safe and accepted as the first-line mode of small bowel investigation. As the capsule is orally ingested, aspiration is always possible. We compiled the available data on capsule aspiration to provide an update on this complication of CE.

Methods We performed a systematic literature search on PubMed with the search terms 'capsule endoscopy' AND 'aspiration', searched as keywords and MeSH. We included all observational cohort studies that reported aspiration among their complications, as well as case reports and series. Manual cross-checking of references was also performed. Two extractors performed abstract and full-text reviews and data extraction [1].

Results We found 120 relevant hits (25 were duplicates), and cross-checking references led to additional 14 articles. We removed 58 and ended with 51 references – with 56 cases of aspirated capsules. One death was reported. The median age was 80, with male preponderance. The most common indication for CE was ongoing anemia, and only aspiration of small bowel capsule endoscopes was reported. 82% of the aspirations were symptomatic; most common symptom was coughing. 71% of capsules ended in the bronchus, but only 3 cases experienced desaturation. 29 patients needed intervention for retrieval; the aspiration was self-resolved in the remaining.

Conclusions With only 56 cases of aspirated capsules reported in the literature, aspiration remains a rare adverse event that is safely managed and should not deter patients from the procedure. In certain patient groups, aspiration should be anticipated, and in these, the capsule administration should be approached with precautions.

Conflicts of interest Koulaouzidis: director of iCERV Ltd and founder/shareholder of AJMMedicapsKoulaouzidis: consultant for Jinshan and fees from Jinshan Medtronic and material support from Intromedic

[1] Yung D.E. et al "Short article: Aspiration of capsule endoscopes: a comprehensive review of the existing literature.". *Eur J Gastroenterol Hepatol* 2017; 29 (4): 428–434

eP471 Systematic review and meta-analysis: endoscopic vacuum therapy (evt) versus self-expandable metal stent (sems) for anastomotic leaks after upper gastrointestinal surgery

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DOI 10.1055/s-0043-1765755

Aims Endoscopic treatment of post-esophagectomy/gastrectomy anastomotic dehiscences includes Self-Expandable Metal Stents (SEMS) and Endoscopic Vacuum Therapy (EVT). The aim of the study was to compare outcomes of SEMS and EVT in the treatment of post-esophagectomy/gastrectomy anastomotic leaks, focusing on oncologic surgery

Methods A systematic search was performed on Pubmed and Embase, identifying studies comparing EVT versus SEMS for treatment of leaks after upper gastro-intestinal surgery, for malignant or benign pathology. The primary outcome was the rate of successful leak closure. A meta-analysis was conducted, performing an a priori- defined subgroup analysis for the oncologic surgery group

Results Eight retrospective studies with a total of 357 patients were eligible. Overall, EVT group showed higher success rate (odds ratio [OR] 2.58, 95% CI 1.43-4.66), lower number of devices (pooled mean difference [pmd] 4.90, 95% CI 3.08-6.71), shorter treatment duration (pmd -9.18, 95% CI -17.05- -1.32) lower short-term complication (OR 0.35, 95% CI 0.18-0.71), and mortality rates (OR 0.47, 95% CI 0.24-0.92), compared to stenting. In oncologic surgery subgroup analysis, no differences in success rate were found (OR 1.59, 95% CI 0.74-3.40, I²=0%)

Conclusions Overall, EVT has revealed to be more effective and less-burdened complications compared to stenting. At oncologic surgery subgroup analysis, efficacy rates were similar between the two groups. Further prospective data are needed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP472 Performance of the exalt model d single-use duodenoscope in a selected consecutive series

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DOI 10.1055/s-0043-1765756

Aims The aim of this study is to report the experience of a high-volume endoscopy center in the use of single-use EXALT Model D duodenoscope (Boston Scientific Corporation, USA).

Methods This is a retrospective observational study. All consecutive patients undergoing ERCP performed with EXALT single-use duodenoscope by expert endoscopists from April 2010 to November 2022 were reviewed from a prospectively maintained ERCP database. Demographic and technical data, indications, AEs, and ERCP success rate were recorded. Descriptive data are reported as mean/median ± standard deviation/range, or percentage.

Results 19 were included. Patients' characteristics in Table 1. Post-Liver transplantation immunodeficiency was the most common indication for the use of disposable duodenoscope (9, 47.3%), followed by SARS-CoV2 infection (6, 31.5%) and immunodeficiency (4, 21%). Twelve native papillae were recorded (63.1%) undergoing biliary sphincterotomy in 10 cases (52.6%) and pancreatic sphincterotomy in 1 case (5.2%). In 1 case (5.2%) precut was needed after cross-over to reusable duodenoscope. Seven cases of non-native papilla were recorded (36.8%). ERCP was completed with the single use duodenoscope in 17 cases (87.4%). One case of delayed bleeding (5.2%) managed endoscopically, and 1 case of post-ERCP pancreatitis (5.2%) managed conservatively, were recorded.

Conclusions EXALT single use duodenoscope resulted efficient and safe in the management of bilio-pancreatic diseases. However, the advantages and environmental/cost impact of disposable duodenoscope and the are still controversial issues (► Fig. 1).

Patients characteristics (n: number, LT: liver transplantation, AEs: adverse events).

Conflicts of interest Authors do not have any conflict of interest to disclose.

Demographics:	
No. of patients, <i>n</i>	19
Age (years), <i>mean ± SD (range)</i>	49.2 ± 23.9 (7-84)
Sex (men), <i>n (%)</i>	13 (68.4)
Indication for disposable scope use:	
LT related immunodeficiency, <i>n (%)</i>	9 (47.3)
SARS-CoV2 infection, <i>n (%)</i>	6 (31.5)
Congenital immunodeficiency, <i>n (%)</i>	2 (10.5)
Acquired immunodeficiency, <i>n (%)</i>	2 (10.5)
Technical data:	
Native papillas, <i>n (%)</i>	12 (63.1)
Biliary sphincterotomy, <i>n (%)</i>	11 (57.8)
Pancreatic sphincterotomy, <i>n (%)</i>	1 (5.2)
Precut, <i>n (%)</i>	1 (5.2)
Biliary plastic stent placement, <i>n (%)</i>	10 (52.6)
Biliary metal stent placement, <i>n (%)</i>	1 (5.2)
Pancreatic stent placement, <i>n (%)</i>	3 (15.7)
Naso-biliary drainage, <i>n (%)</i>	4 (21)
Cholangioscopy, <i>n (%)</i>	2 (10.5)
AEs:	
Bleeding, <i>n (%)</i>	2 (5.2)
Perforation, <i>n (%)</i>	0

► Fig. 1

eP473 Screening for colorectal cancer by fecal occult blood testing

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DOI 10.1055/s-0043-1765757

Aims The objective of our study was to define the positivity rate of FIT and its interest in the detection of colorectal cancer and advanced polyps.

Methods Two hundred and seventy-two consecutive patients meeting the inclusion criteria of the study provided samples for immunochemical FOBT (without dietary restrictions) from a single stool sample

Results The mean age of the study population was 62 years with extremes ranging from 50 to 91 years, including 57 men and 215 women with a sex ratio

(F/H) 3.77, 65% from urban areas and 35% from rural areas. Among these 272 samples, the immunological test was positive in 20 subjects (7%). We were able to perform 12 colonoscopies of which 6 were normal and one patient had a well differentiated and infiltrating ADK of the right colon and 2 others had polyploid lesions, one patient had ileal ulcerative lesions and the last one had petechial lesions in the right colon.

Among the 8 unperformed colonoscopies, 6 subjects from rural areas could not be reached and the 2 others refused the colonoscopy because of family constraints

Conclusions The automated immunochemical FOBT used in our study was a robust, practical and useful tool for screening for colorectal cancer and advanced polyps in the study population.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP474V Mistake during endoscopic snare papillectomy

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DOI 10.1055/s-0043-1765758

Abstract Text A 74 year-old lady underwent endoscopic papillectomy. At the end of en-bloc resection severe bleeding occurred. A 25-gauge needle was advanced to perform a submucosal injection of diluted epinephrine (1:10000). The presence of abundant amount of blood in the duodenum reduced the visibility and an excessive pressure on the needle tip led to duodenal wall perforation. Two 16 mm endoclips were placed and promptly closed the duodenal wall defect. The patient was referred for urgent CT scan, confirming the presence of free air in the retroperitoneum. After 7 days a control CT scan showed reduction of the retroperitoneum without collections. Clinical course was uneventful. The patient is free of recurrence after 2 year.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP475 Is it necessary to fear bleeding after proctological surgery?

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DOI 10.1055/s-0043-1765759

Aims The risk of postoperative bleeding is present up to 3 weeks after surgery and in 95% of cases this risk occurs during the first 2 weeks. The aim of this study was to evaluate the frequency of postoperative bleeding, requiring a hemostasis procedure in the operating room within 30 days after surgery.

Methods This is a cross-sectional and descriptive study spread over a period of 3 years between July 2019 and August 2022 carried out in the gastroenterology department, including all patients who presented with post-proctological surgery bleeding, who required hospital management

Results Among the 734 patients operated on, 7 patients presented a postoperative hemorrhagic event for all procedures combined, a prevalence of 0.95%. The mean age was 35.9 years +/- 10.7, and the sex ratio for men and women was 6. Active smoking was present in 71.6% of our patients. One patient was on anticoagulant therapy. The occurrence of postoperative bleeding was after a cure of a complex anal fistula in 42.9% of the cases, a cure of a simple anal fistula in 28.6% of the cases, hemorrhoidal surgery, and suppuration (excluding fistulas) in 14.3% of the cases, respectively. The median time from the onset of bleeding was 2.57 days. No patient required a transfusion; the median time for surgical resumption was 3 days; five patients required hemostasis under lo-

coregional anesthesia (71.6%), and two patients benefited from a pressure dressing (28.4%). The evolution was favorable in all patients.

Conclusions The rate of post-proctological surgery hemorrhage was 0.95%, requiring reoperation in the operating room under locoregional anesthesia in 71.6% of cases.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP477 Infectious esophagitis in immunocompetent individuals: case series in a tertiary care hospital

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DOI 10.1055/s-0043-1765760

Aims The prevalence of infectious esophagitis in immunocompetent individuals is unusual. The main aetiological agent is HSV-1, affecting in most cases individuals under 40 years of age with severe odynophagia and dysphagia as main symptoms. It is not known whether SARS CoV-2 infection or administration of its vaccine are predisposing factors.

Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
38 years Woman No covid No vaccine	44 years Men No covid Vaccine 5 days before (Moderna)	45 years Men No covid Vaccine 5 months before (Moderna) Recent HSV Contact 1	29 years Men Recent COVID No vaccine	22 years Men No covid Vaccine 3 months before (Pfizer)
Odynophagia	Cold sores Odynophagia Dysphagia Vomiting	Odynophagia Dysphagia Fever	Odynophagia Initially diagnosed with tonsillitis	Odynophagia Dysphagia Chest pain Reflux Vomiting Initially diagnosed with GERD
No analytical or radiological abnormalities	CRP 57.7 mg/L	CRP 13 mg/L	No analytical or radiological abnormalities	CRP 29.9 mg/L Splenomegaly on ultrasound
Gastroscopy: biopsy of longitudinal ulcers throughout the entire esophagus	Gastroscopy: biopsies of superficial ulcers, confluent, raised in distal esophagus	Gastroscopy: tab biopsies of erythematous, superficial and elevated mucosa in the distal esophagus	Gastroscopy: biopsies of superficial, raised, rounded ulcers in the distal esophagus	Gastroscopy: biopsies of longitudinal and superficial ulcers not raised by the entire esophagus
PCR+ for HSV 1	-	Histology for HSV 1	Histology and serology for HSV 1	PCR + and serology for HSV 1
No hospitalization	Hospitalized for two days	No hospitalization	No hospitalization	Hospitalized for two days
Oral acyclovir 400 mg/8h for 7 days, Ziverel and PPI/12h	Intravenous acyclovir 400 mg/8h for 2 days and oral 7 days, Ziverel and PPI/12h	PPI/12h	Oral acyclovir 400/8h for 10 days and Ziverel	Intravenous acyclovir 350 mg/8h for 2 days and oral 7 days, Ziverel and PPI/12h
Clinical duration: 5 days	Clinical duration: 14 days	Clinical duration: 5 days	Clinical duration: 7 days	Clinical duration: 10 days
No complications	No complications	No complications	Recurrence at two months	Resolved splenomegaly

► Fig. 1

The aim is to determine the main clinical, diagnostic and endoscopic features and response to treatment of patients diagnosed with viral esophagitis since the beginning of the pandemic.

Methods A case series of immunocompetent patients with viral esophagitis in the Complejo Asistencial Universitario de León from March 2020 to January 2022 is included (► Fig. 1).

Results A total of five patients were diagnosed with viral esophagitis. The personal, clinical, diagnostic and therapeutic data of all cases is listed in Table 1.

Conclusions Viral esophagitis in immunocompetent patients is rare, leading to under-diagnosis. It should be suspected in acute cases of intense odynophagia. In our series, histological diagnosis was compatible in only 40% of cases. As this is a self-limiting infection in immunocompetent individuals, there are discrepancies between administering acyclovir or only treating symptoms. SARS CoV-2 infection or the administration of its vaccines could act as predisposing factors, although further studies are needed to establish this relationship.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP478V Successful endoscopic treatment for Mirizzi Syndrome type III under stent use and cholangioscopy-assisted intraluminal lithotripsy

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DOI 10.1055/s-0043-1765761

Abstract Text Mirizzi Syndrome (MS) can be difficult to treat and represents a challenge for the endoscopist since it is often not possible to access or to capture impacted large stones in the cystic duct or gallbladder neck. We report a case of MS type III, caused by a 35-mm gallstone at the confluence of the cystic duct, successfully treated by advanced endoscopic procedures during ERCP (papiloplasty, the use of stents and cholangioscopy-assisted lithotripsy). This case also highlights the important role of this procedures in selected MS patients considering individual comorbidities and surgery risk, allowing them to avoid surgery.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP479 Efficacy and safety of Endoscopic Submucosal Dissection of giant rectal neoplastic lesions: a single Italian center experience

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DOI 10.1055/s-0043-1765762

Aims This study aimed to assess the efficacy and safety of rectal ESD for superficial lesions \geq 8 cm.

Methods A total of 138 superficial rectal neoplasms treated by ESD from January 2018 to December 2021 were included in the analysis and allocated in two groups: 25 in the "giant" ESD group and 113 in the control group (► Table 1).

Results Demographic features of the patients were not different between the two groups. LST-GM were more often observed in the "giant" ESD group (96% vs 58% in the control group; $p < 0.001$) while sessile polyps represented 18% of lesions of the control group and 0% in the "Giant" ESD group ($p = 0.01$). En bloc resection was achieved in 96% of cases in both groups. En bloc R0 resection rate was similar between the "giant" ESD group and the control group (84% vs 86%; $p = 0.5$) and curative resection was higher in the control group (81% than in "giant" ESD group (68%) without reaching statistical significance ($p = 0.2$). Submucosal invasion superior to 1000 μ m was more frequent in the "giant" ESD group than in the control group (24% vs 10%; $p = 0.05$). Dissection time was significantly longer in the "giant" ESD group (251 vs 108 minutes; $p < 0.0001$), however, dissection speed was significantly higher (0.36 vs 0.17 cm²/min; $p = 0.02$). Post-ESD stenosis was observed in 2 patients from the "giant" ESD group (8% vs 0% of control group, $p = 0.03$). No significant differenc-

es were found in delayed bleeding, perforation, local recurrences, and need for additional surgery.

Conclusions ESD for superficial rectal tumors ≥ 8 cm is a feasible and effective therapeutic option.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	"Giant" ESD group (n =25)	Control group (n =113)	P value
En-bloc resection, % (n)	96 (24)	96 (108)	0.7
En-bloc R0 resection, % (n)	84 (21)	86 (97)	0.5
Curative resection, % (n)	68 (17)	81 (91)	0.2
Complications, % (n)	16 (4)	16 (18)	0.6

► **Table 1** Main outcomes.

eP480 Acute upper gastrointestinal bleeding, 10 years' experience from Serbia

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Aims To evaluate changes in clinical characteristics of patients who presented with AUGIB.

Methods 126 patients admitted during the year 2018. were compared with data from 124 patients admitted with AUGIB in 2013. year and with 121 patients from 2008. year.

Results The percentage of NSAID's and antiplatelets such as causes of AUGIB remained stable (63.63 % vs. 68.55 % vs. 65.87 %), whereas the use of oral anticoagulants drugs increased significantly during this period (from 6.44 %, across 12.1 % in 2013. to 16.67 %, $P=0.041$). In 2008. year 31.4 % of AUGIB was from duodenal ulcer following gastric ulcer (26.44 %), variceal bleeding (15.7 %), gastric erosions (12.4 %), duodenal erosions (8.26 %), gastric and esophageal cancers (7.44 %). Main reasons for AUGIB in 2013. year were: duodenal ulcer (25 %), duodenal erosions 19.35 %, gastric ulcer (15.32 %), gastric erosions (10.48 %), gastric and esophageal cancers (12.9 %) and variceal bleeding (6.45 %). In the year 2018. most frequent reason for AUGIB were: duodenal erosions 24.6 %, duodenal ulcers 23.42 %, gastric ulcers (15.87 %), variceal bleeding (11.11 %), gastric erosions (8.73 %), gastric and esophageal cancers (8.73 %). During the period of these 10 years duodenal erosions increased significantly ($p=0.0027$) while gastric ulcer decreased significantly ($p<0.05$). Overall mortality was 14.05 %, 9.68 % and 10.32 % (2008., 2013., 2018.)

Conclusions Patients with AUGIB are older with more comorbidities, their mortality remains unchanged. Main risk factors for AUGIB are NSAID's and antiplatelets use with clear trend of decreasing of peptic ulcer disease, mainly gastric ulcers like a reason of hemorrhage [1].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP481 ESD with adaptive traction strategy: result of the 54 first procedures

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Aims Good submucosal exposure is a key factor for success during ESD, and can be achieved by different traction devices. Nevertheless, they all provide a fixed amount of traction force that tends to decrease as the dissection pro-

gresses. In contrast, the A-TRACT device, tightenable, offers the possibility of increasing traction during the procedure to improve exposure.

Methods In this retrospective study, we analyzed consecutive ESD procedures with the A-TRACT device between April 2022 and October 2022 from the French prospective database. The device was used consecutively whenever it was available. We collected lesion characteristics, procedure data as well as histological and clinical outcomes (► **Table 1**).

Effectiveness outcomes n/N (%)	
En Bloc resection rate	54/54(100%)
R0 resection rate	53/54(98%)
Curative resection	49/54(90,8%)
Adverse events n/N (%)	
Per-operative perforation	1/52 (1,9%)
Delayed bleeding	3/52 (3,8%)

► **Table 1** Procedure outcomes.

Results A total of 54 resections performed in 52 patients: Lesions were located in the stomach (3), duodenum (1), appendix (2), colon (43, including 5 invading the ileocecal valve), rectum (5). The mean maximum lesion diameter was (53 ± 22 mm), the mean lesion area was (2133 ± 1961 mm²), the mean procedure duration was (60 ± 35 min) with a dissection speed of ($37.4 \pm 26,4$ mm²/min). 3 adverse events were observed: 1 perforation (1.9 %), closed endoscopically and 3 delayed bleeding (3.8 %). One patient required secondary hemostatic endoscopy, and none required secondary operative surgery. The en bloc rate was 100 %, with an R0 rate was 98 %, resulting in curative resection in 90 % of cases. In 5 cases, the A-TRACT device failed technically without preventing completion of the procedure [1–7].

Conclusions Endoscopic submucosal dissection using the A-TRACT device is safe and effective for the entire GI tract. It may be particularly useful in difficult locations, as well as for large lesions, and will likely improve resection speed.

Conflicts of interest All authors except Thierry Ponchon are co-founders of the company A-TRACT device & co

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eP482V Total stricture of liver transplantation biliary anastomosis solved with peroral digital cholangioscopy and the non-floppy side of a 0.018-inch biliary guidewire

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Abstract Text Introduction: A 64-year-old man with history of liver transplantation. He presents with jaundice due to biliary anastomosis stricture with severe kinking and retrograde dilatation.

Endoscopy: Retrograde biliary cannulation is attempted, but advancement of different guidewires through the anastomosis is not possible. The use of peroral digital cholangioscope help us to evidence a complete biliary stricture. The 0.018-inch guidewire is inverted by using the non-floppy side as a fine-needle. This stiff side is successfully inserted by cholangioscopy/fluoroscopy guidance through the anastomosis. The guidewire is restored to its standard position, being able to complete the first maximal stent therapy session.

Conflicts of interest • M. Puigcerver-Mas, A. Garcia-Sumalla, D. Luna-Rodriguez, S. Maisterra, C. F. Consiglieri, J. López-Dominguez, L. Lladó-Garriga, S. Quintana-Carbó: Declare that have no conflict of interest. • J.B. Gornals: Consultant of Boston Sc; Grant Research, Fujifilm

eP483 Efficacy and security of motorised spiral enteroscopy in small bowel exploration

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Aims Motorised spiral enteroscopy is a new technique of exploring the small intestine. The aim of our study is to evaluate the efficacy and security of spiral enteroscopy in terms of clinical and technical success rates in patients known to have lesions seen on capsule endoscopy or small bowel MRI.

Methods It is a monocentric retrospective study conducted in our institution between July 2021 and September 2022. The primary endpoint of this study is to evaluate the diagnostic yield of this technique, defined by the number of procedures with a lesion found among the total number of procedures performed.

Results 70 procedures (43 upper and 27 lower) performed in 66 patients were included. Median age was 61,5 y.o. with masculine predominance 39 M / 21 F. Diagnostic yield was 62,8% (44/70). This rate was 85,1% for lower GI and 48,8% for upper GI enteroscopies. Lesions diagnosed were: angiodysplasias (48,5%), inflammatory lesions (stenosis and/or ulcerations) (24,2%) and tumors (benign or malignant) (27,1%). Technical success rate was 79,5% (35/44): polypectomies (37,1%), argon plasma coagulation (48,5%) and hydrostatic balloon dilation (14,2%)

Technical failure was seen in 27,9% of upper GI and 3,7% of lower GI enteroscopies.

Superficial mucosal lacerations without clinical repercussions were noted in 34,2% of exams.

Conclusions Motorised spiral enteroscopy is a new device that shown efficacy in exploring the small bowel, especially for lower GI exploration. A learning curve as well as a special training are need for optimal results.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP484 Delivering sustainable efficiencies in endoscopy: environmental impact of single-use cholangioscope

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Aims Healthcare systems are actively setting targets to protect the planet. The UK National Health Service aims to achieve net zero carbon emissions by 2040.¹ Single operator intraductal cholangioscopy (IDC) optimizes treatment of difficult biliary stones and diagnosis of malignancies by enabling direct visualization of the bile ducts, compared with endoscopic retrograde cholangiopancreatography (ERCP) alone.² Our aim was to calculate the environmental impact of the efficiencies resulting from the use of IDC [1–6].

Methods A model to quantify the environmental impact of SpyGlassDS (IDC) using data from cost-effectiveness studies in difficult bile stones^{2,3,4}, or indeterminate strictures was developed.^{2,5} Sustainability data for hospital stay per procedures⁶ was used to calculate the environmental impact of the reduction in further procedures resulting from optimal use of SpyGlassDS, expressed as greenhouse gas emissions and waste per patient. The model assumed a hospital throughput of 200 patients per indication (► Table 1).

Results Environmental efficiencies can be achieved by reducing readmissions and procedures, up to 69%. This results in approximately 65% less greenhouse gas (GHG) emissions and waste (15624 kgCO₂e and 1257 kg) per 200 patients (Table 1) and takes into consideration the lifecycle carbon footprint of SpyGlassDS, estimated as 3.68 kg of CO₂.

Conclusions SpyGlassDS reduce the flow of patients returning to hospital for repeat procedures. This results in environmental benefits including reductions carbon emissions and hospital waste.

Conflicts of interest Scott A. and Dell'Isola A. are employees of Boston Scientific Corp

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Hospital activity	Reduction in readmission, SpyGlass vs ERCP alone (%)	GHG emissions (kgCO ₂ e)/waste (kg) per inpatient bed day ^a	% reduction in GHG, SpyGlass vs ERCP alone	% reduction in waste, SpyGlass vs ERCP alone
Difficult stone clearance	81%	37.9/3.3	77%	81%
Indeterminant strictures	61%		60%	63%
Combined impact	69.1%		65.6%	65.5%

► **Table 1** Efficiencies in hospital activity with corresponding reductions in Greenhouse gas (GHG) emissions (kgCO₂e) and waste (kg).

eP485 Primarily endoscopic management of post surgical fistulas of the upper digestive tract is an effective management strategy

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DOI 10.1055/s-0043-1765768

Aims Post surgical fistula of upper digestive tract (UDT) are related with significant morbidity and mortality. We aimed to evaluate the efficacy and safety of a primarily endoscopic approach to management of post surgical fistula of UDT.

Methods We performed a multicentric and retrospective analysis with 114 consecutive patients with primarily endoscopic management of post surgical fistula between 03/2009-01/2022. Statistical analysis was performed with IBM-SPSS and p-values < 0.05 considered significant.

Results The mean age was 55,49 ± 16,38 years and 64 (60,3 %) were female. Obesity in 59 (52 %) and cancer in 46 (41 %) were the main indications for surgery. The median time between surgery and fistulas' diagnosis was 7(4-12) days and average fistula size of 7,1 ± 0,6 mm. Endoscopic interventions included placement of a covered metallic stent in 92 (80,7 %) patients (fully-covered n = 43, partially covered n = 34, both n = 15), clips in 59 (51,7 %) patients (OTS-clip n = 38, TTS n = 17, both n = 4) and argon plasma in 17 (14,9 %) patients. Early adverse events (< 1 week) occurred in 20 (19,2 %) and these included stent migration (n = 10) and GI bleeding (n = 5). Late adverse events occurred in 24 (21,0 %) patients, namely stenosis (n = 7), mucosal overgrowth (n = 4) and prosthesis fracture (n = 5). A death due to aorto-esophageal fistula occurred. Therapeutic success (definitive fistula closure) was documented in 85 % (n = 97) patients, requiring a median of 3 endoscopies and after a median of 8.0 (5-18,25) weeks. No predictive factors of fistula closure were detected.

Conclusions The primarily endoscopic approach to management of UDT post surgical fistulas was possible in more than three fourths of the patients with a good safety profile.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP486 Is endoscopic hemostasis sufficient in the management of bleeding peptic ulcers?

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DOI 10.1055/s-0043-1765769

Aims Endoscopic hemostasis remains a reference treatment with the objective of stopping and reducing bleeding, avoiding surgical intervention with hemostatic aim, and reducing mortality. The objective of this study is to evaluate the effectiveness of endoscopic management of bleeding peptic ulcers.

Methods A descriptive, retrospective, analytical study over a three-year period. All patients who presented with upper GI bleeding and received endoscopic hemostasis.

Results 59 patients, the mean age was 52 years (20–79), with a sex ratio of 3.4. The main mode of revelation was the association of hematemesis with melena in 51 % of cases. FOGD showed a bulbar ulcer in 67.8 % of the cases and a gastric ulcer in 32.2 % of the cases, with a Forrest stage IIb in 35.6 % of the cases, a stage IIa in 18.6 % of the cases, a stage Ib in 40.6 % of the cases, and a stage Ia in two patients. The mean ulcer size was 11.5 mm (0.5–40). The mean complete Rockall score is 1.14, and the mean Glasgow-Blatchford score is 10.

A combined endoscopic treatment (adrenaline injection and clip placement) was recommended in 39 patients; 11 patients benefited from clip placement alone and 9 patients from adrenaline injection alone. The evolution was favorable in 83.1 % of the patients, and a second endoscopic treatment was used in 6.7 % of the patients. The main predictive factors of hemorrhagic recurrence after the first endoscopic procedure were: advanced age (p = 0.030), use of NSAIDs (p = 0.020), initial hemoglobin level ≤ 6g/dl (p = 0.029).

Conclusions The combination of two endoscopic hemostasis techniques ensures a hemostasis with a favorable evolution in 83.1 % of our structure, thus avoiding the need for surgery.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP487 EUS-guided Sampling for the Cyto-Histological Diagnosis of Solid Pancreatic Tumors: EUS-FNA with ROSE vs EUS-FNB. Analysis of a prospective registry

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DOI 10.1055/s-0043-1765770

Aims to evaluate the diagnostic yield of EUS-guided sampling for the cyto-histological diagnosis of solid pancreatic tumors (SPT) with ROSE vs with core biopsy needles without ROSE

Methods Patients that underwent EUS-guided sampling for the evaluation of a SPT between 2016 and 2020, either with ROSE or with a core needle without ROSE, were identified from a prospective EUS registry. EUS and EUS-guided sampling were performed with linear Pentax echoendoscopes and Hitachi systems. Sampling was performed with 25-gauge cytological needles (EUS-FNA) or with 22-gauge core needles (EUS-FNB). Data are presented as mean or median, interquartile range, and percentages. Diagnostic accuracy was analyzed using the histopathological analysis of the surgical specimens, or the clinical-radiological evaluation and a minimum follow-up of 6 months in non-operated patients, as the gold standard. The diagnostic accuracy of both strategies was compared by using χ^2 test.

Results 171 patients were included, mean age 69.9 ± 10.9 years, 87 males (51.2 %). Size of SPT was 35.3 ± 12.7 mm (range 10-85 mm). 80 tumors were located in the head of the pancreas (46.8 %), 76 (44.4 %) in the body, 9 (5.3 %) in the tail and 6 (3.5 %) in uncinate process. Number of needles passes was 1.7 ± 0.9 (range 1-5). In 48 (28.1 %) cases EUS-FNA with ROSE was performed. 160 (93.6 %) lesions were considered malignant and 11 (6.4 %) benign. Diagnostic accuracy is shown in the table. Both strategies presented a similar diagnostic accuracy (p = 0.3) (► **Table 1**).

Conclusions EUS-guided sampling with core needles showed a similar diagnostic accuracy as compared to EUS-FNA with ROSE.

Conflicts of interest Advisor for Pentax Medical, Fujifilm, Boston Scientific, Mediglobe

	Sensitivity	Specificity	Overall Accuracy
EUS-FNA + ROSE	97.8%	100%	97.9%
EUS-FNB	94.0%	100%	94.3%

► **Table 1**

eP488 Videocapsule endoscopy to assessed non-duodenal polyps in familial adenomatous polyposis: to do or not to do?- a retrospective analysis

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DOI 10.1055/s-0043-1765771

Aims To detect the prevalence of small bowel polyps, namely non-duodenal polyps, in patients with Familial Adenomatous Polyposis (FAP) who underwent Videocapsule Endoscopy (VE).

Methods We examined retrospectively patients with FAP, submitted to VE, to assess an estimated location, size and number of small-intestinal polyps. Data regarding patients' age, sex, comorbidities, clinical presentation, Spigelman classification, type of lower gastrointestinal surgery and colorectal cancer at surgery were collected and analyzed.

Results This study included 15 patients, 8 men (53,3%), with a median age of 44 years old. Ten patients (66.6%) had a classic phenotype and 4 (26.6%) had Gardner Syndrome. The higher Spigelman classification was III, presented in 7 patients. During VE, non-duodenal polyps were detected in 11 (73.3%) patients, 6 with jejunal polyps, 1 with isolated ileal polyps and 4 with both jejunal and ileal polyps. The majority of polyps encountered were inferior to 5mm. Non-duodenal polyps find in VE had no impact on the clinical management of FAP patients. No major complication were observed [1–2].

Conclusions VE is powerful tool to assess the small bowel, including in the detection of polyps. In our cohort, the use of VE did not change clinical management of patients with FAP. Further studies, in specific phenotypes of FAP, are needed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP489 The Dublin score: a new vision for assessment of Ulcerative Colitis

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DOI 10.1055/s-0043-1765772

Aims Endoscopic assessment is a crucial part of the management of Ulcerative Colitis (UC). The DUBLIN score (DS) has the advantage of assessing both disease activity and extent.

The aim of our study was to evaluate the performance of the DS compared to the UCEIS.

Methods This is a retrospective study, among patients with UC. Clinico-biological and evolutionary data were collected. We calculated the UCEIS endoscopic score, the Nancy histological index and the DS as a product of the Mayo endoscopic score [0-3] and the disease extent [E1-E3].

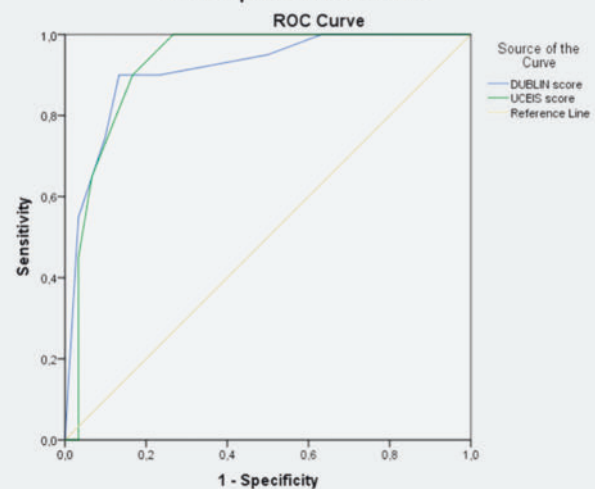
Results Fifty patients were enrolled with a mean age of 49.1 years [11-83] and a sex ratio M/F of 1.94. The DS showed a statistically significant correlation with both the UCEIS score [$r = 0.913$, $p < 0.0001$] and the Nancy index [$r = 0.857$, $p < 0.0001$]. Regarding biological parameters, there was a significant positive correlation between DS and CRP [$r = 0.660$, $p < 0.0001$] and a weak negative

correlation between DS and both albumin [$r = -0.575$, $p < 0.0001$] and hemoglobin [$r = -0.443$, $p = 0.001$]. The DS and UCEIS were significantly associated with the occurrence of disease extension ($p < 0.0001$), the need for colectomy ($p < 0.0001$), as well as the need for immunomodulators ($p = 0.034$ and 0.008 respectively). Both scores were not associated with the need for biotherapy ($p = 0.2$ and 0.194 respectively). During follow-up, twenty patients (40%) were in therapeutic failure. When analyzing, the AUROC in predicting the occurrence of treatment failure in UC was 0.913 [95% CI 0.831–0.996] for DS and 0.924 [95% CI 0.846–1] for UCEIS (► Fig. 1).

Conclusions Based on our study, although the DUBLIN score was correlated with inflammatory markers as well as clinical and histological data, it did not show superior performances to the UCEIS.

Conflicts of interest Authors do not have any conflict of interest to disclose.

AUROC of DUBLIN and UCEIS scores in predicting the occurrence of therapeutic failure in UC



► Fig. 1

eP490 Complications and curative endoscopic submucosal dissection in colorectal lesions. Is there any difference between current ESD approaches?

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DOI 10.1055/s-0043-1765773

Aims Different methods in colorectal ESD (endoscopic submucosal dissection) are known: conventional (CM), tunnelled (TD), flap (FM), pocket (PCM), traction (TRM), dilumen device (DESD) and others. Primary endpoint: to evaluate the complication rates among these approaches. Secondary endpoint: to evaluate the curative ESD rate (ESGE criteria).

Methods A national colorectal ESD (c-ESD) database was retrospectively analysed (Jan/16-Jul/22). Descriptive comparisons, propensity score matching (1:1) and multivariable regression were performed. The variables matched were: age, sex, location, morphology, optical diagnosis, size, nonlifting sign and anticoagulation or antiaggregation (AAG). *p*: < 0.05.

Results 704 cases were reviewed. 63% males. Median age 68 (62.00-75.00). The most frequent location was the rectum (31%) followed by transverse colon (17%). The approaches used and complication rates comparisons are shown in table 1. When techniques were compared, there were only significant differences in the rate of intraprocedural bleeding (IB). The approach with higher IB risk was the FM. Multivariate analysis showed an increased risk of IB in patients that underwent FM and were AAG or had I-s lesions. OR = 3.48 (1.12-10.8) and 3.47 (1.1-10.9) respectively, (*p*=0.03). There were no related deaths to ESD. In terms of the rate of curative ESD no differences were found among techniques (► Table 1).

Conclusions Regarding complication rates among c-ESD methods, there were only differences in the rate of IB. The FM was the one with higher risk. In this group, antiaggregation or I-s lesions increased the chance of IB. No differences were found in the curative c-ESD rate.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Technique	Intraprocedural bleeding (% , n)*	Intraprocedural perforation (% , n)	Delayed bleeding (% , n)	Delayed perforation (% , n)
FM (35%)	31.11% (98)	42.11% (56)	37.21% (16)	31.8% (6)
CM (17%)	9.84% (31)	9.02% (12)	20.93% (13.95)	15.79% (3)
TRM (15%)	18.41% (58)	20.3% (27)	13.95% (6)	26.32% (5)
TD (14%)	13.02% (41)	6.03% (8)	9.3% (4)	0% (0)
COMB (9.6%)	14.29% (45)	9.77% (13)	13.95% (6)	5.26% (1)
PCM (7.9%)	12.06% (38)	11.28% (15)	4.65% (2)	15.79% (3)
Other (0.85%)	0.32% (1)	1.5% (2)	0% (0)	5.26% (1)
DESD (0.57%)	0.95% (3)	0% (0)	0% (0)	0% (0)

► Table 1

eP491 ERCP: Results and complications in a serie of 3680 patients

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DOI 10.1055/s-0043-1765774

Aims The objective of our study is to determine the results as well as the complications of ERCP.

Methods This is a retrospective study with a descriptive aim. We collected all the patients who underwent ERCP during the period from January 2011 to December 2021.

Results 3680 patients were included, represented by 60.5 % women and 39.5 % men, i.e. a sex ratio of 1.5 (F/H). The mean age was 54 years. The clinical symptoms were mainly represented by cholestatic jaundice and hepatic colic (58 %, 42 % respectively). The mean direct bilirubin level was 125 mg/L, that of cholestasis was 5.5 * LSN while that of cytotoxicity was 4.3 * LSN. The indications

for ERCP were as follows: angiocholitis (40 %) (22 % grade I according to the Tokyo classification, 15 % grade III and 63 % grade II), pancreatitis (19%), tumor stenosis of the VBP (28 %), lithiasis of the VBP (7 %), fistulized hydatid cyst in the bile ducts (6%). The endoscopic exploration revealed a lithiasis of the VBP in 52 % of the cases, a tumoral stenosis in 35 % of the cases, a Kh fistulized in the bile ducts in 8 % of the cases, a thin VBP in 5 % of the cases. An endoscopic sphincterotomy was carried out in 83 % of the cases. The success rate for the treatment of biliary lithiasis was 92 % (use of balloon in 64 % of cases, dormia in 30 % of cases and mechanical lithotripsy in 06 % of cases). The most frequent complication in our series was acute pancreatitis with a rate of 2.2 %, followed by perforation with a rate of 1.2 %, while hemorrhage and angiocholitis came in 3rd place with an estimated rate of 0.11 %.

Conclusions ERCP is a safe and effective procedure with a high diagnostic and therapeutic yield, although it is linked to a non-negligible morbi-mortality, its indications should be well defined.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP492 Endoscopic Submucosal Dissection as Alternative Treatment for Low-Risk Colorectal Cancer

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DOI 10.1055/s-0043-1765775

Aims From our prospective ESD cohort, we recorded the clinical and histopathological outcomes of malignant colorectal lesions.

Methods During a discussion in the complex polyp multi-disciplinary meeting, no apparent malignant surface features were identified. An en-bloc endoscopic resection was proposed with the use of Speedboat Inject device (Creomedical/UK – Bipolar for cutting and Microwave for coagulation). Histopathological descriptive analysis of both the endoscopic and/or surgical specimens was performed. Early surveillance outcomes were also reported [1].

Results From Jan 2018 to Nov 2022 a total of 151 Speedboat assisted ESDs were performed. Twenty out of 151 (13.2%) lesions showed malignant submucosal invasion (11/20 in colon, 9/20 in rectum). The lateral margins were free of cancer in 16/20 (80%) cases.

Depth of invasion was ≤ 1000um in 7/20 (35%) lesions and > 1000um in 13/20 (65%). Deeper lesions had lymphovascular invasion in 6/13 and tumour budding in 4/13.

Surgical resection was offered to 19 out of the 20 patients (1 was offered chemotherapy for advanced neuroendocrine tumour within a benign adenoma). Six patients (32%) accepted surgical intervention. All surgical specimens showed no residual cancer. Positive lymph nodes were present in 2/6 (33%) cases and were subject to adjuvant therapy. Twelve patients (63%) opted and undergone their first endoscopic surveillance with no recurrence. Surveillance is pending for one patient (5%).

Conclusions Curative resection for low-risk colorectal cancer using ESD appears to be feasible in selected cases. Future research to predict deep submucosal malignant invasion via endoscopy.

Conflicts of interest Dr Zacharias Tsiamoulos has a Consultant agreement with Creo Medical and CoNmed

[1] Morini A, Annicchiarico A, De Giorgi F, Ferioli E, Romboli A, Montali F, Crafa P, Costi R. Local excision of T1 colorectal cancer: good differentiation, absence of lymphovascular invasion, and limited tumor radial infiltration (≤ 4.25 mm) may allow avoiding radical surgery. *Int J Colorectal Dis.* 2022. doi:10.1007/s00384-022-04279-4. Epub ahead of print. PMID: 36335216

eP493 Dominant stricture in paediatric-onset primary sclerosing cholangitis

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DOI 10.1055/s-0043-1765776

Aims The impact of dominant stricture (DS) on clinical course and outcome of pediatric-onset primary sclerosing cholangitis (PSC) is unknown. Aim of this study was to investigate this subject in a cohort of patients with a long-term endoscopic follow-up.

Methods We identified 68 patients with a pediatric onset PSC, diagnosed between January 1993 and May 2017. DS was defined as a stricture less than 1.5 mm in common bile duct or less than 1 mm in common hepatic duct within 2 cm from the bifurcation. Diagnosis was confirmed with endoscopic retrograde cholangiopancreatography (ERC) in all of them. All baseline, clinical, laboratory, endoscopic data at diagnosis and during follow-up (March 2019) were reviewed. End-points were cirrhosis, liver transplantation, cholangiocarcinoma or death.

Results Sixty-eight patients with a pediatric onset primary PSC (males 62%; median age at PSC diagnosis 15 years) were identified. The median follow-up was 8.5 years and the median age at last follow-up was 23 years. DS developed in 27/68 patients (40%). Patients with DS were males ($p = 0.03$) and had a higher level of bilirubin ($p = 0.05$) and Ca 19-9 ($p = 0.03$) compared with patients without a DS. Moreover, they needed more ERC, balloon dilatation and stenting ($p < 0.001$). At last follow-up, 54 patients (80%) were not transplanted, 5 (7%) had cirrhosis, 8 (12%) had undergone liver transplantation and 1 was resected for dysplasia (1%). No cholangiocarcinoma occurred. End-points did not occur more in patients with DS ($p = 0.28$).

Conclusions DS in patients with a pediatric onset PSC is frequent, but it is not associated with an impaired clinical course and outcome.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP494 EUS guided Elastography for determining malignancy of Solid Pancreatic Lesions. Prospective Registry from a Referral Center

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DOI 10.1055/s-0043-1765777

Aims to evaluate the accuracy of EUS-guided elastography to confirm malignancy of solid pancreatic tumors in clinical routine

Methods Analysis of a prospective EUS registry at the University Hospital of Santiago de Compostela, Spain, of patients who underwent EUS-guided elastography for the evaluation of a solid pancreatic tumors between 2008 and 2020. Patients with a definitive histological diagnosis (based on cyto-histological findings of biopsy and/or surgical specimens) were identified and included in the study. EUS-guided elastography was performed with linear Pentax echoendoscopes and Hitachi systems. Elastographic patterns were evaluated, defining hard lesions (blue predominant pattern) as malignant. Sensitivity, specificity, positive and negative predictive value, and overall diagnostic accuracy for malignancy were calculated.

Results 864 patients were finally included, mean age 67.7 ± 12.3 years, 486 males (56.3%). Mean size of pancreatic tumors was 34.2 ± 13.8 mm (range 6-112). 511 tumors (59.1%) were located in the head of the pancreas, 263 (30.4%) in the body, 64 (7.4%) in the tail and the remaining 26 (3.01%) in the uncinate process. Final diagnosis was a malignant tumor in 746 patients (86.5%) and a benign lesion in 116 (13.5%). Sensitivity, specificity, positive and negative predictive value, and overall diagnostic accuracy for determining malignancy was 98.5%, 86.8%, 98%, 90% y 97%, respectively.

Conclusions EUS-guided elastography is a very useful tool for the evaluation of solid pancreatic tumor, allowing the confirmation or exclusion of malignancy with a very high accuracy.

Conflicts of interest Advisor for Pentax-Medical and Fujifilm

eP495 Hybrid argon plasma coagulation for Barrett's esophagus – a systematic review and meta-analysis

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DOI 10.1055/s-0043-1765778

Aims Hybrid argon plasma coagulation (hAPC) is a novel technique that combines conventional argon plasma coagulation and waterjet submucosal expansion. Recent studies have evaluated its efficacy and safety in the setting of Barrett's esophagus (BE) ablation. The authors aimed to systematically review these studies.

Methods Four electronic databases were searched from inception up to the 15th of September 2022. Studies were selected and analyzed by two independent authors. Then, random-effects meta-analyses of the proportions of endoscopic and histologic remission, recurrence, and post-procedure adverse events were performed using R. Studies' reporting quality was independently assessed.

Results From the 780 identified records, 10 studies were included. The pooled percentages of endoscopic and histologic remission after hAPC were 95% (95% confidence interval [CI] 91-99, $I^2 = 34$) and 90% (95%CI 84-95, $I^2 = 46$), respectively, while major adverse events and recurrence were registered in 2% (95%CI 0-5, $I^2 = 41$) and 11% (95%CI 2-27, $I^2 = 11$), respectively. Studies' quality was considered moderate; however external validity was low.

Conclusions Even though the ability to extrapolate findings remains limited due to studies' characteristics and reporting quality, evidence suggests hAPC is effective and safe; being the later characteristic the greater advantage when this technique is indirectly compared to those currently under use (argon plasma coagulation and radiofrequency ablation). Prospective comparative trials may shed light on this topic.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP497 Rebleeding risk factors of gastrointestinal angiodysplasia after argon plasma coagulation

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DOI 10.1055/s-0043-1765779

Aims Argon plasma coagulation (APC) is indicated as a first-line treatment for bleeding angiodysplasia. The aim of this study was to identify predictive factors of recurrent bleeding after coagulation of angiodysplasia with argon plasma.

Methods It was a retrospective analysis of patients with symptomatic gastroduodenal and colonic angiodysplasia treated by APC between January 2009 and March 2020. Demographic data and endoscopic findings were collected as well as treatment details and follow-up information.

Results Fifty patients were included (mean age 71.2 years). Patients were referred to endoscopy to investigate other gastrointestinal bleeding (56%) or anemia (44%). Overt bleeding consisted of hematemesis (6%), melena (52%) and hematochezia (10%). The sites involved in angiodysplastic lesions were: stomach (28%), duodenum (20%) and colon (62%), including predominantly the right colon and caecum (70%). Recurrence bleeding after APC was 38%. In univariate analysis, the predictive factors of recurrent bleeding were the low pretreatment hemoglobin level ($p = 0.031$) and gastric site lesions ($p = 0.007$).

In multivariate analysis, only lesions in the stomach were significantly associated with recurrence bleeding ($p=0.048$).

Conclusions Recurrence rate is significant in particular for gastric site lesions. This could be explained by the contribution of probable synchronous lesions in the small bowel. Therefore, small bowel examination via enteroscopy or capsule endoscopy is essential in patients presenting angiodysplasia lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP498 Clinical Outcomes of Endoscopic Mucosal Resection for Superficial Non-Ampullary Duodenal Epithelial Tumor Larger Than 1 cm: A Retrospective Single-Center Study

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DOI 10.1055/s-0043-1765780

Aims Endoscopic mucosal resection (EMR) of superficial non-ampullary duodenal epithelial tumor (SNADETs) is often challenging, and to date, there are few studies assessing the clinical outcomes of EMR in the duodenum. The aim of this study was to evaluate the efficacy and safety of EMR for the treatment of SNADETs > 10 mm.

Methods This is a retrospective observational single-center study reporting data from a cohort of consecutive patients undergoing EMR of SNADETs between January 2017 and December 2021.

Results A total of 81 patients with 83 lesions underwent EMR (70 conventional EMR, 13 underwater EMR). Complete EMR was performed in all cases. The mean size was 24 ± 13 mm. The mean procedure time was 45 ± 30 min and the en-bloc resection rate was 47%. Delayed bleeding occurred in 5 (6%) of EMRs. Only one perforation was observed, which was managed surgically. Recurrence rate was 20% with a median follow-up of 13 months and all the recurrences were treated endoscopically. Lesion size ($p=0.02$), previous endoscopic resection ($p=0.05$), previous biopsy ($p= <0.001$) and piecemeal resection ($p= 0.004$) were associated with local/residual recurrence (► **Table 1**).

Conclusions Large duodenal adenomas can be effectively managed with EMR in a referral center. However, EMR has a significant recurrence rate, and the risk of adverse events is not negligible.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Outcomes	Total lesions (n = 83)
Procedure time, min, mean \pm SD	45 \pm 30
En bloc resection, n (%)	39 (47)
Complications, n (%)	7 (8)
Local recurrence	17 (20)

► **Table 1**

eP499 Tulip-bundle technique for endoscopic closure of 2 chronic gastrocutaneous fistulas

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DOI 10.1055/s-0043-1765781

Aims The authors present 2 cases with chronic gastrocutaneous fistula after removal of percutaneous endoscopic gastrostomy (PEG) tubes.

Methods An 82-year-old woman was admitted for drainage through a gastrostomy fistula. The 24-Fr PEG tube was removed. We proceeded to cauterize the fistula borders by argon plasma coagulation (APC) and partially close the fistula with 3 endoclips. A 20-Fr PEG tube was placed but 1 month later, drainage persisted, so permanent tube removal was decided. Two weeks later the fistula persisted, so we proceeded with an adapted tulip-bundle technique: the fistula edges were cauterized by APC and an Endoloop was positioned, anchored to the bordering normal mucosa, with 5 endoclips. The Endoloop was tightened, with adequate endoscopic closure. A 42-year-old man was admitted for abdominal wall cellulitis. The 24-Fr tube was removed and a guidewire was placed, but drainage maintained. The fistula edges were cauterized by APC before an over-the-scope clip (OTS-clip) was positioned. Two months later the fistula persisted, and tulip-bundle technique was attempted.

Results Due to Endoloop failure, only the endoclips were positioned. Five months later, it persisted, and tulip-bundle technique was attempted again. Following cauterization of the edges, an Endoloop was anchored to the mucosa bordering the defect using 6 endoclips. The Endoloop was tightened and closed the edges of the fistula. Unfortunately, this patient's fistula reoccurred after 4 months and surgical removal of the tract was necessary.

Conclusions The endoscopic tulip-bundle technique is an efficient and safe nonsurgical option for chronic gastrocutaneous fistulas, particularly helpful in high-risk patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP500 Results of a multicentric survey on the availability and use of anesthesiologist-directed care in gastrointestinal endoscopy

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DOI 10.1055/s-0043-1765782

Aims Currently, there are no specific recommendations on the use of anesthesiologist-directed care (ADC) in gastrointestinal endoscopy (GIE). Anesthetists are a limited resource. On the other hand, non-anesthesiologist sedation with propofol (NAPS) is safe and effective when performed by adequately trained personnel. We performed a national multicentric survey aimed to collect data on the availability and use of ADC in elective adult GIE.

Methods This study was a prospective, observational survey on 14 Endoscopy Units in Italy. Using a web-based questionnaire, we recorded data on all diag-

nostic procedures performed with ADC and all therapeutic procedures performed with or without ADC between April and June 2022.

Results Only two out of 14 Centres in our study use NAPS. Overall, 918 diagnostic procedures were scheduled with ADC, the main reasons being intolerance (343/918, 37.4%), ASA III (217/918, 23.6%) and long duration (158/918, 17.2%). In 83.7% (768/918) and 10.1% (93/918) of diagnostic procedures, the intervention of the Anesthetist was limited to monitoring and administration of conscious sedation and propofol-based deep sedation. On the other hand, 428 (24.5%) out of 1750 therapeutic procedures were performed without ADC, including 56/794 (7.1%) ERCPs, 12/46 (26.1%) EUS-guided drainages and 28/136 (20.6%) percutaneous endoscopic gastrostomies.

Conclusions We observed a high variability among Centres in the availability and use of ADC in GIE, with potentially inappropriate applications that could negatively impact on patient outcomes and endoscopy Unit workflow. Our data highlight the presence of an unmet need for standardization of ADC use in GIE.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP501 Assessment of the risk of pressure ulcer fall during esophageal varicose vein ligation

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DOI 10.1055/s-0043-1765783

Aims determine the predictive factors for the occurrence of esophageal variceal hemorrhage after esophageal variceal ligation.

Methods Our study is a retrospective analytical study extended over a period of 12 years including all patients followed for portal hypertension and who received band ligation.

PH in our training and who benefited from a ligation in our endoscopy unit. During this period, 830 ligations were performed in the endoscopy unit in 590 patients with cirrhotic portal hypertension. Univariate and multivariate analyses were performed to determine the predictive factors for eschar hemorrhage

Results Eschar fall occurred in 48 patients (8.56%) with a mean age of 53 years [25-80]. 80% of the patients were admitted through the emergency department for GI bleeding. The first gastroscopy showed the presence of stage III VO in 56%. This gastroscopy was performed by a junior physician in 67% of the cases with the placement of an average of 4.3 rings. According to the univariate analysis, the risk factors for the occurrence of this hemorrhagic event were: emergency ligation ($p=0.004$), presence of ascites ($p=0.001$), EH ($p=0.001$), platelet count $<100,000$ ($p=0.04$), presence of PH gastropathy ($p=0.001$), advanced child Pugh score ($p=0.0036$) and performance of FOGD by a junior ($p=0.004$). The multivariate analysis concluded that only a low platelet count (less than 70,000) was statistically associated with the occurrence of pressure ulcer fall (OR: 0.34, 95% CI [0.1-2.1]). Mortality was 31.2% following this complication.

Conclusions The occurrence of this complication was statistically linked to a low platelet count

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP502 Endoscopic vacuum therapy for esophageal anastomotic leaks – data from a tertiary hospital

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Aims Anastomotic leak is a major complication following upper gastrointestinal (UGI) surgery and is associated with high morbidity and mortality. Despite being the most common serious complication, the standard treatment for anastomotic leaks remains unclear. Endoscopic vacuum therapy (EVT) is a promising method – we aimed to evaluate the treatment success in our treated population.

Methods We retrospectively analyzed the data from all patients who underwent EVT for anastomotic leaks after esophageal surgery between 20/06/2018 and 21/11/2022.

Results We included 10 patients, 9 of them were male. Commercial kits were used in 8 and manual kits in 2. All but one underwent esophagectomy; 9 received neoadjuvant chemotherapy, 7 received both chemo and radiotherapy. The median size of fistula opening was 19mm (average 25,2mm). A median of 12 interventions were performed per patient. The average intervals between leak diagnosis and first treatment was 92,4 days (median 32). 6 patients had complete closure of the defect, while 4 had partial closures (followed by stent placement in 3). Excluding the 2 patients with chronic fistulas (>2 months), all the patients had at least partial response. We had three complications: two migrations and one (with manual kit) fragmented sponge. Due to pulmonary disease, we had to stop the treatment in one patient.

Conclusions EVT is a safe and effective treatment for management of anastomotic leaks following esophageal surgery. However, larger studies are needed to identify factors associated to treatment success and to assess its cost-benefit results.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP503 PEG: what could go wrong? A case series of complications

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DOI 10.1055/s-0043-1765785

Aims PEG are safe, cost-efficient and have a high rate of success (95%-100%). Usually minor complications occur, and proper technique of PEG placement and daily tube care are important preventive measures. Despite these, sometimes complications occur.

Methods Here we present 3 different types of complications.

Results First type of complication: knot formation in a jejunal tube after a PEG/J placement for Parkinson disease indication. Incidence is not well established, there are only some case reports in the literature. We report 3 cases with knot formation which were endoscopically managed. (figures attached).

Second type of complication: buried bumper syndrome. It is a rare complication with an incidence between 0.3%-2.4%. We report 2 cases which were finally surgically treated (figures attached).

Third complication: a rare buried bumper syndrome with the tube migrated in the colon. The tube was surgically removed from the colon (figures attached).

Conclusions PEG is one of the most common procedures performed by the gastroenterologist. Despite their overall safety, a number of complications can occur.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP504V Large duodenal perforation after complex endoscopic ampulectomy – the usefulness of combining several advanced therapeutic procedures

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DOI 10.1055/s-0043-1765786

Abstract Text An 89-year-old man underwent an ampulectomy of a 40 mm ampullary adenoma. A 15 mm duodenal perforation was identified in the endoscopic scar, in the duodenal wall below the ampulla. The perforation was closed with an OTCS, after placing a fully covered metallic stent in the common bile duct (CBD), to avoid inadvertent closure during the implantation of the OTS-clip. The patient was discharged several weeks after the procedure, and 6 months after the ampulectomy, he remains asymptomatic, with no signs of residual adenoma on follow-up duodenoscopy [1–2].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Lee R, Huelsen A, Gupta S et al. Endoscopic ampullectomy for non-invasive ampullary lesions: a single-center 10-year retrospective cohort study. *Surg Endosc* 2021; 35: 684–692

[2] Alali A, Espino A, Moris M et al. Endoscopic Resection of Ampullary Tumours: Long-term Outcomes and Adverse Events. *J Can Assoc Gastroenterol* 2020; 3: 17–25

eP505 Role of ERCP in the management of Mirizzi syndrome

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DOI 10.1055/s-0043-1765787

Aims identify the interest of ERCP in the management of Mirizzi syndrome (MS).

Methods This is a retrospective descriptive study that include all patients who underwent ERCP from January 2011 to December 2021.

Results Of the 35 cases collected, the mean age of the patients was 49 years with a sex ratio (M/F) of 1.2. 7 patients were cholecystectomized while 20 patients were known to have lithiasis gallbladder. The indications for ERCP were: 8 cases of acute lithiasis pancreatitis (22%), 22 cases of lithiasis angiocholitis (62%) and 5 cases of isolated cholestatic jaundice (14%). The diagnosis of MS was strongly suspected by imaging before ERCP in 57% of the patients, and was discovered incidentally during ERCP in 42% of the cases. All patients had undergone a biological check-up, including a hepatic check-up which showed cytotoxicity with biological cholestasis, a radiological check-up with abdominal ultrasound and biliary MRI which made the diagnosis (in 11 patients). 7 patients had a cholecysto-biliary fistula, i.e. 20%. All our patients underwent endoscopic sphincterotomy, stone extraction was performed in 23 patients (balloon 70%, dormia 25%, mechanical lithotripsy 5%) with an estimated success rate of 83%. A plastic prosthesis was used in 34% of patients. The after-effects were simple with disappearance of clinical signs and normalisation of the biological balance in 1 month. No case of death was detected. 7 patients had a cholecysto-biliary fistula (20%). A total of 13 patients underwent surgery: cholecystectomy with choledochotomy associated with biliary-digestive anastomosis.

Conclusions ERCP has a place in the diagnosis of MS and in its therapeutic management.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP506 Purastat Multicentric Registry: Preliminary results on the Italian Experience

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DOI 10.1055/s-0043-1765788

Aims PuraStat is a promising hemostatic matrix both for the control of active bleeding and for the prevention of bleeding after operative endoscopy procedures. The aim of this registry was to evaluate the safety and efficacy of PuraStat for hemostasis and for the primary and secondary prevention of bleeding after different operative endoscopy procedures.

Methods A database was created to collect anonymous data from different Italian centers. Data on type of application (bleeding control vs prophylaxis,

site and type of procedure), amount of gel used, outcomes and safety of the application were prospectively collected and analyzed.

Results PuraStat was used on 222 patients treated for an active gastrointestinal bleeding (63 patients) or as a preventive measure after an operative endoscopy procedure (159 patients) in 7 Italian centers. 100 (45%), 37 (16.7%) and 85 (38.3%) were upper, biliopancreatic and lower GI procedures respectively. In 113/222 (50.9%) PuraStat was the primary treatment modality. A complete coverage was possible in 213/222 (95.9%) with difficulty in application in 2/222 (0.9%). Hemostasis was achieved in 58/63 patients (92.1%). In the follow-up 7.9% patients in whom PuraStat was used for prophylaxis had a bleeding event as compared with 33.3% after hemostasis ($p = 0.04$). No complication related to PuraStat occurred [1–5].

Conclusions PuraStat is safe and feasible both for hemostasis and for bleeding prevention after different operative endoscopy procedures. For the first time we explored and evaluated the use of Purastat in upper GI and Biliopancreatic procedures, demonstrating also for them an excellent profile in bleeding treatment as well as in its prevention. Our results show that the possible application for the use of PuraStat may be wider than current indications.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Subramaniam S, Kandiah K, Chedgy F et al. A novel self-assembling peptide for hemostasis during endoscopic submucosal dissection: a randomized controlled trial. *Endoscopy* 2021; 53 (1): 27–35

[2] de Nucci G, Reati R, Arena I et al. Efficacy of a novel self-assembling peptide hemostatic gel as rescue therapy for refractory acute gastrointestinal bleeding. *Endoscopy* 2020; 52 (9): 773–779

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eP507 Radioendoscopic correlation in the diagnosis and management of caustic ingestion

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DOI 10.1055/s-0043-1765789

Aims evaluation of the contribution of cervicothoracic-abdominal CT in the evaluation of caustic-induced digestive injuries and the study of the correlation with endoscopic data.

Methods this is a retrospective, descriptive and analytical study conducted over 11 years and included 34 patients presenting to the emergency department after ingestion of caustic product, CT and endoscopic findings were compared, and CT screening performance characteristics were calculated using R software. The correlation between endoscopic lesions of the esophagus and stomach was calculated using Spearman's rank correlation coefficient. Concordance between CT scan and endoscopic grading was measured using Cohen's Kappa coefficient test

Results On the basis of endoscopy, there was a significant correlation between esophagus and gastric grading of mucosal lesions ($r = 0.44$; $p = 0.008$). On the basis of CT findings, there was a significant correlation between esophagus and gastric mucosal lesion grading ($r = 0.73$; $p = 5, 697.10-7$). Concordance between CT scan and endoscopy regarding lesion grade was moderate for the

esophagus ($K = 0.32$; $p = 0.0039$) and substantial for the stomach ($K = 0.53$; $p = 5.86.10^{-6}$). The sensitivity of CT scan for the detection of esophageal and gastric lesions was 43.03 % and 72.91 % respectively, while its specificity was 86.91 % for esophageal and 85.11 % for gastric lesions. The PVP and NPV of CT scan were 75.9 % and 85.8 % for esophageal lesions and 52.5 % and 85.2 % for gastric lesions, respectively.

Conclusions CT could be considered a sensitive tool to rule out upper GI mucosal injury following caustic ingestion

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP508 Results of sphincterotomy in bilio-bronchial fistulas

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DOI 10.1055/s-0043-1765790

Aims determine the results of sphincterotomy in bilio-bronchial fistulas.

Methods Our study is a retrospective descriptive study spread over a period of 12 years, including all patients who underwent sphincterotomy for biliary-bronchial fistula in our endoscopy unit.

Results 8 cases of patients with pulmonary hydatid cyst complicated by a bilio-bronchial fistula were collected. The average age was 44 years (33-65 years), the majority of patients were male, with a sex ratio M/F of 0.87. Dyspnea was the main symptom (62 %), followed by biliptysis (37 %), jaundice (25 %), hemoptysis (25 %), angiocholitis (25 %). Chest radiography, found a right basithoracic opacity in 62 % of patients. A disturbed hepatic biology was found in 38 % of the patients. Abdominal ultrasonography showed cysts of the hepatic dome in 62.5 % of cases, and biliary dilatation in 25 % of patients. Bronchoscopy was performed in all patients and showed bilious fluid in half of the patients. The treatment consisted of antibiotics and antihelminthic treatment with thoracic drainage of patients with pleural collection. Cholangiography was performed and showed a presence of membranes in 62.5 % of cases, a dilated bile duct in 75 %. Sphincterotomy with extraction of membranes (88 %). A follow-up thoraco-abdominal CT scan performed at one month was satisfactory in 62.5 % of patients. In 25 % of the patients a surgical treatment was performed to destroy the bronchopulmonary fistula.

Conclusions sphincterotomy with medical treatment have good results in the majority of patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP509 Gastric polyps: endoscopic and histological aspects of the surrounding gastric mucosa

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DOI 10.1055/s-0043-1765791

Aims study the endoscopic and histological aspects of the gastric mucosa surrounding gastric polyps.

Methods This is a retrospective descriptive study spread over a period of 13 years (September 2009 – September 2022) in our endoscopy unit including all patients who underwent upper gastrointestinal endoscopy in whom we found a gastric polyp with biopsy of the polyp and the adjacent mucosa

Results Out of 30974 upper endoscopies performed during the study period, a gastric polyp was found in 324 patients with a prevalence of 1.04 %. Our series was composed of 174 women and 150 men, The average age of our patients was 54 years (24-82 years). The indications for gastroscopy were essentially: epigastric pain (38 %), anemia (27 %), chronic liver disease (14 %). The majority of patients (69 % of cases) had a single polyp, 22.5 % of patients had between 2 and 10 polyps and 8.5 % of patients had gastric polyposis. Anatomopathological examination of the polyp was found in 62 % of the patients and showed

an inflammatory polyp in half of the cases with normal surrounding gastric mucosa. Hyperplastic polyps were found in 22 % of the cases with a biopsy of the adjacent gastric mucosa showing HP positive chronic gastritis in 62.5 % of the cases. Pathological examination of the polyp revealed an adenomatous polyp in 21 % of cases and gastric biopsy of the adjacent mucosa showed intestinal metaplasia with positive HP (33 % of cases). For the rest of the included patients, a glandular-cystic polyp was objectified in 5 % of the cases with normal gastric mucosa.

Conclusions antral and fundic biopsies should be systematically done in gastric polyps

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP510 Risk factors for SBCE incompleteness and the role of real-time monitoring

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DOI 10.1055/s-0043-1765792

Aims The latest guidelines advocate real-time monitoring in the first hour of small bowel capsule endoscopy (SBCE) to ensure entire small bowel visualization. However, in clinical practice the adherence is poor and supporting data are scarce. We aimed to evaluate risk factors of incomplete SBCE and to ascertain the importance of real-time monitoring.

Methods We retrospectively included consecutive patients undergoing SBCE (PillCam SB3) at our tertiary referral center from 2013 to 2020. Real-time monitoring was never applied. Prolonged gastric transit time (GTT) was defined when the capsule crossed the pylorus >2 hours from ingestion, and prolonged small bowel transit time (SBTT) when cecum was reached >6 hours from pylorus crossing. A logistic regression analysis was done to find significant risk factors associated with incomplete SBCE.

Results A total of 862 SBCE were analyzed. A prolonged GTT, a prolonged SBTT and an incomplete SBCE were found in 48 (5.6 %), 152 (17.6 %) and 54 (6.2 %) patients, respectively. The inpatient status ($p < 0.01$), a prolonged GTT ($p = 0.02$) and a previous incomplete SBCE ($p = 0.04$) were associated with a higher rate of incomplete SBCE, with increased odds ratio of 2.3 (CI95 % = 1.2–4.2), 3.0 (CI95 % = 1.2–7.4) and 3.7 (CI95 % = 1.2–11.9), respectively. Considering the rates of prolonged GTT in patients with the aforementioned risk factors, we reported the need of a real-time viewer in 14.5 cases to prevent an incomplete SBCE (▶ Table 1).

Conclusions The inpatient status, a prolonged GTT and a previous incomplete SBCE are risk factors for incomplete SBCE. The number needed to prevent incomplete SBCE appears to be cost-effective in patients with risk factors.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Baseline Characteristics	No risk factors for incomplete SBCE* Patients number = 873	Risk factors for incomplete SBCE* Patients number = 189	p-value
Age (median, years)	53 (41-69)	69 (55-75.5)	< 0.01*
Female	426 (63.3%)	96 (50.8%)	< 0.01*
Risk factors			
Diabetes	57 (8.5%)	35 (18.5%)	< 0.01*
Narcotics	28 (4.5%)	20 (10.6%)	< 0.01*
ESKD	28 (4.2%)	24 (12.7%)	< 0.01*
Neurological disorders	27 (4%)	12 (6.3%)	0.22
Small bowel Crohn's disease	11 (1.6%)	1 (0.5%)	0.46
Prolonged gastric transit time	85 (5.2%)	13 (6.9%)	0.37
Prolonged small bowel transit time	115 (17.3%)	37 (19.6%)	0.45
Incomplete SBCE	34 (5.1%)	20 (10.6%)	0.01*

*Risk factors: inpatient and/or previous incomplete SBCE

▶ **Table 1** Comparison between presence and absence of risk factors for incomplete SBCE.

eP511 What's hidden under the gastric intestinal metaplasia? Diffuse-type adenocarcinoma discovered by targeted biopsies: a case-report

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DOI 10.1055/s-0043-1765793

Aims The pathogenesis of diffuse-type gastric-cancer(DTGC) still needs to be clarified, and the relationship between gastric-precancerous-conditions(GP-C), such as corpus-atrophic-gastritis(CAG) has not been defined, as well.

Methods We report the case of an 81-year-old F with CAG. Gastroscopy was performed in another hospital for dyspepsia. No macroscopic alterations(MA) were reported. Random-biopsies showed gastric-atrophy(GA), intestinal-metaplasia(IM) restricted to corpus, and Helicobacter pylori(Hp) infection both, in antrum and corpus. 6-months later, after Hp eradication-therapy she was referred to our Endoscopy-unit, checking-out eventual Hp eradication.

Results We performed gastroscopy according to MAPS-II guidelines [1], and performance-measures(PM) for upperGI-endoscopy were applied [2]. At virtual-chromoendoscopy(CE) with BLI we noticed diffuse IM-areas in the corpus, so target-biopsies were collected beyond those according to updated-Sydney-system. At histopathological-evaluation(HE), GA, pseudopyloric(PPM), and IM were present in corpus; antrum was spared. Hp was not detected. One corpus-sample, characterized by IM at BLI, presented DTGC. CT-total-body-scan was substantial negative. Finally, the patient underwent total-gastrectomy. HE showed DTGC of 2 mm of corpus. The remaining corpus-mucosa showed GA, PPM, and IM with numerous type-1-neuroendocrine-tumors G1. After 1 year, the patient is alive.

Conclusions Following MAPS-II-guidelines, PM for quality-gastroscopy, and virtual-CE permit correct diagnosis of potentially-life-threatening-lesions as DTGC, whose diagnosis might have been easily-missed. The association between GPC and DTGC DTGC needs further-investigation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Pimentel-Nunes P.Endoscopy.2019

[2] Bisschops R.Endoscopy.2016

eP512 Endoscopic drainage of pancreatic pseudocysts: Report of a Moroccan experience

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DOI 10.1055/s-0043-1765794

Aims Report the results of endoscopic drainage of pancreatic pseudocysts and its complications.

Methods This is a retrospective descriptive study including 31 patients over a period of 11 years (June 2011-September 2021). Clinical, radiological, endoscopic and evolutionary data of the patients were collected.

Results 31 patients were included with an F/H sex ratio of 0,68. The mean age was 50 years [22-74 years], a history of known acute pancreatitis was found in 93%, the mean time between the diagnosis of pseudocyst and the episode of AP was 14 months. Upper endoscopy showed a gastric bulge in 38% of the patients, a cystobulbar fistula in 2 cases and a cystoduodenal fistula in 1 case. Echo-endoscopy was performed in 48% of the cases and did not show any interposition of vessels. The endoscopic drainage was transmural and consisted of an incision at the infundibulotomy which brought back a purulent liquid in 45% of cases. A double pig prosthesis was performed in 74% of cases, a diablo prosthesis in one case and a necrosectomy with nasocystic drain in 2 cases. Two cases of drainage failure were noted and one case of intracavitary migration of the prosthesis, leading to surgery. A good evolution was noted in the majority of patients (61%), 2 cases had a pseudocyst infection with the presence of

necrosis flow, the first case benefited from an endoscopic necrosectomy and the second case from a surgical necrosectomy. Migration of the prosthesis was noted in 2 patients who benefited from a 2nd endoscopic drainage. One patient presented a voluminous collection of the left hypochondrium which was drained radiologically.

Conclusions Endoscopic drainage is a great alternative to treat non infected pseudocysts

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP513 Automated Detection of Rectal Retroflexion Using Artificial Intelligence – A Multi-Centre Study

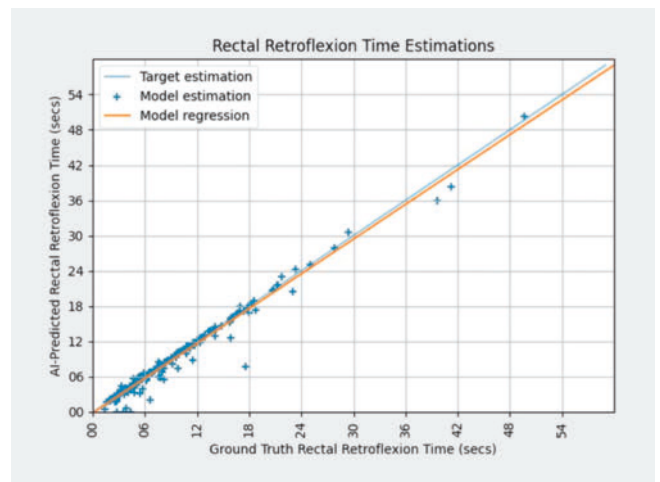
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DOI 10.1055/s-0043-1765795

Aims We aimed to develop a convolutional neural network (CNN) to automate detection of rectal retroflexion (RR) and measure RR inspection time ('rectal retroflexion time').

Methods Endoscopy videos were prospectively collected from a single centre for training data (Site 1). Each video frame with visualisation of the endoscope in the RR position was annotated with a label of 'RR', and the remaining images labelled as 'negative' for RR. The RR CNN was then evaluated with colonoscopy videos recorded from nine sites enrolled in a randomised controlled trial ("CADDIE Trial") that evaluates a polyp detection CNN. For the evaluation of the RR CNN, we randomly selected two endoscopists from each site (n = 18) enrolled in the CADDIE trial and ten procedures from each endoscopist (n = 180). These nine sites include Site 1 (internal test-set) (n = 20) and Sites 2-9 (external test-set) (n = 160). These videos were annotated as described above, with these annotations referenced as the ground truth.



► Fig. 1

Results A weakly-supervised ResNet-101 CNN was trained with 185 video procedures collected from Site 1 (71,121 RR frames and 142,242 randomly sampled negative frames). RR was performed in each procedure in the CADDIE Trial test set (180/180). The CNN detected RR in 98.3% of procedures in the test-set (177/180). Each of the three procedures where it failed to detect RR were from a different site. The ground truth median RR time was 7.6 seconds (IQR 4.5 – 12.3), and the AI predicted median RR time was 7.4 seconds (IQR 4.2 – 12.2) (► Fig. 1). In the per-frame analysis (51,134 RR frames, 102,268 nega-

tive frames), the accuracy was 97.6 %, sensitivity 94.7 %, specificity 99.0 % and area under the curve 0.98.

Conclusions We demonstrated a robust AI system for automated RR 'detection' and 'time measurement'.

Conflicts of interest Professor Danail Stoyanov is a shareholder in Odin Vision-Professor Laurence Lovat is a consultancy and minor shareholder in Odin Vision

eP514 Endoscopic aspects and prognostic of gastric cancer in young patients

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DOI 10.1055/s-0043-1765796

Aims study the epidemiological, clinical and endoscopic characteristics of gastric cancer in young subjects and to evaluate the survival and prognostic factors of gastric cancer

Methods This is a retrospective study including patients followed in our training for gastric adenocarcinoma between January 2007 and September 2022. Our study focused on a descriptive part of the epidemiological and clinical characteristics, endoscopic of gastric cancer in young subjects (less than 45 years) and a univariate analytical part of the clinical differences with older subjects with the analysis of survival (Kaplan Meier) and prognostic factors in multivariate (Cox model).

Results Two hundred and ninety-one patients were included during this period. Patients aged less than 45 years represented 32 % with a mean age of 36 ± 6.10. The sex ratio M/F was 1.25, familial forms were not very frequent (1.2 %). As for the endoscopic aspects: The tumor was extensive (31 % of cases), cardial (24.7 %), antropyloric (27.2 %) and fundic (14 %). It was an ulcerating-bourging process in 48 % and infiltrating in 24 % of cases. Histologically, linitis and poorly differentiated adenocarcinoma were significantly more frequent (24.9 %, $p=0.009$). Furthermore, 94.1 % of patients had significantly advanced or metastatic disease ($p=0.0001$). The 5-year survival in young subjects was 7 %, in multivariate analysis only the advanced stage and the liniceal (OR = 1.02, 95 % CI [1.01-1.04]) or poorly differentiated (OR = 2.66, 95 % CI [2.44-4.89]) forms were prognostic factors.

Conclusions The advanced stage and liniceal forms are the main prognostic factors in our series.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP515V The role of EUS-guided gallbladder drainage: when the cancer blocks the way

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DOI 10.1055/s-0043-1765797

Abstract Text 1st case: woman with metastatic breast cancer, admitted for lithiasic cholecystitis. Exploratory laparoscopy showed invasion of the gallbladder by liver metastases. The patient underwent EUS-GBD with successful placement of LAMS. 2nd case: man with cholangiocarcinoma admitted for acute cholecystitis with peri-vesicular abscess. Initially submitted to percutaneous cholecystostomy without success and then to cholecistoduodenostomy (+ LAMS). Due to persistent fever, endoscopic clearance of stent obstruction was needed with subsequent clinical improvement. 3rd case: man with unresectable pancreatic adenocarcinoma with duodenal invasion and obstructive jaundice. Cholecistoduodenostomy was performed with success [1].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Higa JT, Sahar N, Kozarek RA et al. EUS-guided gallbladder drainage with a lumen-apposing metal stent versus endoscopic transpapillary gallbladder drainage for the treatment of acute cholecystitis (with videos). *Gastrointest Endosc* 2019; 90 (3): 483–492

eP516V Choledochoduodenal fistula

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DOI 10.1055/s-0043-1765798

Abstract Text This video presents the case of an 81-year-old man, with a medical history of Hepatitis C cirrhosis, chronic kidney failure, ischemic cardiomyopathy, and atrial fibrillation on anticoagulation. He had undergone cholecystectomy 15 years ago. We admitted the patient to our hospital for severe epigastric pain, vomiting, and heartburn. Ct scan showed multiple suspicious hepatic nodules, ascites and pneumobilia with thickening of the cardia. Gastroscopy showed gastritis with significant bile reflux, at the duodenal bulb, we visualized a large bulbar orifice with 2 structures evoking the biliary tree, related to choledochoduodenal fistula (video).

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP517 Clinical outcome of endoscopic submucosal dissection for rectal tumor with involvement of dentate line: a retrospective cohort study

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Aims Endoscopic submucosal dissection (ESD) of rectal tumors involving the dentate line (RT-DL) is challenging because of the anatomical features of anal canal. This study aimed to identify optimal techniques and sedation and to determine the clinical outcomes of ESD for RT-DL.

Methods We retrospectively collected medical records and endoscopic results of patients who underwent ESD for rectal tumors between January 2012 and April 2021. Patients were divided into RT-DL and rectal tumors not involving the dentate line (RT-NDL) groups according to involvement of the dentate line. The treatment results and clinical outcomes of the two groups were evaluated and analyzed. Additionally, subgroup analysis was performed in the RT-DL group according to the sedation method.

Results In total, 225 patients were enrolled, and 22 were assigned to the RT-DL group. The complete resection rate (90.9 % vs. 95.6 %, $P=0.336$), delayed bleeding (22.7 % vs. 10.3 %, $P=0.084$), perforation (0 % vs. 3.9 %, $P=0.343$), hospital stays (4.55 vs. 4.48 days, $P=0.869$), and recurrence (0 % vs. 0.5 %) showed no significant group differences. However, in RT-DL group, the procedure time (78.32 vs. 51.10 min, $P=0.002$) was longer and there was more perianal pain (22.7 % vs. 0 %, $P=0.001$). The subgroup analysis revealed that deep sedation using propofol reduced perianal pain during procedure (0/14 vs. 5/8, $P=0.002$).

Conclusions ESD of RT-DL is a safe and effective treatment, despite the challenges of requiring a high technique and longer procedure time. In particular, ESD under deep sedation should be considered in patients with RT-DL to control perianal pain.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP518 Gastric dysplasia identified in random gastric biopsies: the influence of helicobacter pylori infection and alcohol consumption in the presence of a lesion

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DOI 10.1055/s-0043-1765800

Aims To evaluate factors associated with the presence of an endoscopically visible lesion during follow-up in patients with histologic diagnosis of gastric dysplasia in random biopsies.

Methods Retrospective, cohort study including patients who underwent esophagogastroduodenoscopy (EGD) after the histologic diagnosis of gastric dysplasia in random biopsies, from April 2018 until December 2021. An index endoscopic evaluation was performed immediately with CE-NBI (HD-index EGD). If no lesion, follow-up EGD was conducted within 6 months if high grade dysplasia (HGD) or 12 months if low grade (LGD) or indefinite for dysplasia (IFD).

Results Totally, 96 patients were included, most had LGD (87.4%). Five patients had an endoscopically visible lesion on HD-index (5.2%) and 10 on follow-up EGD (10.4%); 80% in the antrum. Patients with previous *Helicobacter pylori* infection and with a regular alcohol consumption (≥ 25 grams daily) were 8 and 4 times more likely to have an endoscopically visible lesion on follow-up EGD ($p = 0.012$ and $p = 0.047$), respectively. The location of biopsies and grade of dysplasia were not associated with lesions during follow-up. Both factors were statistically significant predictors of the presence of gastric lesion on follow-up EGD in binary logistic regression (OR 9.284, $p = 0.009$ and OR 5.025, $p = 0.033$, respectively).

Conclusions Only a minority of patients with the histologic diagnosis of gastric dysplasia in random biopsies had an endoscopically visible lesion during follow-up. However, surveillance of these patients is essential since most lesions were identified in the follow-up EGD. Previous *Helicobacter pylori* infection and regular alcohol consumption were significant predictors of the presence of gastric lesion on follow-up EGD.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP519 Gallbladder polyps are associated with increased risk of proximal colon adenoma in patients under age 50

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DOI 10.1055/s-0043-1765801

Aims Gallbladder (GB) polyps share some risk factors with colorectal polyps. However, little is known about the relationship between GB disease and colon polyps under age 50 years. This study was to investigate the association of GB disease (GB polyp and stone) and colon polyps by young age (under 50).

Methods A total of 1147 patients under age 50 who underwent a total colonoscopy and abdominal ultrasonography as a part of health check-up between February 2015 and October 2021 were included. Colon polyp were classified by location: proximal, distal and whole colon.

Results Of a total 1147 patients, 301 patients (21.6%) had colon polyps (201 adenoma and 100 hyperplastic polyp). Of 301 patients who had colon polyps, 55 patients (18.3%) had GB polyps and 27 patients (9.0%) had GB stones. GB polyps were significantly associated with proximal colon adenoma (odds ratio, 1.760; $P = 0.034$). No relationship between GB polyps and distal or any colon polyps was observed. The status of colon polyps was no significantly different between subject with or without GB stones [1].

Conclusions GB polyps were associated with an increased risk of proximal colon adenoma in patients under age 50 years. Colonoscopy may be considered for screening precancerous lesions of proximal colon among patients with GB polyps under age 50.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Lee Kuan-Chieh, Jeng Wen-Juei, Hsu Chen-Ming et al. Gallbladder Polyps Are Associated with Proximal Colon Polyps. *Gastroenterol Res Pract* 2019; 9832482:

eP520 Common bile duct dilation: is endoscopic ultrasound the answer when everything else fails?

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DOI 10.1055/s-0043-1765802

Aims To evaluate the diagnostic performance of endoscopic ultrasound (EUS) for common bile duct (CBD) dilation in patients with a negative initial study.

Methods Retrospective, unicentric and cohort study including patients who underwent EUS for CBD dilation (≥ 7 mm if intact anatomy or ≥ 10 mm if prior cholecystectomy) in the absence of obvious pathology, including ultrasonography (US), computed tomography (CT) and/or magnetic resonance cholangiopancreatography (MRCP), from January 2016 until June 2022.

Results Totally, 109 patients were included. In patients with positive EUS, 33 had choledocholithiasis, 6 chronic pancreatitis and 2 ampullary cancer. Older age was associated with positive EUS (79 vs 71 years, $p = 0.030$). Patients with jaundice, cholelithiasis and altered liver biochemistry were 16.2 ($p = 0.002$), 3.1 ($p = 0.024$) and 2.9 ($p = 0.009$) times more likely to have positive EUS, respectively. A total of 53 patients underwent MRCP with a negative result (48.6%); 12 had a positive EUS. Those with abdominal pain and jaundice were 15.4 ($p < 0.001$) and 20.0 ($p = 0.007$) times more likely to have positive EUS, respectively. In asymptomatic patients without altered liver tests (45.9%), CBD diameter ≥ 8.5 mm on CT had 100% sensibility and 75% specificity in predicting a positive EUS (AUC 0.734, $p = 0.048$).

Conclusions EUS is a useful diagnostic method for patients with unexplained CBD dilation, with a high yield, even in patients with negative MRCP, and specially in older age, biliary symptoms, cholelithiasis or altered liver tests. CBD diameter on CT had a moderate discriminative ability in predicting a positive EUS in asymptomatic patients without altered liver biochemistry.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP521V Biliary RFA for recanalization of blocked SEMS (2 stents in stent) in a case of peri-ampullary malignancy- A video case report

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DOI 10.1055/s-0043-1765803

Abstract Text Biliary radio-frequency ablation is usually reserved for pre-stenting ablation in cases of hilar cholangiocarcinoma. It's role post self-expanding metal stent (SEMS) insertion in bile duct is less commonly known. We describe a case of malignant peri-ampullary growth post SEMS who presented with features of blocked SEMS and mild cholangitis. We used Intraductal stent RFA (IS-RFA) to recanalize the blocked SEMS and provide an alternative treatment options to these patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP522 Reversibility of pre-malignant histological mucosal changes in long standing achalasia cardia after per oral endoscopic myotomy (POEM)

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DOI 10.1055/s-0043-1765804

Aims Assess the pre-malignant histological mucosal changes and its reversibility in achalasia cardia patients after POEM. Study the muscle biopsy findings in achalasia cardia patients.

Methods A cross sectional observational study of 36 achalasia cardia patients (18 males) with mean age 41.7 ± 14.5 years and median duration of symptoms of 30 (12-84) months was conducted from March 2020 to September 2021 in AIG Hospitals. Esophageal mucosal and muscle biopsies were performed at 1 cm proximal to the gastroesophageal junction and mid esophagus respectively during POEM. Esophageal mucosal biopsies were obtained from 20 patients at an interval of three months after POEM [1–6].

Results The mucosal inflammation reduced significantly with 80.6% patients ($n = 29/36$) having it at baseline and 45% patients ($n = 9/20$) having it at three months after POEM ($p = 0.006$). In 10% patients ($n = 2/20$), basal cell hyperplasia was present at baseline but absent in the biopsy specimen taken 3 months after POEM. p53 overexpression was seen in 8.33% patients ($n = 1/12$) with symptom duration <5 years, and in 81.81% patients ($n = 9/11$) with symptom duration >5 years ($p = 0.001$). Ki67 ratio was 14.5 at baseline and 12.3, 3 months after POEM ($p = 0.608$) (► **Table 1**).

Male: Female (n)	18:18
Age (Mean±SD)	41.7± 14.5 years
BMI (Mean±SD)	22.3±4.2 kilograms/metres ²
Eckardt score (Mean±SD)	6.5±1.8
Duration of symptoms (Median±IQR)- <5 years: >5 years (n)	21 (58%): 15 (42%)
Type of Achalasia Cardia- Type I: Type II: Type III	9:23:4
Sigmoid Esophagus (n)	4 (11.1%)
Endoscopic evidence of esophagitis (n)	3 (8.3%)
History of prior therapy- Balloon dilatation: Heller's Myotomy: POEM (n)	7:3:0
Loss of myenteric ganglion cells	90.48% (n=19/21) -symptom duration <5 years: 100% (n=15/15) symptom duration >5 years
Loss of myenteric nerve fibres	88.9% (n=32/36)
Collagenous replacement of myenteric nerves	41.7% (n=15/36)
Muscular hypertrophy of the muscularis propria	8.3% (n=3/36)
Degenerative vacuolar change of the muscularis propria	8.3% (n=3/36)
Eosinophilia in muscularis propria	11.1% (n=4/36)
Sub-mucosal fibrosis	4.76% (n=1/21)-symptom duration <5 years: 20% (n=3/15)- symptom duration >5 years

► **Table 1** Demographic characteristics and Muscle Biopsy findings.

Conclusions Basal cell hyperplasia and p53 overexpression are potential pre-malignant findings in patients with long standing achalasia cardia. POEM causes reversal of the esophageal mucosal changes and may play a role in reducing the risk of squamous cell carcinoma.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP523V Single Balloon Enteroscope(SBE) Directed ERCP, Direct Cholangioscopy, intrahepatic stone extraction using standard accessories in post jejunostomy and hepatico-jejunostomy stricture and hepaticoliths- A Video Case Report

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DOI 10.1055/s-0043-1765805

Abstract Text ERCP in altered anatomy has always been a challenge to endoscopists. Many devices have been used including Balloon Enteroscopes, EUS guided management as well as percutaneous interventions. We describe a patient who underwent jejunostomy and hepatico-jejunostomy for post cholecystectomy injury and subsequently developed stricture. With the use of Single balloon enteroscopy (SBE) and using standard accessories, we could access the HJ site, dilate and enter the intrahepatic ducts, remove hepaticoliths and achieve intrahepatic clearance. Hence, describing the use of SBE to do direct intrahepatic cholangioscopy and stone extraction.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP524 Endoscopic Exudation Score is Correlated with Fecal Calprotectin, Clinical Activity, and Future Relapse in Patients with Ulcerative Colitis

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DOI 10.1055/s-0043-1765806

Aims The accuracy of fecal calprotectin (fCal) in identifying endoscopic activity is modest in patients with ulcerative colitis. We evaluated whether a scale based on exudation, alone or in combination with pre-existing endoscopic activity index, would improve correlation with fCal and patient-reported outcomes (PRO-2), as well as predict clinical relapse.

Methods We retrospectively analyzed 145 patients with ulcerative colitis who received lower gastrointestinal endoscopy within three months before or after fecal sampling. Endoscopic activity was scored using Mayo Endoscopic Subscore (MES) and Ulcerative Colitis Endoscopic Index of Severity (UCEIS). The endoscopic exudation score (EXS) was implemented on a scale of 0 to 2 (0: no exudation; 1: spotty exudates; and 2: patch or membranous exudates). UCEIS combined with exudation score (UCEIX) was calculated as the sum of UCEIS and EXS. A receiver operating characteristic (ROC) curve was used to determine the optimal cut-off value to predict clinical relapse within 3 months.

Results EXS showed strongest correlation with fecal calprotectin among the endoscopic scoring systems ($r = 0.252$, $P = 0.001$) while UCEIX revealed strongest correlation with PRO-2 ($r = 0.471$, $P < 0.001$). UCEIX best predicted clinical relapse with a cut-off level of 4, a sensitivity of 73.9%, specificity 65.5%, positive

predictive power 57.1%, and negative predictive power 80.8% ($P < 0.001$) (► **Table 1**).

Conclusions fCal was better correlated with EXS than the previously established endoscopic activity indices while PRO-2 was better correlated with UCEIX. Clinical relapse was predicted by UCEIX with best accuracy. EXS shows strongest correlation to fecal calprotectin, while UCEIS combined with EXS bears strongest correlation to clinical activity score in PRO-2

Conflicts of interest Authors do not have any conflict of interest to disclose.

	MES	UCEIS	EXS	UCEIX
Calprotectin				
<i>r</i>	0.124	0.085	0.252	0.154
p-value	0.093	0.253	0.001	0.036
PRO-2				
<i>r</i>	0.52	0.546	0.471	0.571
p-value	< 0.001	< 0.001	< 0.001	< 0.001

PRO-2: Patient reported outcome, MES: Mayo Endoscopic Score, UCEIS: Ulcerative Colitis Endoscopic Index of Severity, EXS: Endoscopic Exudation Score, UCEIX: UCEIS combined with EXS

► **Table 1** Correlation of various endoscopic scores with fecal.

eP525 Shifting paradigms during COVID 19 pandemic in Costa Rica: POEM as an ambulatory procedure

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DOI 10.1055/s-0043-1765807

Aims The COVID-19 pandemic resulted in cancellation of non-urgent endoscopic procedures, even more if hospitalization is required as for POEM. Our aim is to demonstrate safety and efficacy when POEM is performed as an ambulatory procedure, using a safety checklist (MADRI criteria).

Methods In our outpatient POEM protocol, EGD is performed 2 weeks prior to rule out esophageal candidiasis. The day before POEM, intake of clear carbonated beverages and hot tea, as well as 12 hours fasting, is mandatory. If the patient meets MADRI criteria (► **Fig. 1**) and tolerates water intake, after POEM, discharge with proton pump inhibitor, prophylactic antibiotic and paracetamol is decided [1–5].

Results 18 patients aged between 17-76 years, were managed on an outpatient basis after POEM. Type II achalasia (n = 12) was the most frequent diagnosis. POEM was performed under general anesthesia. All patients met MADRI criteria and were discharged after a mean recovery time of 2.5 hours. Postoperative pain was absent or mild (according to VAS). Every patient underwent an ambulatory EGD 24 hours after the procedure to verify an intact wound, postoperative esophagogram was obviated. No patient had procedure-related complications or required visits to the emergency room after one month follow up. Technical and clinical success was achieved in 100%. The median Eckardt score was 7 points before and 1 point after POEM.

Conclusions POEM can be safely and successfully performed as an ambulatory procedure in selected patients using MADRI criteria.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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1. Major and minor peri-procedure complications are ruled-out
2. Access to an emergency room in less than an hour
3. Direct contact with the physician by phone
4. Rescope within 24 hours
5. Immediate postoperative pain must be absent or mild (according to the visual analogue scale -VAS of pain)

► **Fig. 1** MADRI criteria for outpatient management selection.

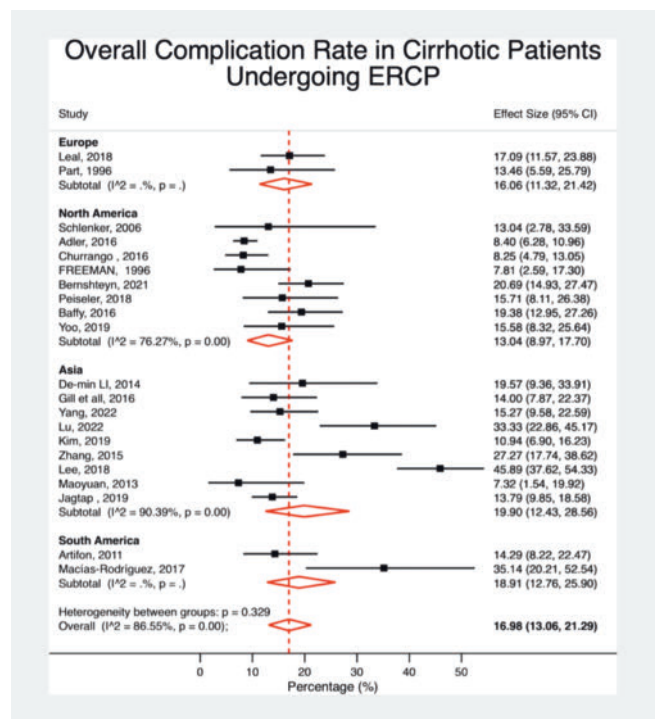
eP526 ERCP Adverse Events Among Patients With Cirrhosis Across Continents: A Systematic Review and Meta-analysis

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DOI 10.1055/s-0043-1765808

Aims We aim to describe incidence of adverse events from ERCP in cirrhotic patients, and investigate the differences in these adverse events across continents (► **Fig. 1**).



► **Fig. 1**

Methods A comprehensive search of PubMed/MEDLINE, Embase, Scopus, and Cochrane databases was conducted to identify the studies examining post-ERCP adverse events in cirrhotic patients from inception to September 30, 2022. The random effects model was used to calculate risk ratios (RR), mean differences (MD), and confidence intervals (CI).

Results 21 studies included 2576 cirrhotic patients, and 3729 individual ERCPs were analyzed. The pooled overall post-ERCP adverse events rate in patients with cirrhosis was 16.98% (95%CI: 13.06-21.29%, $P < 0.001$, $I^2 = 86.55\%$). ERCPs performed in Asia had the highest ERCP adverse events, 19.90% (95%CI: 12.43-28.56%, $P < 0.001$, $I^2 = 90.39\%$), while the lowest adverse events rate was in North America, 13.04% (95%CI: 8.97-17.70%, $P < 0.001$, $I^2 = 76.27\%$). The pooled post-ERCP bleeding and pancreatitis rates in patients with cirrhosis were 5.10% (95%CI: 3.33-7.19%, $P < 0.001$, $I^2 = 76.79\%$) and 3.21% (95%CI: 2.20-5.36%, $P < 0.03$, $I^2 = 42.25\%$), respectively. The pooled rate of post-ERCP cholangitis was 3.02% (95%CI: 1.19-5.52%, $P < 0.001$, $I^2 = 87.11\%$), while pooled perforation rate was not significant at 0.12% (95%CI: 0.00-0.45%, $P = 0.26$, $I^2 = 15.76\%$). The pooled post-ERCP mortality rate in cirrhotic patients was 0.22% (95%CI: 0.00-0.85%, $P = 0.01$, $I^2 = 51.86\%$).

Conclusions Given that cirrhotic patients are more likely to have post-ERCP complications, with a higher frequency in developing countries, the risks and benefits of ERCP in this population should be carefully assessed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP527 Clinical analysis of sporadic nonampullary duodenal adenomas: multi-center retrospective study

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DOI 10.1055/s-0043-1765809

Aims To review clinical management of sporadic nonampullary duodenal adenoma (SNPDA).

Methods The medical records of patients who had SNPDA treated by endoscopy or surgery between 2005 and 2017 from 7 tertiary hospitals were reviewed.

Results 203 patients (125 male: median age 58.8 years) with SNPDA were analyzed in this study. The mean size of SNPDA was 11.5 ± 7.7 mm. 73 (36.0%) were located in duodenal bulb, 122 (60.1%) in the second portion, and 9 (3.9%) in the third portion. Tumor shapes were 0-Ip 24, 0-Is 85, 0-IIa 53, 0-IIb 38, 0-IIc 6. 29 patients were treated strip biopsy method, and 163 patients were treated with endoscopic mucosal resection (EMR), 7 patients underwent surgical resection, 1 patient was treated by APC ablation. Pathologic results were low grade dysplasias (LGD) (144, 70.9%), high grade dysplasias (HGD) (55, 27.1%), carcinoma in situ (1, 0.5%), and adenocarcinoma (3, 1.5%). Patients who achieved pathological complete resection were 164 (80.8%), but incomplete resections were 39 (19.2%). Independent risk factors of incomplete resection were location ($p < 0.047$), nodularity ($p < 0.014$), and final pathological grade ($p < 0.041$). Median follow up periods were 16 ± 21.9 months. There were 3 recurrences treated with 2 endoscopic resections and 1 surgery. Complications with endoscopic resection were 1 delayed bleeding and 1 pan-peritonitis, but there was no death related to the procedure [1-15].

Conclusions SNPDA can be treated endoscopically with safe and effectively as much as surgical resection. However, depending on the location, pathological grade, incomplete resection may be considered.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP528 Comparison of screening colonoscopy quality parameters in endoscopists using two- vs. four hands endoscopy techniques

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DOI 10.1055/s-0043-1765810

Aims Endoscopists can either handle endoscopes with the wheels in one hand while using the other hand for moving the endoscope (two-hands technique) or having assistance by a trained endoscopy nurse (four-hands technique). However, differences in quality parameters between these two techniques have not been investigated yet.

Methods 245.193 screening colonoscopies by 153 endoscopists using either four-hands or two-hands technique were analysed. Endoscopists were categorised by medical specialty (gastroenterologists and non-gastroenterologists).

Sex- and age-adjusted Adenoma Detection Rate (ADR), high-risk ADR (HRADR), Cecal Intubation Rate (CIR), Correct Polypectomy Rate (CPR), Serrated Polyp Detection Rate (SDR), Proximal Polyp Detection Rate (PPDR) and Complication Rate (CR) in endoscopists using a four-hands vs. two-hands technique were calculated.

Results Gastroenterologists were significantly more likely to use a two-hands technique compared to non-Gastroenterologists (51.52 % vs. 32.67 %, $p < 0.001$). The ADR in the two-hands group was higher compared to the ADR in the four-hands group (28.43 % vs. 25.87 %, $p < 0.05$). Endoscopists using two hands for endoscope handling had a HRADR, CIR, CPR, CR, PDR, SDR and PPDR of 6.69 %, 97.64 %, 20.72 %, 0.32 %, 44.79 %, 18.94 % and 10.11 %. In the four-hand technique group, the HRADR, CIR, CPR, CR, PDR, SDR and PPDR were 5.48 %, 96.89 %, 18.99 %, 0.14 %, 40.11 %, 16.57 % and 9.00 %.

Conclusions Significant differences in quality parameters in favour of the two-hands technique were found. Gastroenterologists tended to use two hands compared to non-gastroenterologists.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP529 Eosinophilic myenteric ganglionitis (EMG) in a patient with chronic intestinal pseudo-obstruction and Mitochondrial Myopathy, Encephalopathy, Lactic Acidosis, and Stroke-like episodes (MELAS) syndrome: a case report and systematic literature review

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DOI 10.1055/s-0043-1765811

Aims We performed endoscopic full thickness biopsy on a 33-year old woman with chronic intestinal pseudo-obstruction (CIPO). Due to stool impaction, we could only sample the rectum, showing no pathologic findings. Conservative treatment failed and the patient underwent Hartmann's procedure, complicated by lactic acidosis and neurologic symptoms. Mitochondrial DNA 3243A>G mutation was identified and Mitochondrial Myopathy, Encephalopathy, Lactic Acidosis, and Stroke-like episodes (MELAS) syndrome was diagnosed. Surgical specimen histology showed eosinophilic myenteric ganglionitis (EMG). We investigated whether the concomitance of MELAS and EMG had been previously described [1–14].

Methods We conducted a systematic literature review on PubMed using the searching terms “eosinophilic” + “myenteric” + “ganglion” and included all studies and case reports which described the finding of histological features of EMG.

Results Our search yielded a total of 41 results, among which 6 case series and case reports described a total of 12 cases of adult patients with histopathological diagnosis of EMG. Although concomitance of MELAS syndrome and CIPO has been previously reported, ours is the first case of EMG-associated CIPO in a MELAS patient.

Conclusions MELAS patients have a high risk of severe post-surgical complications. It has been recommended that the site of full thickness biopsy in CIPO should be the most dilated area. Unfortunately, stool impaction prevented endoscopic access to the affected colonic area in our late-presenting case. Conversely, if CIPO is suspected early, endoscopic full thickness biopsy sampling could avoid post-surgical diagnosis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP530 The frequency and predictors of Post Colonoscopy Colorectal Cancer in a regional New Zealand setting

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DOI 10.1055/s-0043-1765812

Aims This study aims to identify the frequency and predictors of Post Colonoscopy Colorectal Cancer (PCCRC) in a regional New Zealand population.

Methods PCCRC was defined as colorectal cancer (CRC) occurring within 36 months of colonoscopy. Data was also collected up to 60 months in line with previous definitions. CRC diagnoses over a 5-year period were identified through a regional multidisciplinary meeting data. Patient records were used to identify whether a colonoscopy had been performed within 36 or 60 months of CRC diagnosis. Demographics, indications for index colonoscopy, histology and stage of cancer at diagnosis were recorded. The index colonoscopy reports were interrogated to assess patient comfort, bowel preparation, interventions performed, distracting pathology, and specialty of endoscopist [1–3].

Results 349 patients were diagnosed with CRC in the study period. 12 and 27 had a colonoscopy performed within 36 months and 60 months respectively, giving a 36-month PCCRC rate of 3.7 %; congruent with international data. All patients had adequate bowel preparation, tolerated the procedure well and underwent a complete colonoscopy. 72 % of PCCRC patients had distracting pathology. Repeat colonoscopy was performed for a new indication in 41 % of the 36 month PCCRC group. General Surgeons performed a majority of index colonoscopies that developed PCCRC. Māori had a proportionally higher rate of PCCRC than CRC.

Conclusions Our region has a comparable PCCRC rate to international data. Patients that develop PCCRC are more likely to have distracting pathology at

index colonoscopy. PCCRC is common in patients that have a repeat colonoscopy for indications different to their index procedure.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP531 Endoscopic submucosal dissection versus trans-anal endoscopic microsurgery for rectal submucosal tumor

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DOI 10.1055/s-0043-1765813

Aims There are few studies comparing endoscopic submucosal dissection (ESD) and transanal endoscopic microsurgery (TEM) for the treatment of rectal subepithelial tumors (SET). This study aimed to investigate treatment efficacy and safety between ESD and TEM for the treatment of rectal SET [1].

Methods From march 2013 and December 2021, we retrospectively analyzed patients who were treated using ESD or TEM for rectal SET. A total of 72 patients were enrolled (ESD 60 patients, TEM 12 patients). Treatment efficacy such as en bloc resection, procedure time, local recurrence, hospital stay, additional procedure rate, and safety between the treatment groups were evaluated and analyzed

Results . There were differences in size (ESD VS TEM, $0.8 \pm 0.64\text{cm}$ VS $2.86 \pm 1.67\text{cm}$, $P=0.001$), location (Low rectum, 88.1% VS 51.7%, $P=0.001$), and diagnosis (Neuroendocrine tumor 90% VS 41.7%, $P=0.001$). For ESD compared to TEM, en bloc resection rates were 100% vs 100% and R0 resection rates were 98.3% vs 91.6% ($p=0.308$). The operation time ($12 \pm 20.15\text{min}$ VS $64.58 \pm 16.58\text{min}$, $P=0.001$), hospital stay ($3.00 \pm 1.06\text{day}$ VS $5.58 \pm 2.47\text{day}$, $P=0.004$) and NPO day (1.02 ± 0.13 VS 2.17 ± 1.27 , $P=0.009$) were shorter in ESD than TEM. There were no significant differences between recurrence rates, additional procedure rates, and complications in the two groups (► Table 1).

Conclusions Although there are differences in tumor characteristics, the ESD showed shorter operation time and hospital stays than the TEM. Therefore, ESD may be considered more preferentially than TEM in the treatment of rectal SET and a future prospective study will be required.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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	ESD (n=60)	TALE (n=12)	P value
En bloc resection	60 (100%)	12 (100%)	N/A
Complete resection	59 (98.3%)	11 (91.6%)	P=0.308
Procedure time(min)	12 ± 20.15	64.58 ± 16.58	P=0.000
Hostptal stay	3.00 ± 1.06	5.58 ± 2.47	P=0.004
NPO day	1.02 ± 0.13	2.17 ± 1.27	P=0.009
Recurrence	0 (0%)	0 (0%)	N/A
Additional procedure rate	0 (0%)	0 (0%)	N/A

► Table 1

eP532 Experience in the use of the novel motorized powerspiral enteroscope: a single center case series

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DOI 10.1055/s-0043-1765814

Aims A new model of motorized device for deep enteroscopy has been recently commercialized. The aim of the present study is to analyze our experience in the first cases of use.

Methods Observational retrospective study including all the procedures performed with the PowerSpiral enteroscope. We analyzed the diagnostic yield, the correlation with previous diagnostic tests and the incidence of complications.

Results We included 39 patients (20 women; 51,3%) with a mean age of 56,7 years. The indication of the enteroscopy was based on capsule endoscopy findings in 31 cases (79,4%) and also in cross sectional imaging or previous double balloon enteroscopy or colonoscopy. These indications were: angioectasias (8 – 20,5%), ulcers (8 – 20,5%), polyps or tumors (7 – 17,9%), wall thickening (6 – 15,4%), atrophy (6 – 15,4%), retained capsule (3 – 7,6%) and active bleeding (1 – 2,5%). We completed 32 (82,1%) of the enteroscopies, and we found lesions in 22 cases (56,4%), all of them related with the indications. The lesions observed in enteroscopy correlate with those observed in previous endoscopies in 75%, followed by 50% in cases with previous cross-sectional imaging and 38,5% if the previous exploration was capsule endoscopy. Only minor complications occurred in 13 patients (33,3%) (► Table 1).

Conclusions The motorized enteroscope is a safe and easy to use device. The rate of complete explorations and the correlation between the indications and the lesions found is fair, especially when the deep enteroscopy is performed after a capsule endoscopy examination.

Conflicts of interest Authors do not have any conflict of interest to disclose.

		Number	%
Complete enteroscopy		32/39	82,1
Lesions seen in the previous diagnostic tests found during deep motorized enteroscopy	CE	10/26	38,5
	CSI	1/2	50
	Endoscopy	3/4	75
Diagnostic & therapeutic success	Diagnostic	13/21	61,9
	Therapeutic	9/18	50
Complications	Mild	13/39	33,3
	Severe	0/39	0

CE: capsule endoscopy; CSI: cross sectional imaging

Complete enteroscopy: when the pretended furthest point is achieved during deep enteroscopy.

The information included in the rows is limited to those enteroscopies that were complete.

► Table 1

eP533 Upper GI endoscopy for the detection of early esophageal neoplasia: a retrospective cohort study from Germany

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DOI 10.1055/s-0043-1765815

Aims Interval cancers after initial cancer negative upper GI endoscopy are not rare (Alexandre et al.). Here, we have analyzed the primary assessment of esophageal early neoplastic lesions which were then sent for endoscopic treatment in a tertiary referral center in Germany.

Methods We identified patients with endoscopic resection of early esophageal neoplasia (squamous cell cancer; high grade dysplasia, adenocarcinoma) from our electronic database. We then analyzed the primary endoscopic report that yielded the positive histopathology.

Results We analyzed 117 patients (93 male), age 69 (27-93) years, BMI 27.7 (17,5-46,0), 86/117 (73.5%) on PPI medication. Indications for primary endoscopy were mainly gastroesophageal reflux complaints (18%), surveillance of Barrett's esophagus (33%) or dyspeptic complaints (21%). A targeted biopsy from an area judged as suspicious for neoplasia was taken in 47/117 (40%) patients. All other lesions were detected on routine biopsies without a suspicion of a neoplastic lesion [1].

Conclusions In this single center case series the majority of neoplastic lesions were diagnosed on non-targeted biopsies taken without suspicion of neoplasia. The results call for an optimization of the quality of upper GI endoscopy in Germany.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Alexandre L, Tsilegeridis-Legeris T, Lam S. Clinical and Endoscopic Characteristics Associated With Post-Endoscopy Upper Gastrointestinal Cancers: A Systematic Review and Meta-analysis. *Gastroenterology*. 2022; 162: 1123–35

eP535 Difficult-to-treat radiation-associated vascular ectasias (RAVE) in the rectum: outcomes of radiofrequency ablation (RFA)

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DOI 10.1055/s-0043-1765816

Aims To describe the outcomes of RFA for rectal RAVE refractory to argon plasma coagulation (APC) or as a primary treatment for symptomatic cases with risk factors for APC failure.

Methods APC-refractory was defined as absent clinical&endoscopic response after ≥ 1 APC session. The presence of telangiectasias in > 50% of the surface and/or active heavy bleeding were considered risk factors for APC failure. Cases meeting the above criteria in a single-tertiary-center were selected for RFA (June 2020 – August 2022). RFA was performed with focal ablation catheters Barrx90 and BarrxTTS (Medtronic). 12J were applied with a simplified protocol: 2pulses(7/9) or 3pulses(2/9). Sessions were scheduled at 2-3 monthly intervals.

Results 9 cases included. All male, age 77(SD3), 66.7% on antithrombotics. Follow-up: 16 months. 6(66.7%) presented with overt bleeding and anemia, mean hemoglobin 7.9g/dl (SD2.3); 3(33.3%) with intolerable bleeding. 7 patients were refractory to prior APC (2.7 sessions; range 1-7) and 3 developed post-APC ulcers. All presented > 50% surface involvement and 3(33.3%) heavy bleeding. Full endoscopic response achieved in 8(88.9%) in 1.6(SD0.7) sessions. 4(44.4%) required 1 session whereas 2(22.2%) received additional APC to treat very small residual areas. Clinical success (absent bleeding) was achieved in 8(88.9%). The average hemoglobin increase in anemic patients was 4.1g/dl (SD2.1). 2(22.2%) patients had transient fecal incontinence. 1(11.1%) with 90% response developed a symptomatic rectal ulcer that avoided further treatment despite residual bleeding telangiectasias [1].

Conclusions RFA showed to be fast and effective (88.9%) to treat rectal RAVE refractory or with risk factors for APC-failure, achieving a mean increase of 4.1g/dl hemoglobin in anemic patients (► **Table 1**).

RFA outcomes according to its primary indication

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Zhong QH, Liu ZZ, Yuan ZX et al. Efficacy and complications of argon plasma coagulation for hemorrhagic chronic radiation proctitis. *World J Gastroenterol* 2019; 25 (13): 1618–1627

Indication	Number cases	Efficacy RFA	Mean sessions	Complications
APC refractory	7/9	6/7 (85.7%)	1.6 (SD0.8)	2/7 (28.5%)
Risk factors for APC failure	2/9 -1 heavy active bleeding -1 on DOACs with intolerable bleeding	2/2 (100%)	1.5 (SD0.7)	0/2 (0%)

► **Table 1**

eP536 Rectal endometriosis. A case report

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DOI 10.1055/s-0043-1765817

Aims We present the case of a 38-year-old woman who presented episodes of painless intermittent rectal bleeding. The patient has no medical-surgical history of interest. During the last year she has suspended oral contraceptives due to reproductive desires.

Methods Case report.

Results The endoscopy is performed where a rectal lesion is visualized at 12 cm from the excrescent anal margin that occupies the entire circumference of about 4 cm in length with erythematous characteristics from which biopsies are taken. The rest of the endoscopy is normal. The anatomopathological study of the lesion shows compatibility with endometrioma.

Endometriosis is a common gynecological pathology of unknown etiology that appears in women of reproductive age. When endometriomas infiltrate the intestinal wall, it is called intestinal endometriosis whose prevalence is 3-37% of the total. The most common place of gastrointestinal endometriosis is the rectosigmoid. Clinically, most cases are asymptomatic, and non-specific symptoms such as abdominal pain or rectal bleeding may appear. Regarding the colonoscopy findings, eccentric thickening of the mucosa is the most common finding, and nodular mucosa with a polypoid appearance can also be found. For the definitive diagnosis, the anatomopathological study will be important, therefore taking biopsies of the lesion will be important too.

Conclusions Although it is an infrequent pathology, endometrioma should be taken into consideration in the differential diagnosis of excrescent lesions of the colon in women of reproductive years.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP537 Analysis of the Barrett's Esophagus Prevalence and Associated Risk Factors in Severe Erosive Esophagitis Patients

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DOI 10.1055/s-0043-1765818

Aims The performance of a control endoscopy for Barrett's Esophagus (BE) diagnosis in Severe Erosive Esophagitis (SEE) patients remains controversial. The aim of the present work is to determine the prevalence of BE in patients with SEE and to analyze the risk factors that are associated with BE in these patients.

Methods This is a retrospective observational study where 203 patients with SEE (grades C and D of Los Angeles classification) from January 2015 to December 2020 have been registered.

Demographic, clinical, and endoscopic variables were included. A comparative analysis between patients with or without a definite diagnosis of BE was per-

formed by using non-parametric statistics. Furthermore, to determine the variables associated with the presence of BE, a binary logistic regression analysis (uni- and multivariate) was also performed.

Results Control endoscopy was performed in 78 SEE patients (38.4%; 23 females; mean age 59.8 years [SD = 12.90]). Fourteen patients presented an endoscopic and pathologic BE diagnosis in the control endoscopy (17.9%). The main risk factor associated with BE presence was the history of hiatus hernia (OR = 7.214; $p = 0.011$).

In 8 patients from those with confirmed BE, the first endoscopy also showed compatible findings of this entity (positive predictive value = 100%), while in no patient without BE the previous endoscopy showed compatible findings with BE (negative predictive value = 88%).

Conclusions The BE prevalence in SEE patients is approximately 18%. The initial endoscopy showed a high predictive capacity for BE diagnosis. The history of hiatus hernia was the main risk factor associated with BE in this population.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP538 Review of No Residual Tumors after Additional Endoscopic Treatments with only Positive Lateral Margin after Endoscopic Submucosal Dissection for Early Gastric Cancer

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DOI 10.1055/s-0043-1765819

Aims Endoscopic treatment as additional therapy for noncurative resection in the only positive lateral margin (pLM) after endoscopic submucosal dissection (ESD) for early gastric cancer (EGC) has been recommended in patients with no risk of lymph node metastasis because it is less invasive than surgical gastrectomy with favorable long-term outcome. However, there is no guideline on how to perform follow-up observation until additional ESD is performed.

Methods We retrospectively analyzed 161 patients with only pLM after ESD for EGC who had undergone at least 2 years of follow up.

Results Of the 161 patients, 148 patients were undergone endoscopic follow-up biopsy group and 13 patients were directly undergone additional treatment without further biopsy confirmation. In directly undergone additional treatment group ($n = 13$), 9 cases of no residual tumor were determined (9/13, 69.2%); 3 out of 3 in additional ESD (3/3, 100%), 3 out of 4 in biopsy and argon plasma coagulation (APC) (75%), and 3 out of 6 in surgical resection (50%). However, in endoscopic follow-up biopsy group, 121 patients showed no recurrence at least 2 years follow up. Twenty two patients (22/148, 14.9%) were confirmed positive on resection ulcer margin. Twenty patients underwent 2nd ESD, two in APC, and one in surgical resection. Only one case of no residual tumor was determined among 20 cases of 2nd ESD.

Conclusions Additional treatment after endoscopic follow up biopsy confirmation could be a proper treatment strategy in patients with only positive lateral margin after ESD for EGC who has no risk factors for lymph node metastasis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP539 Patient involvement in developing a colonoscopy-specific patient-reported experience measure for quality improvement

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DOI 10.1055/s-0043-1765820

Aims Patient-reported experience measures (PREMs) are highlighted as clinically relevant information to better understand and address what matters to patients. Furthermore, patients' experiences of the colonoscopy procedure are important quality indicators according to the ESGE-guidelines (Kaminski et al. 2017). To ensure that significant experiences are measured, patients should be involved in creating the measurements. The aim was to develop a colonoscopy-specific PREM in co-production with patients.

Methods A conceptual model based on a literature review and a qualitative interview study that illustrates patients' experiences of undergoing a colonoscopy formed the theoretical basis. To assess the degree to which the content of the items reflected the patients' experiences content validity was performed in accordance with COSMIN criteria. The validity was tested through face validity with clinicians and cognitive interviews with patients. In addition, content validity index was calculated to investigate the relevance of the items.

Results The conceptual model consisted of five dimensions entailing experiences related to health motivation, discomfort, information, care relationship and understanding. These five dimensions were conceptual defined and then generated into items. The colonoscopy-specific PREM was initially represented by a total of 61 items. After (a) face validity assessment, (b) content validity assessment and (c) content validity index 36 items remained which represent a colonoscopy-specific PREM covering the five dimensions.

Conclusions Patients were involved in developing a colonoscopy-specific PREM which appears to contain experiences of importance for patient. Psychometric properties need to be evaluated further.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP540 Endoscopic fundoplication with EsophyX-Z for the treatment of gastroesophageal reflux disease (GERD). Initial results in a case serie study of 18 patients

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DOI 10.1055/s-0043-1765821

Aims Transoral incisionless fundoplication (TIF) is an endoscopic alternative for the treatment of GERD in small hernias, and it can also be performed after a laparoscopic hernia repair (cTIF) in hernias > 2cm. The low rates of reported dysphagia makes this technique a great treatment option. The aim is to evaluate feasibility, safety and efficacy of the technique in an initial series of 18 patients.

Methods Single center hospital case series study of 18 patients with confirmed GERD were included between February 2020 and July 2022. 9 TIF (2 cm hernias) and 9 cTIF (> 2 cm) were performed. Technical success, complications, adverse effects and clinical success (% PPI suppression, reflux questionnaires and esophagitis healing) were evaluated.

Results The technique was successfully performed in 100% of the patients. No patient presented dysphagia (including 8 patients with ineffective motility). 16.6% presented self-limited gastroparesis, all of them cTIF. One cTIF (5.5%) had leak-suspected perforation and a Nissen was performed. 82% (14/17) of patients are off PPI at 5 months: 100% of TIFs and 66.6% of cTIF patients. 100% (15/15) present significant improvement in reflux questionnaires. 85% present endoscopic healing (5/6 esophagitis > grade B) [1].

Conclusions Fundoplication with EsophyX is an excellent technique for the treatment of GERD in selected patients. Late complications were more frequent in the combined treatment group, mainly at the expense of self-limited gastroparesis. Dysphagia was not a complication of the procedure

Conflicts of interest Medispar collaboration for formation
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eP541 Evaluation of our training system for endoscopic submucosal dissection using a new training model

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DOI 10.1055/s-0043-1765822

Aims Endoscopic submucosal dissection (ESD) has become established as a minimally invasive treatment for early gastrointestinal cancer (GIC) in Asian countries. Although training system has been reported in Asian countries, little was known about the training of European countries for ESD. In addition we need to use animal model before performing human ESD. The aim of this study was to assess the usefulness of our new training model (G-Master[®]).

Methods Our training model is consisted of a fixing frame and membrane sheet made of Plant-based material (konjac potato flour). The setting frame consists of an esophagus-like tube, a spatula that imitates the greater curvature of the stomach, and a frame for fixing the sheet. We assessed the usefulness of our training model. Four young trainees performed 2 cases of ESD using training model then they performed ESD for the patients in every human cases.

Results Fifteen cases treated with ESD from December 2021 to November 2022 were investigated. They consist of 12 lesions in the antrum; 3 lesions in the angle or the lesser curvature in the body. The en-bloc resection rate was 100%, the mean diameter of the resected specimens was 25.1mm, the mean size of the lesions was 12.2mm, the mean procedure time was 65.0minutes, and the late bleeding rate was 6.7% (1/15). Complication was controlled by endoscopic treatment. The trainees could complete the whole ESD procedures in all 15 cases (100%).

Conclusions Our ESD training model enabled ESD trainees to perform ESD without decline the treatment outcome.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP542 The Role of Endoscopic Ultrasound for Diagnosis of Remnant Rectal Neuroendocrine Tumor

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DOI 10.1055/s-0043-1765823

Aims This study aimed to investigate the role of endoscopic ultrasonography (EUS) for evaluation of remnant rectal neuro-endocrine tumor (NET) after for-ceps biopsy, snare polypectomy, and endoscopic mucosal resection (EMR) for diagnostic or therapeutic purposes

Methods From January 2013 and October 2021, we analyzed a total of 68 patients medical records of patients who underwent EUS and salvage endoscopic therapy for remnant rectal NETs.

Results Of 68 remnant rectal NETs, lesion with positive margin was 59 (86.8%) and lesion with indeterminate margin was 9 (13.2%). For all lesions, salvage therapy such as endoscopic submucosal dissection (21, 30.9%), modified EMR (39, 57.4%), biopsy and APC ablation (7, 10.2%) and surgery (1, 1.4%) were performed, and NET was confirmed by pathological examination in 47 lesions out of 68 lesions. Detection rate of colonoscopic gross evaluation was 63.2% and mean detected lesion size was 3.63 ± 3.93cm. Detection rate of EUS was 73.5% and mean detected lesion size was 3.46 ± 2.59cm. When lesions were detected in colonoscopic gross evaluation and EUS, the diagnostic rate (85.1%, P=0.001) was the highest. For remnant rectal NETs, the specificity of EUS evaluation was 91.4% and the specificity was 85.7%, respectively. The specificity of colonoscopic gross evaluation was 85.1% and the specificity was 66.6%, respectively.

Conclusions In this study, EUS showed good detection rate compared to colonoscopic gross evaluation. Although further prospective studies are needed, EUS can be considered as a useful tool in evaluating remnant rectal NETs.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP543 Upper digestive findings in colectomized patients with familial adenomatous polyposis from a single referral center

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DOI 10.1055/s-0043-1765824

Aims Familial adenomatous polyposis (FAP) is a hereditary disease characterized by development of multiple adenomas in the rectum and colon. FAP may present other extraintestinal and intestinal manifestations with an increased risk of cancer. We aimed to analyze upper digestive findings in colectomized patients with FAP.

Methods Observational cohort study from a single referral center. We collected demographic and clinical data, endoscopic findings, extraintestinal manifestations and genetic analysis of patients with FAP.

Results Forty-six patients (mean age 46 years; range 19-77, female sex 52%) belonging to 22 different families (A-V, mean individuals 2,3; range 19-77) were included in the study. Genetic analysis and mutation patterns on the APC gene were available in 44 out of the 46 patients (96%). Upper digestive tract involvement was observed in 36 patients (78%). Eight patients (8%) presented Spigelman stage III. Advanced ampullary tumor or gastric neoplasia was observed in 3 patients (6%) despite standard follow-up (Table). Members from the same families presented different endoscopic findings, without being able to correlate it and without finding significant differences.

Conclusions Upper digestive findings have a high prevalence in patients with FAP. Advanced adenomas and invasive neoplasia despite standard endoscopic follow-up are diagnosed. More exhaustive follow-up is needed in high risky patients (► Table 1).

Endoscopic findings in patients with FAP

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Individuals (46)		Families (22)	
	n	%	n	%
Duodenal adenoma	33	67.3%	16 (A, B, C, D, E, F, G, H, I, J, K, L, M, O, T, V)	72%
<i>Spigelman</i>				
I	11	33%		
II	14	42%		
III	8	24%		
IV	0	0		
Ampullary tumor	16	34.8%	12 (A, D, E, H, I, K, L, M, O, S, T, V)	54%
LGD	1	2%		
HGD	1	2%		
Invasive neoplasia	1	2%		
Fundic gland polyps	25	54.3%	14 (A, B, C, D, E, F, G, H, I, K, L, M, T, J)	63%
Gastric neoplasia	2	4.3%	2 (H, I)	9%
HGD				
Invasive neoplasia				

► Table 1

eP544V Use of cholangioscopy for the etiological diagnosis of hemobily:a case report

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DOI 10.1055/s-0043-1765825

Abstract Text • Hemobilia is a rare complication of percutaneous liver biopsy and laparoscopic cholecystectomy, with incidences of 0.059% and 0.25%, respectively. We present a case of hemobilia with these two antecedents, in which cholangioscopy confirmed the cause of this [1].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Zhang DS, Metwalli Z, Hussain KB. Arterial-Portal Fistula After Percutaneous Liver Biopsy in Hepatic Allograft Causing Hemobilia and Pancreatitis. Clin Gastroenterol Hepatol 2017; 15 (1): e3–e4. doi:10.1016/j.cgh.2016.07.014 Epub 2016 Jul 21 PMID: 27451092

eP545 Role of various biomarkers in predicting prognosis in patients with acute pancreatitis

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DOI 10.1055/s-0043-1765826

Aims Acute pancreatitis (AP) is complicated by local and systemic complications and associated with high morbidity and mortality. Predicting the severity or complication is crucial in making a clinical decision. There is no ideal scoring system to predict severity and local complication. Hence we directed the present study to identify the potential biomarker and scoring system for predicting severity and complication in patients with early AP.

Methods This single-centric, prospective study was conducted in tertiary care of coastal Karnataka. Patients aged 18 and above with confirmed diagnosis of AP, presenting within 72 hours of symptoms, were selected. All the patients underwent detailed evaluation with laboratory and imaging studies. The outcome measures studied were severity (revised ATLANTA classification), local complications (peripancreatic collections), and organ failure

Results A total of 141 patients were included in the study. Most participants were male (77.3%) with a mean age of 41.46 ± 15.65. The receiver operating characteristic curve for APACHE II showed the highest sensitivity for severe acute pancreatitis with an AUC of 0.90. Meanwhile, APACHE II and BISAP showed the highest sensitivity for organ failure with an AUC of 0.75 and 0.72, respectively. CRP showed the highest sensitivity for acute necrotizing pancreatitis and local complication with an AUC of 0.73.

Conclusions APACHE II, BISAP, and CRP are the potential predictors for managing severity and complication in patients with AP. The present study recommends multi-centric prospective studies to identify the potential predictive scoring predicting severity and complication in patients with AP.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP546 Validation of a protocol-based approach for endoscopic management of common bile duct stones (CBDS)

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Aims Despite being practiced for 45 years, approach to endoscopic management of CBDS has not been standardized. We prospectively examined outcomes of predetermined ERCP protocol.

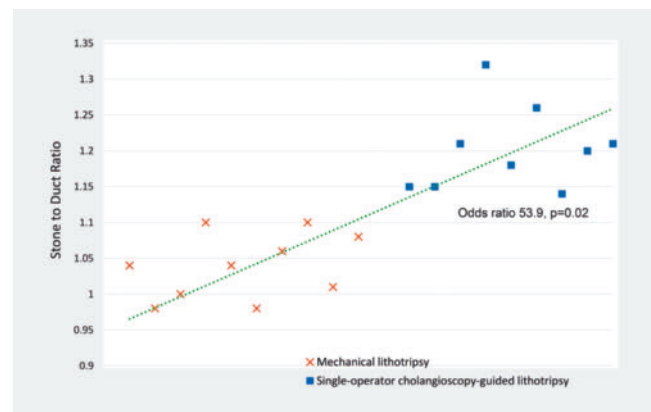
Methods Based on predetermined protocol, after biliary sphincterotomy, stone extraction was attempted by standard techniques. When standard techniques failed, presence of tapered duct (distal to widest CBD diameter) and stone-duct ratio were estimated to guide management. Large balloon sphincteroplasty (LBS) performed for tapered duct (ratio < 0.5), and mechanical (ML)/SOC-guided lithotripsy (SOCL) for stone-duct mismatch (ratio > 1). Main outcome was single session ductal clearance (▶ Fig. 1).

Results Of 260 pts, 20.8% had prior failed CBDS extraction and 7.7% required advanced cannulation. 208 of 260 (80%) pts had no tapered duct or stone-duct mismatch. In these 208 pts, single-session ductal clearance was achieved using

standard techniques in 99.5%. Of 52 (20%) patients with challenging CBDS, tapered duct was in 86.5% and/or stone-duct mismatch in 38.5%. Single-session ductal clearance was achieved in all 52 pts by LBS in 90.4%, ML in 19.2%, SOCL in 17.3%. On multiple logistic regression, there was significant association between stone-duct mismatch and lithotripsy technique with SOCL indispensable for stone-duct ratio > 1.1 (OR53.9, p = 0.02). Overall single-session ductal clearance rate was 99.6%, adverse events in 3.8%.

Conclusions Predetermined protocol enabled efficient single-session ductal clearance of CBDS with high technical success and low adverse events.

Conflicts of interest Disclosures: Dr. Ji Young Bang is a Consultant for Boston Scientific Corporation and Olympus America Inc. Dr. Shyam Varadarajulu is a Consultant for Boston Scientific Corporation, Olympus America Inc. and Medtronic. Dr. Robert Hawes is a Consultant for Boston Scientific Corporation, Olympus America Inc., Medtronic and Cook Medical. Dr. Udayakumar Navaneethan is a Consultant for Janssen, Pfizer, Takeda, AbbVie, Bristol Myers Squibb and GIE Medical Inc.



▶ Fig. 1

eP547 Review of use of artificial intelligence in endoscopy and disease activity in ulcerative colitis

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DOI 10.1055/s-0043-1765828

Aims Endoscopy is a useful tool for the follow up of patients with ulcerative colitis given that mucosal healing is used as an indicator for response to treatment. Despite the presence of many evaluation systems of mucosal healing there is still the problem of intraobserver and interobserver variability during endoscopy that may be circumvented with the usage of artificial intelligence (AI)

Methods A systematic literature search was performed in Pubmed using the keywords of artificial intelligence AND endoscopy AND ulcerative colitis. In this review only original articles were accessed and reviews were excluded

Results We identified 12 papers published recently meeting the inclusion criteria. The majority of them (10 out of 12) employed Convolutional Neural Network(CNN), one used solely deep neural network (DNN) and one used deep neural network (DNN), support vector machine (SVM), and k-nearest neighbor (k-NN). As input data images were most frequently used (7/12) and less frequently videos were used (4/12) while in one case both video and images were used. Furthermore, 9/12 used Mayo score for evaluation of mucosal healing, one used Ulcerative Colitis Endoscopic Index of Severity (UCEIS) and PiCASO, one used both UCEIS and Mayo score and one exclusively UCEIS. Approximately in all studies deep learning method approached the accuracy of specialists in evaluation of mucosal healing [1–12].

Conclusions AI seems to be a promising guide for the recognition of endoscopic remission and provides clinical information about response to therapy. However AI has some limitations that need to be overcome such as accessibility in developing world and bias in the training set

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP548 Endoscopic Transoral Outlet Reduction (TORe) for weight re-gain (WR) in patients after One Anastomosis Gastric Bypass (OAGB) – Case Series

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DOI 10.1055/s-0043-1765829

Aims To assess safety and efficacy of TORe for the treatment of WR after OAGB

Methods Patients after OAGB with WR of > 10% of the nadir achieved after surgery were considered for TORe. After diagnostic gastroscopy excluded any contra-indications TORe was carried out under general anesthesia using circumferential argon plasma coagulation and a suture pattern that created an elongated narrowing of the anastomosis to < 10mm (Tubular TORe). All patients were followed prospectively after giving informed consent prior to the procedure [1–12].

Results 15 patients (13F:2M) underwent the procedure between 2019–2022. Mean age was 46.8 (24–70), mean BMI was 34 (29–41). Concomitant indications for TORe besides WR were dumping syndrome (7) and biliary reflux (9). Technical success rate was 100% with all patients achieving an anastomotic diameter of < 10mm. At 6 and 12 months mean BMI decreased to 31.1 (23–38) and 30.7 (N = 14, 24.8–39.7), respectively. One patient suffered a small perforation that was identified and sutured during the procedure with no sequelae.

Conclusions TORe was described and validated until now mostly in patients after Roux-En-Y gastric bypass (RYBG). OAGB is the third most popular bariatric surgery. The mechanism and anatomy is different than RYGB with a longer gastric pouch (10–12 cm vs. 4–6cm) and a wide side-to-side anastomosis, relying less on restriction in comparison to RYGB. Eventhough, it appears that TORe is effective in achieving restriction and promoting weight loss. It does so through the fashioning of a narrow anastomosis relative to the original post-operative anatomy. Safety is in concordance to previous studies on TORe.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP549V Colonic obstruction secondary to sigmoid fecaloma treated with Coke injection and endoscopic fragmentation

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DOI 10.1055/s-0043-1765830

Abstract Text A 61-year-old man, with stenosing ileocolonic Crohn's Disease who refused medical treatment and clinical follow-up, was hospital admitted with a colonic obstruction secondary to a massive fecaloma impacted in the sigmoid colon. The patient was self-medicated with colestyramine due to persistent diarrhea. Endoscopic fragmentation and conservative measures (parenteral nutrition, oral and rectal laxatives) were firstly attempted with no success. A combined endoscopic approach, based on intra-fecaloma Coke injection using a 20G fine needle biopsy, followed by two snare-fragmentation sessions was then successfully performed. Bowel transit was restarted and surgical definitive intervention avoided [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP550 Usefulness of digital pancreatoscopy in the diagnosis of pancreatic cancer. A safety and efficacy pilot study

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DOI 10.1055/s-0043-1765831

Aims Chronic pancreatitis is a risk factor for pancreatic cancer. Pancreatoscopy with biopsies could be an option for early diagnosis in these patients. The aim of this study was to assess applicability, efficacy, and safety parameters of pancreatoscopy with biopsies in patients with chronic pancreatitis [1–2].

Methods We conducted a prospective study in a tertiary-level hospital with consecutive inclusion of patients with chronic pancreatitis and indication of pancreatoscopy. Pancreatoscopy with biopsies were performed in all patients. Patients were included from January 2018 to December 2021.

Results A total of 7 patients were included (4 males; mean age 61 y). In 4 patients the etiology was alcohol and in 3 it was idiopathic. Previous endoscopy ultrasound was performed in 2 patients with a diagnosis of chronic pancreatitis (n = 2) and pseudocyst (n = 1). All patients had a dilated main pancreatic duct (mean diameter 9 (7–12) mm). Pancreatoscopy with biopsies (2–5 samples) was performed in all patients. The histological study confirmed the diagnosis of intraductal papillary mucinous neoplasm (IPMN) (n = 1) and the presence of inflammatory cells (n = 6). At the beginning of the procedure rectal diclofenac was administered in all patients. The mean time for ERCP and pancreatoscopy was 49 and 16 minutes, respectively. Ringer's lactate was administered after

the procedure in 3 patients. No complications were detected in any of the procedures.

Conclusions Pancreatoscopy with biopsies is a safe technique and may be useful for the diagnosis of premalignant pancreatic lesions in patients with chronic pancreatitis.

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP551 The diagnostic efficacy of Endoscopic Ultrasound in gastric outlet obstruction

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DOI 10.1055/s-0043-1765832

Aims Determining the cause of gastro-duodenal outlet obstruction from duodenal stricture can be challenging. Endoscopic diagnosis is limited to luminal pathology and may be further impeded by inability to pass tight stricture. Cross-axial imaging can visualize extraluminal pathology, but have limitations, as well as inability to provide tissue diagnosis. We report 8 cases where endoscopic ultrasound (EUS), with or without fine-needle biopsy (FNB), was employed to reach a conclusive diagnosis, unattainable from other modalities, which would have otherwise required exploratory or perhaps unnecessary surgery.

Methods We retrospectively reviewed cases where EUS was performed at our institution, despite the presence of gastric outlet obstruction. 8 cases were identified.

Results All 8 cases presented with clinical gastric outlet obstruction and underwent CT scan, as well as upper endoscopy with biopsies of unpassable stenosis, without a diagnosis made by either exam. EUS was performed, despite being unable to pass the echoendoscope.

In 6 of the 8 cases (75%), a diagnosis of malignancy was made after EUS- FNB, performed either through the stomach wall, duodenal bulb or both. 2 cases of primary duodenal adenocarcinoma, 1 case of infiltrative pyloric, gastric carcinoma, and 2 cases of pancreatic cancer were diagnosed. 1 case of metastatic breast cancer was also identified. In addition, 2 cases of benign stricture (1 peptic, 1 postoperative) were confirmed by EUS (without biopsies). In all cases, the EUS results helped decide on a treatment plan.

Conclusions EUS is a feasible and efficient diagnostic modality despite the presence of gastric outlet obstruction.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP552 Limitations of Combined Antegrade And Retrograde Endoscopic Recanalization Of Complete Hypopharyngoesophageal Obliteration

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DOI 10.1055/s-0043-1765833

Aims Complete hypopharyngeal obliteration is a serious clinical problem in patients with strictures after radiochemotherapy. We aimed to analyze the technical and clinical success rate of a rendezvous technique to re-establish the pharyngoesophageal passage.

Methods In 5 patients with complete esophageal obliteration, endoscopic recanalization was performed by a rendezvous technique with percutaneous retrograde endoscopy via the gastrostomy channel and antegrade laryngoscopy. In all patients data were prospectively collected on technical and clinical success, numbers of subsequent bouginages or balloon dilatations and complications.

Results Recanalization was technically successful in all 5 patients. In two patients, a preexisting hypopharyngo-tracheal fistula necessitated endoscopic stenting and finally surgical closure. In one patient esophago-tracheal fistula occurred after two years of repeated bouginages, leading to surgical reconstruction of a neoesophagus. In one patient, recanalization enabled the detection of a secondary esophageal cancer distal to the obliteration with subsequent palliative treatment. One patient developed a reocclusion due to neglected follow-up. After a successful reintervention, repeated bouginages and swallow training finally led to a complete resolution of dysphagia.

Conclusions Despite initially successful endoscopic recanalization of esophageal obliterations, only 2 patients showed long term success without surgery. However, only endoscopic recanalization enabled the detection of a secondary esophageal tumor.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP553V Post-ischemic colonic stricture secondary to low anterior resection

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DOI 10.1055/s-0043-1765834

Abstract Text A 67-year-old man with history of low anterior resection of the rectum 3 years ago due to rectal adenocarcinoma admitted with abdominal pain. Colonoscopy showed from the anastomosis, located 10 cm from the anal margin, a continuous affection of about 12 cm of the colonic mucosa that appears whitish, pale and with an absence of vascularization suggestive of severe ischemic colitis. Biopsies were taken, being compatible with ischemic colitis. Four months later, abdominal CT revealed stenosis of the anastomosis and pre-anastomotic dilation. Rectosigmoidoscopy was performed, which revealed a benign stricture and dilation was performed with a pneumatic balloon up to 12 mm with subsequent resolution [1–2].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Fujii T, Toda S, Nishihara Y et al. Congestive ischemic colitis occurring after resection of left colon cancer: 4 case series. *Surg Case Rep* 2020; 6 (1): 175

[2] Brandt LJ, Feuerstadt P, Longstreth GF et al. American College of Gastroenterology. ACG clinical guideline: epidemiology, risk factors, patterns of presentation, diagnosis, and management of colon ischemia (CI). *Am J Gastroenterol* 2015; 110 (1): 18–45

eP554 Endoscopic ultrasound-guided fine-needle biopsy (EUS-FNB) of extraintestinal solid lesions: diagnostic value and safety in one single german center

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DOI 10.1055/s-0043-1765835

Aims Endoscopic ultrasound-guided fine-needle biopsy (EUS-FNB) of solid extraintestinal lesions is an established standard procedure in daily routine. The goal of this study was to investigate how representative the obtained material is and how often complications occur.

Methods Over the course of 36 months all patients with EUS-FNB of solid extraintestinal lesions in our teaching hospital were included. In addition to histologic and cytologic results, complications and needle size were assessed.

Results A total of 118 FNBs were performed in the 116 patients included (mean age 66 years, 47% women). Of these, 79 (67%) were pancreatic lesions, 22

(19%) lymph nodes and 17 (14%) other solid extraintestinal lesions from the upper/lower gastrointestinal tract. FNB revealed representative material in 82% of pancreatic lesions, 91% of lymph nodes, and in 82% in other lesions. Final diagnosis was pancreatic carcinoma in 28% (n=33), NET in 6% (n=7), metastases in 6% (n=7), other carcinomas in 13% (n=15) and cystadenomas in 10% (n=12). Simultaneous histologic and cytologic evaluation was performed in 80 FNBs (68%). Of these, the diagnosis was made in both workups in 54% (n=43), in histology alone in 21% (n=17), and in no case in cytology alone. Complications occurred in 2 cases (one non-Hb relevant hemorrhage, one pancreatitis). On average, 1.6 FNBs were performed. Mainly a 22G needle (53%) followed by a 19G needle (21%) was used.

Conclusions EUS-FNB is a good and safe procedure in the diagnosis of solid extraintestinal lesions. In our setting, cytologic workup seems dispensable if histologic examination has been performed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP555 Duodenal endoscopic submucosal dissection: a safe alternative

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DOI 10.1055/s-0043-1765836

Aims ESD for superficial duodenal epithelial tumors (SDETs) is still technically very challenging due to duodenal anatomy and high perforation and bleeding rate. For very large lesions (≥ 20 mm), ESD may be an option as it has a higher rate of en bloc resection than other ER[DdFR1] methods. However, its high adverse events (AE) rate limits its use.

The aim of our study was to evaluate the *efficacy and security* of ESD of SDETs.

Methods A case series through a prospective register of duodenal ESD performed from January 2018 to December 2021 in a tertiary referral hospital (► Fig. 1).

Results A total of 8 patients underwent ESD to treat SDETs. 3 patients underwent ESD with laparoscopic assistance (laparoscopic and endoscopic cooperative surgery). The characteristics of the patients and general outcomes of the procedures are shown in Table 1. Technical success rate, en-bloc resection rate and R0 resection rate were 100%, 87.5% and 75% respectively. The median procedure time was 154 minutes. Intraprocedural perforation occurred in 3 patients (one patient required emergency surgery). Intraprocedural bleeding occurred in 4 patients, solved endoscopically. There were no delayed perforation or bleeding [1–2].

Conclusions ESD may be an option for large SDETs if performed by highly skilled endoscopists. Due to high adverse events rate, Duodenal ESD should be only considered in high volume center with an adequate collaboration with the Surgery Department.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Kato M, Takeuchi Y, Hoteya S, Oyama T, Nonaka S, Yoshimizu S, Kakushima N, Ohata K, Yamamoto H, Hara Y, Doyama H, Dohi O, Yamasaki Y, Ueyama H, Takimoto K, Kurahara K, Tashima T, Abe N, Nakayama A, Oda I, Yahagi N. Outcomes of endoscopic resection for superficial duodenal tumors: 10 years' experience in 18 Japanese high volume centers. *Endoscopy* 2022; 54 (7): 663–670. doi:10.1055/a-1640-3236. Epub 2021 Oct 28 PMID: 34496422

[2] Shibagaki K, Ishimura N, Kinoshita Y. Endoscopic submucosal dissection for duodenal tumors. *Ann Transl Med* 2017; 5 (8): 188. doi:10.21037/atm.2017.03.63. PMID: 28616403; PMCID: PMC5464942

Age, mean (SD), years	64 (48-72)	Location, n (%)	Bulb	2 (25%)
Sex, male (%)	8 (100)		Second part	1 (12.5%)
Lesion size, mm (SD)	55 (15-62)	Histology, n (%)	Adenoma LGD	4 (50%)
ASA 1-2 / 3-4	4/4 (50/50)		Adenoma HGD	3 (37.5%)
			d-NEN G1	1 (12.5%)

► Fig. 1

eP556V Superior hypogastric plexus neurolysis in a patient with a history of rectal cancer and severe unresponsive pain

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DOI 10.1055/s-0043-1765837

Abstract Text A 71-year-old woman (with a history of TEM for rectal cancer) had a recurrence, treated with neoadjuvant CT + RT and subsequent surgery. After surgery, onset of severe pain (VAS score 9/10), described by the patient as deep pain, subcontinuous, unmodified by position changes. Pain specialists had tried various therapeutic strategies (also major opioids) with poor results. Then, we evaluated the patient for superior hypogastric plexus neurolysis EUS-guided. The technique consists of injection of Levobupivacaine 0.25% plus absolute dehydrate alcohol 95%. The patient had paradoxical increase of pain for 36 hours and no other complications; subsequently, pain relief well managed with paracetamol every 6 hours.

Conflicts of interest Claudio Giovanni De Angelis is a consultant for Boston Scientific, Olympus and Medi-Globe

eP557 Endoscopic submucosal dissection is useful for the diagnosis of indefinite pathology

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DOI 10.1055/s-0043-1765838

Aims Endoscopic biopsy is an essential tool for the histologic diagnosis. But the pathologic findings are not always concordant with the endoscopic diagnosis. We evaluated the role of endoscopic submucosal dissection (ESD) for the pathologic diagnosis when the pathologic diagnosis is discrepant from the endoscopic diagnosis [1].

Methods We evaluated 21 patients (21 endoscopic lesions) with indefinite initial pathology discrepant from the endoscopic diagnosis in Inje University Seoul Paik Hospital, Seoul, Korea. We performed ESD for the final diagnosis. We compared pathologic diagnosis of initial forceps biopsies with final ESD specimens.

Results In all cases, final pathologic diagnosis was definite by ESD specimens. The final pathologic diagnosis of the ESD specimens were as follows: inflammatory fibroid polyp in 7 patients (33.3%); adenoma in 5 patients (23.8%); adenocarcinoma in 4 patients (19%); hyperplastic polyp/gastritis in 2 patients (9.5%) and MALT lymphoma, lymphangioma, leiomyoma in 1, 1, 1 patients (4.8%, 4.8%, 4.8%). The complete en bloc resection rate for neoplastic lesions was 100%, and the incidence rates of ESD-related bleeding was 5% and perforation 0%.

Conclusions ESD is considered a safe and effective diagnostic tool for endoscopic lesions of cases which the forceps biopsy pathology is discrepant from the endoscopic diagnosis.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Kwon MJ, Kang HS, Kim HT et al. Treatment for gastric 'indefinite for neoplasm/dysplasia' lesions based on predictive factors. *World J Gastroenterol* 2019; 25: 469–484

eP558V False gastric subepithelial lesion: Endoscopic Ultrasonography (EUS) as an essential tool

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DOI 10.1055/s-0043-1765839

Abstract Text Case report: A 36-year-old primiparous woman, being studied for iron deficiency anemia. Gastroscopy (private center): 10 mm subepithelial lesion in upper part of greater curvature. The patient is sent to our center for biopsy/resection. We previously performed an EUS.

Echoendoscopy: anechoic lesion, regular borders, vascular, 9x11 mm, not dependent on gastric layers, being an extraluminal lesion. Doppler with arterial flow, consistent with splenic arterial aneurysm (EAA) causing extrinsic compression. Abdominal CT angiography confirms diagnostic suspicion. EAAs are a very rare etiology of LSSE. EUS prior to taking biopsies/resection of LSEG prevent serious complications.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP559V ESD for esophageal adenocarcinoma in decompensated cirrhosis and esophageal varices

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DOI 10.1055/s-0043-1765840

Abstract Text A 65-year-old man with advanced cirrhosis (large esophageal varices) with a 15 mm 0-IIa + IIc lesion arising from a C2M3 BE (intramucosal cancer, cT1N0M0 EUS&CT). ESD was performed and despite platelet and somatostatin therapy, significant variceal bleeding episodes were noted (use of coagulation forceps and hemostatic gel). Pathology examination revealed pT1aG1 12 mm LV + MH0MVx (649 µm) adenocarcinoma (32x33mm specimen). Esophageal ESD in cirrhotic patients with large esophageal varices, though a technical challenge to manage variceal bleeding, can still be a valid curative approach, avoiding the high surgical risk associated.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP560 Osseous metaplasia in a juvenile gastric polyp

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DOI 10.1055/s-0043-1765841

Aims Heterotopic bone formation is infrequently found in the gastrointestinal tract. Mesenchymal metaplasia particularly osseous metaplasia (OM) is occasionally reported in malignant tumors however is a rare finding in benign polyps. OM is more frequent in colonic polyps and rarely reported in gastric polyps with only 10 cases published. OM is occasionally found in juvenile polyps either sporadically or as part of Peutz-Jeghers syndrome. The exact pathogenesis remains ill-defined and it is considered to be inflammatory driven. We present a case of OM in a juvenile gastric polyp in a 34-year-old man.

Methods A patient with a history of decompensated alcoholic liver cirrhosis, episode of acute alcoholic hepatitis and depression presented with severe iron deficiency anemia. Initial investigations identified microcytic anemia (Hb 7,9g/dL, MCV 60,4fL) and MELD-Na 16.

Results An esophagogastroduodenoscopy (EGD) revealed small esophageal varices without red spots, mild portal gastropathy, two sessile polyps on corpus (~10mm) and one 15mm sized pedunculated polyp on the antrum. The patient underwent uncomplicated endoscopic mucosal resection of these lesions followed by prophylactic clip placement. Histopathologic examination revealed two corpus hyperplastic polyps without dysplasia and an antrum juvenile polyp with OM. No Helicobacter infection or dysplasia was identified. Follow up EGD was normal after 3months. OM is of equivocal clinical significance however it is important to be recognized and not misdiagnosed. No endoscopic surveillance is recommended for OM.

Conclusions OM is a rare entity; nevertheless, heightened endoscopist's and histopathologist's awareness is needed for accurate identification and proper diagnosis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP561 Role of novel motorized spiral enteroscopy in the evaluation of small bowel diseases: A systematic review and meta-analysis

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DOI 10.1055/s-0043-1765842

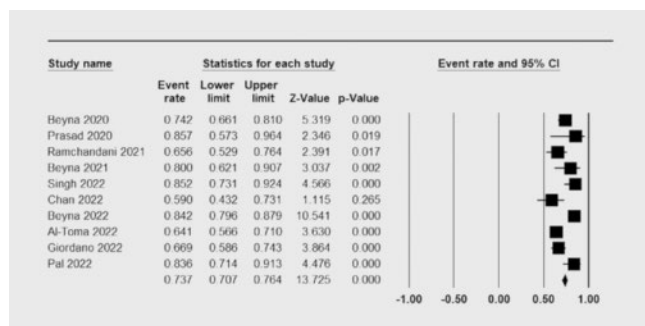
Aims Motorized spiral enteroscopy (MSE) has been recently introduced for small bowel evaluation. In this systematic review and meta-analysis, we aim to analyze the performance of MSE for evaluation of small bowel diseases.

Methods Literature search was performed in Embase, PubMed, Cochrane database between Jan-2010 to Oct-2022. Primary outcome was diagnostic yield. Secondary outcomes included technical success, procedure duration, depth of maximum insertion (DMI), pan-enteroscopy rates and adverse events.

Results 10 studies with 961 patients [581 (60.5%) males] were included in analysis. 1,068 MSE procedures were performed, by antegrade route in 698, retrograde route in 215 and combined routes in 155 cases. Technical success was achieved in 94.9% (95% CI 92.9%-96.4%; $I^2 = 16%$) procedures. Pooled diagnostic yield was 73.7% (95% CI 70.7% to 76.4%; $I^2 = 78%$) (Table 1). Pooled mean DMI by antegrade and retrograde routes were 383.6 (95% CI 371.2 to 396.1; $I^2 = 64%$) cm and 141.4 (95% CI 129.5 to 153.3; $I^2 = 67%$) cm, respectively. Pan-enteroscopy rate by combined route was 61.2% (95% CI 52.4%-69.3%; $I^2 = 33%$). Pooled rate of major adverse events was 1.9% (95% CI 1.2%-3.2%; $I^2 = 0%$).

Conclusions MSE is a safe and effective tool for evaluation of small bowel disorders. High diagnostic yield and low rate of adverse events make it a potential alternative to balloon enteroscopy (► Table 1).

Conflicts of interest Authors do not have any conflict of interest to disclose.



► **Table 1** Forrest plot showing pooled diagnostic yield of motorized spiral enteroscopy for small bowel diseases.

eP562 EUS-guided gastroenterostomy versus duodenal self-expandable metal stent for malignant gastric outlet obstruction: a single center retrospective study

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DOI 10.1055/s-0043-1765843

Aims Duodenal self-expanding metal stents (DS) had been the endoscopic treatment of choice for the management of malignant gastric outlet obstruction (GOO). Endoscopic ultrasound guided gastroenterostomy (EUS-GE) is a novel treatment for GOO that might offer some advantages over DS, mainly longer patency and utility in benign conditions, however, data comparing both procedures are still limited. To compare clinical outcomes between EUS-GE and DS placement in the palliation of malignant GOO.

Methods Retrospective analysis of a prospectively collected database on patients who underwent EUS-GE or DS placement for palliation of malignant GOO from between 2021 and 2022 was conducted. The primary outcome was the rate of technical success. Secondary outcomes included time for oral intake (TOI), days for hospital discharge (DHD) and rate of adverse events (AE).

Results 33 patients with GOO were included, 16 in the DS group and 17 in the EUS-GE group. Benign causes of GOO accounted for 12% of cases (3 in the EUS-GE and 1 in the DS). Both groups had 100% technical success rate. Average DHD in DS and EUS-GE groups were 4 days ($P = 0.7$) and 1.5 ($P = 0.9$), respectively. There were no AE in the EUS-GE group ($P = 0.5$), while 2 patients (12%) associate serious AE in the DS group (1 migrated stent and 1 with bronchial aspiration) ($P = 0.83$). Average TOI in DS and EUS-GE group were 11,7 and 8 hours, respectively.

Conclusions EUS-GE is a highly reproducible and safe treatment for GOO of both malignant and benign conditions associated with shorter hospitalization time in comparison to DS.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP563 Complication rate and histological findings in a single center experience of endoscopic papillectomy in patients with ampullary adenomas

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DOI 10.1055/s-0043-1765844

Aims Ampullary adenomas (AP) can be endoscopically resected in most cases. However, high recurrence rates and adverse events might hamper the high technical success. Our cohort of endoscopic papillectomies (EP) was analyzed regarding novel prophylactic treatment options including topical hemostatic agents (THA), curative resection rates and adverse events.

Methods A total of 28 patients with AP treated by EP from 2017 to 2022 at Heidelberg University Hospital were retrospectively analyzed including 20 patients with FAP (familial adenomatous polyposis). The primary examined parameters include adenoma size, complications, preventive and reactive management of acute and delayed bleeding, and histopathology.

Results Resected AP measured in 18% ($n = 5$) ≥ 20 mm and in 11% ($n = 3$) < 10 mm. Conservatively manageable acute pancreatitis occurred in 4 (14%) patients. In 3 patients THA were applied in prophylactic intention in high risk patients, one of which was readmitted with tar-like stool without the need of endoscopic intervention. During the procedures of EP 5 (18%) patients received hemostatic treatment for acute bleeding: clipping in 4 cases, adrenalin injection and THA in 2 cases, respectively. Delayed bleeding occurred in 5 (18%) patients, only one (4%) of which required blood transfusion and endoscopic

treatment. Histology showed low-grade dysplasia in 22 patients and high-grade dysplasia in 3 patients, another 3 cases showed adenocarcinoma and underwent surgical treatment. No perforation or death were observed.

Conclusions In EP serious adverse events were rare, but high-grade dysplasia or cancer was found in 21 %, emphasizing the importance of systematic EP for prevention or early detection of ampullary malignancy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP564 Risk of colorectal cancer in patients with positive fecal immunochemical test results

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DOI 10.1055/s-0043-1765845

Aims Fecal immunochemical test (FIT) is commonly used for screening of colorectal cancer (CRC). We aimed to evaluate the risk of CRC in FIT-positive patients.

Methods In our retrospective observational study (January 1, 2013–December 31, 2021) performed in Seoul National University Boramae Medical Center, 619 patients were enrolled. FIT-positive group (N = 360) underwent diagnostic colonoscopy after a positive FIT result, and FIT-negative group (N = 259) underwent screening colonoscopy with a negative FIT result. Clinical characteristics were compared between FIT-positive group and FIT-negative group using the Student's t-test or Chi square test. To evaluate the risk of CRC in patients with a positive result in FIT, logistic regression analysis was performed after adjustment for multiple variables.

Results In the FIT-positive group, 11.4 % (N = 41) were diagnosed with CRC including pTis. In the FIT-negative group, 0.4 % (N = 1) was diagnosed with CRC including pTis. When pTis cases were not included, 7.8 % (N = 28) were diagnosed with CRC in the FIT-positive group and 0 % (N = 0) in the FIT-negative group. In the logistic regression analysis, positive FIT results were significantly associated with the risk of CRC (Crude OR = 33.160). After adjustment for age, sex, body mass index, smoking, and alcohol intake, the association between positive FIT result and the risk of CRC increased (Adjusted OR = 41.739).

Conclusions Positive FIT results were associated with a 42-fold risk of CRC. Patients with positive FIT results need to undergo diagnostic colonoscopy to exclude CRC.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP565 Artificial Intelligence for real time evaluation of quality criteria in colonoscopy

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DOI 10.1055/s-0043-1765846

Aims Analyze endoscopic aspects that allow us to evaluate and objectify quality variables in colonoscopy

Methods A set of algorithms associated with an AI system that allows recognition of reaching the cecum, access to the ileum, entry to the colon (Out-in), colon exit (In-out) and recognition of the transverse colon was trained. 35,826 images were obtained and refined, with which neural network architectures were trained and 3,621 images were used to quantify results.

Results The system correctly recognized Cecum: 93.78 %; Ileum: 97.22 %; Ascending-Descending: 90.63 %; Transverse: 96.06 %; rectum: 85.26 %. The system recognizes In-Out with 97.07 % certainty. In the case of the detection of the Cecum, detection of the appendicular orifice and folds is added in order to increase certainty.

Conclusions The adequate identification of the indicated segments will allow quantifying relevant data such as:

- Effective arrival to cecum
- Times of arrival to the cecum, withdrawal and ascending exploration
- Ileum exploration

The system will allow real-time feedback to the endoscopist on compliance with the quality criteria before the end of the study, as well as objectively recording parameters recognized in the quality guidelines.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP566 Outcomes of double balloon enteroscopy on patients with Peutz-Jeghers syndrome who missed surveillance

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DOI 10.1055/s-0043-1765847

Aims Peutz-Jeghers syndrome (PJS) can be complicated by intestinal bleeding and intussusception. The current guidelines recommend 3-yearly surveillance of the small bowel (SB) to reduce the complication risk. This case series reports the outcomes of double balloon enteroscopy (DBE) on patients with PJS who missed surveillance and presented with symptoms related to giant polyps [1–3].

Methods Retrospective review of DBE procedures performed on PJS patients in a tertiary centre between November 2021 – October 2022

Results Seven patients (28–58 yro, 5 male) underwent 9 DBE procedures. The presenting symptoms were abdominal pain (7) and/or bleeding (2). Magnetic Resonance Imaging (MRI) confirmed intussusception in 3 patients. The interval (range) from previous SB surveillance was 48–120 months. Five patients had a history of ≥ 1 previous laparotomies. The approach was oral in 8 and rectal in 1 case. Laparoscopic-assisted DBE was used in 1 patient. The median (range) procedure time was 136 (84–210) mins. Sixteen polyps (median size 40mm, range 30–60mm) were removed endoscopically. Surgical resection of a 34 cm SB segment was required in one patient. The jejunum was the commonest polyp location (14/16). One patient with previous roux-en-y jejunojejunostomy had two 4 cm polyps removed from the anastomosis and the afferent loop (duodenum) respectively. The median (range) length of stay was 2 (2–7) days. There were no complications.

Conclusions DBE can be safe and effective for the management of symptomatic patients with PJS who have missed surveillance.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Ross AS, Dye C, Prachand VN. Laparoscopic-assisted double-balloon enteroscopy for small-bowel polyp surveillance and treatment in patients with Peutz-Jeghers syndrome. *Gastrointest Endosc* 2006; 64 (6): 984–8

[2] Latchford AR, Neale K, Phillips RK et al. Peutz-Jeghers syndrome: intriguing suggestion of gastrointestinal cancer prevention from surveillance. *Dis Colon Rectum* 2011; 54: 1547–1551

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eP567 Predictive factors for failure of endoscopic dilatation of esophageal achalasia

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DOI 10.1055/s-0043-1765848

Aims The aim of Our study was to evaluate the predictive factors that could influence the therapeutic response of achalasia patients who underwent endoscopic dilatation

Methods it's a retrospective study realized in our department from January 2011 to May 2002. Clinical remission was defined by an Eckhard score ≤ 3 after a maximum of 3 sessions of pneumatic dilatation. Failure was defined as no improvement, or early recurrence within one month after dilatation, or a number of dilatations > 3 .

Results We included 176 patients (80 women and 96 men;) mean age = 46 years. 137 patients received exclusively pneumatic dilatation, 29 patients received a combination of pneumatic dilatation (PD) and Heller seromyotomy with anti-reflux montage ; 5 patients received a combination of pneumatic dilatation and POEM. Among the 171 dilated patients, 100 (59.7%) received a single PD; 63 patients (36.2%) had 2 to 3 PD sessions and 8 patients (4.1%) had more than 3 PD sessions; there was one case of post-dilatation perforation requiring emergency surgery; 2 cases of refractory pyrosis after pneumatic dilation; 2 patients had laryngeal dyspnoea ; The average number of dilations was estimated at 1.64. During follow-up, the success rate after dilation was 83% at one month; 62% at 6 months and 59% at 1 year. Predictors of poor response to endoscopic dilation were age ≤ 35 years; male gender; and oesophageal hyperkinesia.

Conclusions Our study confirms that age ≤ 35 year, gender and oesophageal hyperkinesia are three predictive factors for failure of endoscopic dilatation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP568 Adherence to upper gastrointestinal endoscopy quality indicators: a multicenter prospective cohort study

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DOI 10.1055/s-0043-1765849

Aims As around 10% of upper gastrointestinal (UGI) cancers are missed in endoscopies, quality standards for UGI endoscopy have been formulated by the European Society of Gastrointestinal Endoscopy (ESGE). So far, compliance to these standards in clinical practice is largely unknown. We aimed to assess the adherence to and the impact of implementation of the ESGE quality standards for UGI endoscopy in a multicenter prospective cohort study.

Methods Endoscopists of three centers underwent a 1-hour training on procedural quality standards, including inspection time (≥ 7 minutes), photodocumentation (≥ 10 anatomical landmarks + abnormalities), use of standardized terminology (e.g. Los Angeles classification) and compliance to biopsy protocols (e.g. Seattle protocol). Quality score of diagnostic UGI endoscopies performed in adult patients before (control group) and after (intervention group) the training were compared. Primary endpoint was the overall quality score, defined as percentage of the maximum score.

Results Of 1,733 consecutive UGI endoscopies, 570 were eligible for inclusion: 285 in the control group and 285 in the intervention group. Median patient age was 63 y/o (IQR 51-71) with 47% males. The overall quality score increased from 58% to 65% after the training intervention ($p < 0.001$).

Conclusions Adherence to the ESGE quality standards for UGI endoscopy increased after a 1-hour training. This suggests that a simple training intervention improves quality of UGI endoscopy and potentially could prevent missing lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP569 Cold snare polypectomy for duodenal adenomas in familial adenomatous polyposis: a prospective international cohort study

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DOI 10.1055/s-0043-1765850

Aims Most patients with familial adenomatous polyposis (FAP) develop duodenal adenomas, but only 4-10% duodenal cancer. In an attempt to prevent cancer or prevent/delay duodenal surgery, endoscopic polypectomy is recommended. Adverse events (AEs) after duodenal polypectomy in the duodenum polypectomy include 2-3% perforation and 13-20% delayed bleeding, but these data are largely from hot snare polypectomy. We hypothesized that cold snare polypectomy (CSP) is a safe technique for superficial non-ampullary duodenal adenomas in FAP and reviewed our outcomes from CSP.

Methods We performed a prospective international cohort study including patients with FAP who underwent CSP for one or more superficial non-ampullary duodenal adenomas between 2020 and 2022. The primary outcome was incidence of intra- and post-procedural AEs.

Results In 40 patients with FAP, 136 CSPs were performed (ranging 1-18 CSPs per session). Median polyp size was 10mm (IQR 8-15mm) and range 5-40mm. Twenty-seven adenomas were ≥ 20 mm. 109/136 (80%) polyps (80%), were lifted by submucosal injection before CSP. Sixty-five polyps (48%) were resected en bloc and 71 polyps (52%) piecemeal. Macroscopic radical resection was achieved in 132 lesions (97%). In 8.1% of cases, the defect was prophylactically clipped to prevent bleeding. One intra-procedural bleeding occurred which was managed by hemoclips, no perforation and no other intra- or post-procedural complications. Histopathology showed low-grade dysplasia only.

Conclusions Cold snare polypectomy is feasible and safe for superficial non-ampullary duodenal adenomas any size in FAP when performed by experienced endoscopists.

Conflicts of interest Maria Pellise: endoscopic equipment on loan of FujiFilm, research grant from FujiFilm, ZiuZ and Casen Recordati, consultancy for FujiFilm, Olympus and speakers' fee from Olympus, Medtronic and FujiFilm. Barbara A.J. Bastiaansen: speakers' fee from Olympus, Tillotts Pharma AG and Ovesco Endoscopy AG. Rodrigo Jover: consultancy for CPP Pharmaceuticals. Francesc Balaguer: FB has received an honorarium for consultancy from Sysmex and CPP Pharmaceuticals, speaker's fees from Norgine, and editorial fee from Elsevier. Michal Kaminski: speaker's fee from Olympus, Fujifilm, Boston Scientific, Medtronic, AlfaSigma, IPSEN, consultancy fee from Olympus, ERBE, AlfaSigma. John G. Karstensen: JGK received honorarium from SNIPR BIOME and AMBU and speakers fee from Norgine. Luigi Ricciardiello: consultancy and unrestricted research grant from SLA Pharma AG. Evelien Dekker: endoscopic equipment on loan of FujiFilm and Olympus, research grant from FujiFilm, consultancy for FujiFilm, Olympus, Tillots, GI Supply, CPP-FAP, PAION and Ambu, and speakers' fee from Olympus, Roche, GI Supply, Norgine, IPSEN, PAION and FujiFilm.

eP571 A retrospective analysis of the frequency of bacteremia and infectious complications associated with the use of direct peroral cholangiopancreatography during ERCP

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DOI 10.1055/s-0043-1765851

Aims To evaluate the risk of bacteraemia following endoscopic retrograde cholangiopancreatography (ERCP) with direct peroral cholangiopancreatography (POCPS). Secondary objectives were to assess the prevalence of other infectious complications and the effect of a "real-life" practices of prophylactic antibiotics administration on these outcomes.

Methods Retrospective analysis of consecutive patients from 2016 to 2022 who underwent POCPS using the SpyGlass System. Prophylactic antibiotic treatment was administered based on clinical discretion. Demographic and clinical data including blood cultures and infectious complications were collected.

Results 75 patients undergoing ERCP with direct POCPS. 63 patients were included in the analysis after excluding 12 patients who were admitted with evidence of bacteraemia and/or biliary infection prior to endoscopic intervention. In 17/63 (27%) patients, post procedural blood cultures were drawn based on clinical suspicion for infection. Positive cultures were found in 4/17 (23.5%) of all cultures and in 4/63 (6.3%) of all cohort, of those 2/63 (3.2%) had clinically significant bacteraemia. Antibiotic prophylaxis was administered to 35 (55.6%) patients, with no evidence of significant reduction of bacteraemia, cholangitis, hospitalization length or mortality rates when compared with patients who did not receive prophylactic antibiotics ($p > 0.05$). Post procedural cholangitis was observed among 5/63 (7.9%) patients (► **Table 1**).

Conclusions The prevalence of bacteraemia and cholangitis following ERCP with direct POCPS was 6.3% and 7.9% cholangitis, respectively. Prophylactic antibiotics did not reduce post procedural infectious adverse events.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Primary and secondary outcomes by antibiotics prophylaxis status.

	Antibiotics prophylaxis		
	Yes (35)	No (28)	P value
Bacteremia all cohort, n (%)	2 (7.1)	2 (5.7)	1.000
Bacteremia, patients with BC, n (%)	2 (25)	2 (22)	1.000
Cholangitis, n (%)	1 (2.9)	4 (14.3)	0.16
Mean hospital length, days (±SD) *	5.1 ± 4.5	5.9 ± 2.9	0.71
Mortality, n (%)	1 (2.9)	0	1.000

* For patients with bacteremia/ adverse events. BC, blood cultures.

► **Table 1**

eP572 Inflammatory Fibroid Polyps (IFPs) of the stomach: a benign tumour with different clinical manifestations. A single center study

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DOI 10.1055/s-0043-1765852

Aims Gastric IFPs are benign tumours which represent about 0.1 % of gastric polyps. They may be found incidentally during gastroscopy or they can be the underlying cause of anemia or upper gastrointestinal bleeding. Endoscopically, they appear as submucosal lesions. For this reason, endoscopic ultrasound (EUS) is an important diagnostic modality because it can distinguish them from other entities. In this study we present a retrospective analysis of the diagnosis and treatment of all the IFPs in our center.

Methods Retrospective analysis of prospectively recorded data in an established endoscopic registry.

Results 50 patients underwent EUS from 2017 till 2022 with the indication of a submucosal lesion of the stomach. 8 of them were diagnosed as gastric IFPs. 4 were women, the mean age was 61 ± 9.62 . In 6 patients gastroscopy was performed due to epigastric pain and gastroesophageal reflux symptoms and in 1 due to anemia. In 1 patient the gastric IFP polyp was found after an urgent gastroscopy, due to acute upper gastrointestinal bleeding, where the polyp was found with hemorrhagic appearance. The mean diameter of IFPs was 18mm. 6 of the polyps were located in the antrum and the rest of them in the body. Complete endoscopic resection was achieved in 7 polyps. 1 polyp was removed surgically due to failed endoscopic resection. No side effects were reported.

Conclusions Gastric IFP consist a benign incidental finding during gastroscopy, or they may be related with anemia or upper gastrointestinal bleeding due to ulcerated and hemorrhagic appearance. Diagnosis is confirmed by biopsy. Because of its benign nature, after resection no follow-up is needed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP573V The role of double balloon enteroscopy in the detection and pre-operative assessment of multifocal small bowel neuroendocrine tumors

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DOI 10.1055/s-0043-1765853

Abstract Text Small bowel Neuroendocrine tumors (SBNETs) have a high incidence of multifocality and their localization often involves a combination of several imaging modalities. We present two cases where the use of double balloon enteroscopy (DBE) was beneficial in the detection and operative assessment of multifocal SBNETs. Standard rectal DBE was used in the first case with endoscopic tattooing of a 50cm segment of ileum that harboured 6 tumor deposits. Laparoscopic-assisted DBE with adhesiolysis was required in the second case where 4 tumor deposits were detected in the distal ileum [1–2].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP574 Risk factors associated with active bleeding in delayed postpolypectomy hemorrhage. Real life experience in a unicentric Spanish cohort

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DOI 10.1055/s-0043-1765854

Aims Currently, the risk factors that determine presence of active bleeding in the context of delayed postpolypectomy hemorrhage (DPPB) remain unknown and therefore the need for urgent endoscopic treatment.

The objective is to determine risk factors associated with active bleeding in DPPB to identify those who could benefit from endoscopic therapy.

Methods Unicentric retrospective study that includes all patients who presented DPPB in the period 01/2019- 07/2022 in a Spanish center. DPPB was defined as any bleeding after polypectomy that required urgent care within 30 days after the procedure. Data were analyzed with SPSS (version 25).

Results We found 105 cases of DPPB. 62,85% male (mean age 65,6). In 21,90% (23/105) the eschar had completely closed after resection. 67,61% (71/105) required urgent colonoscopy of which 20,95% (22/105) presented active bleeding and 25,71% (27/105) had stigmata of recent bleeding. Endoscopic therapy was performed in 77,46% (55/71).

In the univariate analysis: Right colon location (P 0.019), size > 2 cm (P 0.04) and a GSEED RE2 score \geq 6 (P 0.02) were shown to be risk factors associated with active bleeding. However, the GSEED RE2 score \geq 6 points was the only one shown to be an independent risk factor in the multivariate analysis (19; 1.6-24 P: 0.02). The prophylactic closure of the eschar did not behave as a protective factor.

Conclusions Patients with high risk GSEED RE2 score (\geq 6 points) have higher probability of active DPPB, therefore this tool could be useful as a method for prioritizing this endoscopic urgency.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP575V Endoloop-Assisted Transoral Outlet Reduction As a Novel And Cost-Effective Treatment for Weight Regain After Roux-En-Y Gastric Bypass

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DOI 10.1055/s-0043-1765855

Abstract Text Herein, we first describe “endoloop-assisted transoral outlet reduction (e-TORe)”, a novel technique using readily available, non-technical-demanding, and economical accessories for a 36-year-old male who developed 25.96% weight regain from nadir after Roux-en-Y gastric bypass (RYGB). After ablated with argon plasma coagulation, the gastrojejunal anastomosis (GJA) was fixed circumferentially using an endoloop and 8-10 hemoclips. The endoloop was then tightened over a 6-mm balloon. At 3-month, GJA remained strictured and the patient achieved 10.5% total weight loss. e-TORe is a safe and effective endoscopic procedure for post-RYGB patients with weight regain.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP576 Rescue hybrid endoscopic approaches for difficult colorectal polyps: The Greek experience

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DOI 10.1055/s-0043-1765856

Aims Hybrid approaches of full-thickness resection device (FTRD; Ovesco Endoscopy, Tuebingen, Germany) and conventional techniques (EMR, ESD) have enabled the removal of difficult fibrotic adenomas with a “non-lifting” sign. We present a cohort of 10 patients treated with EMR + FTRD or ESD + FTRD as rescue hybrid endoscopic techniques for difficult colorectal polyps.

Methods In all cases, the resection of polyps was unfeasible with conventional procedures (EMR, ESD). Retrospective analysis of the data included technical success, clinical success, R0 resection, histological confirmation of margin-free resection, adverse events (AE) and endoscopic follow-up. All the patients underwent follow-up endoscopy in 6 and 12 months.

Results All resections (100%, 7 EMR + FTRD and 3 ESD + FTRD) were macroscopically complete with confirmed full-thickness resection. Clinical and technical success were achieved in all cases, except for one patient with severe di-

verticulitis and fibrosis, where the FTRD system could not be passed through the sigmoid colon. The mean lesion size in EMR + FTRD group (33.6 mm; range, 45-20 mm) was larger compared with the ESD + FTRD one (26.2 mm; range, 30-22 mm). Three of 7 patients treated with EMR + FTRD were histologically diagnosed with infiltrative adenocarcinomas (pT1bSM1-SM2) with clear margins. The majority of patients (90%) remained hospitalized for 1-3 post-endoscopy days. Follow-up endoscopy was available in all patients with no recurrence observed in 6-month and 12-month endoscopy.

Conclusions Hybrid procedures seem to be safe and effective treatments for complex colorectal lesions not amenable to EMR and ESD alone.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP577 Endoscopic treatment of hemorrhoids: Ligature vs sclerotherapy

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Aims The aim of our study is to compare the results of sclerotherapy injections and hemorrhoid ligation by studying the discomfort and pain post procedure, the short and long term efficacy and the complication rate.

Methods This is a retrospective descriptive study of 397 patients with symptomatic internal haemorrhoids(IH) :150 were treated by sclerotherapy, and 247 were treated by ligation ,within our training over a period of 17 years [2005-2022].

Results The mean age of our patients was 49.6 years, a M/F sex ratio is 2.85, The symptomatology was dominated by rectorrhagia (97%) complicated by anemia in (43.5%); The indications of sclerosis were IH grade 2 in 80% and grade 3 in 12%, while ligation was indicated for symptomatic IH grade 3 in 67% of cases and grade 2 (34.8%). Minor complication occurred , dominated by rectorrhagia in 6.6% (10cases) after sclerosis and in 15% (37cases)after IH. The pain was reported by 18 patients (67.2%) in HI and in 6 cases (4%) treated by sclerosis. The success was found in 73.3% after an average of 2.2 sessions of sclerosis [1-4], and 79% after a mean of 3 sessions of ligation. The recurrence rate was 26.6% after sclerosis and 22% in ligation.

Conclusions We conclude that haemorrhoid ligation is more effective than sclerotherapy, but may be associated with more pain and discomfort for the patient than sclerotherapy

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP578 The impact of COVID-19 waves on the management and evolution of cirrhotic patients admitted for variceal bleeding in an Emergency Hospital from Romania. Do more difficult conditions lead to higher in-hospital mortality?

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DOI 10.1055/s-0043-1765858

Aims Variceal bleeding is a common and severe cause of hospitalization in cirrhotic patients. We analyzed how the COVID-19 waves modified the outcome of the patients compared to COVID-19 extra-wave intervals.

Methods We retrospectively included all patients hospitalized between March 2020 and December 2021 for variceal bleeding. They were separated in 2 categories: hospitalizations during COVID-19 extra-waves period and the COVID-19 waves. Variables like sex, age, hemoglobin at presentation, endoscopic timing, hemostatic methods, transfusion necessity, duration of hospitalization and mortality were analyzed.

Results Out of 76 patients (2020-2021), 20 patients were hospitalized during the COVID-19 waves. The median age did not differ significantly across groups (61 years [IQR: 52-65] vs 58 years [IQR: 44-64]), 59 patients being male and 17 being female. The number of admissions for variceal bleeding and gastroscopy requirement and timing were similar regardless of the studied period ($p > 0.05$). Median hemoglobin admission values were significantly lower in the following subgroups: patients in whom gastroscopy was performed in less than 6 hours or more than 12 hours ($p = 0.045$) and patients requiring PRBC transfusion ($p = 0.018$). There were also no differences in duration of hospitalization and mortality between the two studied periods ($p > 0.05$).

Conclusions The number of patients remained relatively constant in both periods. We found no differences in the management and outcomes of patients throughout the COVID pandemic. Our results might be influenced by a low number of patients and need further confirmation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP579 Should colonoscopy be performed routinely in patients with acromegaly?

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Aims The objective of our study is to evaluate the interest of screening colonoscopy in patients with acromegaly.

Methods This is a retrospective study, including all patients followed for acromegaly who had a colonoscopy for screening, over a period of 13 years [January 2009 – August 2022].

Results In our study, we collected 50 patients, whose mean age was 48 years [24 ;85] with a clear female predominance; sex ratio F/H = 3.5. Colonoscopy was considered difficult or incomplete with a dolichocolon in 5 patients (12.5%) who underwent a second colonoscopy. Endoscopic examination was normal in 35 patients, while in the remaining 15 (30%) patients, polyps were found. The number of polyps ranged from 1 to 5, except in one patient where colonoscopy revealed the presence of rectocolic polyposis. The average size of the polyps was 9 mm, with a sessile aspect in 10 patients. Regarding the location, all the rectocolic segments were affected, with predominance at the right colonic angle. All polyps were resected except in the patient with polyposis, biopsy-exeresis was performed. The anatomopathological study was in favor of an inflammatory polyp in one patient (2.5%), an adenoma with low grade dysplasia in 10 cases, and a focal high grade dysplasia in only one patient who benefited from a colonoscopy in 3 months which returned normal. All our patients were enrolled in an endoscopic surveillance protocol which didn't reveal any abnormalities afterwards, knowing that the patient with a recto-colic polyposis was proposed for surgery.

Conclusions Our study confirms the interest of screening colonoscopy in acromegaly patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP580 Clinical outcome of Novel Technology for Colorectal Submucosal Dissection: preliminary analysis for polyp surface and fibrosis with the procedural time

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DOI 10.1055/s-0043-1765860

Aims The clinical outcomes of ESD performed using Speedboat RS2/SRS2 (a novel multi-modality device with bipolar radio-frequency(BRF) cutting & microwave (MWC) coagulation)

Methods A prospective cohort of colorectal Speedboat-assisted Submucosal Dissection (SSD) was initiated for 3 operational years. Short and long-term clinical outcomes were recorded. Linear regression was used to assess polyp and technical factors (location, morphology, size, surface, fibrosis and histology) affecting procedural time.

Results 184 patients were subject to SSD using tunneling technique. 19 abandoned (14 for muscle retraction sign/7 advanced cancers and 5 for medical emergencies). Out of 165, endoscopically complete en-bloc resection was achieved in 91.5% (n = 151), curative rate 82% (n = 18). Within the en-bloc group, mean polyp size 5.45cm, mean polyp surface 22.63cm². Overall mean procedural time 105.98 minute. Non-rectal polyps 75/151 (49.7%), non-granular polyps 51/151 (34%), high dysplastic polyps 36/151 (25.2%), cancers 20/151 (14%). First surveillance available for 71/151 (47%) with no recurrence identified. Endoscopically controlled delayed bleeding occurred in 3 patients (2%). No perforation was recorded. Regression analysis revealed significant effect of cm2 size and fibrosis on the duration of the procedure ($p < .001$, $R^2 = .778$), indicating an increase of 2.271t minutes per 1cm² of increase in polyp surface and an increase of 37.34 minutes when severe fibrosis is encountered; a baseline time of 23 mins reflecting polyp of 10cm².

Conclusions First results demonstrate that Speedboat is an effective and safe device for submucosal colorectal dissections. SRS2 performed in a timely manner.

Conflicts of interest Consultant agreement with Creo Medical and CoNmed

eP581 ERCP in infants, children and adolescents – Experiences of a pediatric centre

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Aims ERCP in children older than 3 years and adolescents is a common procedure for detecting and treating congenital or acquired biliopancreatic disorders. For infants younger than 3 months ERCP represents a complex and challenging technique to diagnose or treat rare, mostly congenital diseases. Still there is poor data regarding diagnostic yield, therapeutic outcome and above all the safety of ERCP in infants younger than 3 months.

Methods To investigate this, we conducted a retrospective analysis of 90 ERCPs in 63 children between Jan. 2019 and Dec. 2021. Aim was to assess the indication for ERCPs, the diagnostic and therapeutic outcome as well as the rate of adverse events during and after the procedures.

Results Over a course of two years a total of 63 consecutive children (mean age 2.88 years, median 0.17 years, 45% girls) underwent 90 ERCPs. 37 children (58%) were younger than 3 months, 28 children (29%) were between 3 months and 6 years and 8 children (13%) were older than 6 years. The main reasons for ERCPs in infants were congenital disorders, such as bile duct atresia or hypoplasia. In children and adolescents ERCP was indicated because of congenital and acquired disorders (gallstones, hereditary pancreatitis). The mean duration of ERCPs overall was 40.7 minutes (diagnostic 30.3 minutes, therapeutic 51.1 minutes). Complications occurred in 7 cases (7.7%): 1 post ERCP pancreatitis, 4 mild cholangitis, 1 endotracheal re-intubation due to respiratory insufficiency after procedure [1–6].

Conclusions In this large retrospective cohort study we were able to show that pediatric ERCP is a feasible, effective and save procedure, even in infants younger than 3 months.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Mercier C, Pioche M Safety of endoscopic retrograde cholangiopancreatography in the pediatric population: a multicenter study. *Endoscopy* 2021; 53 (6): 586–594

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eP582 Hemorrhage and pancreatitis in hilar biliary stricture drainage approaches

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DOI 10.1055/s-0043-1765862

Aims To compare the complication rate (hemorrhage and pancreatitis) in patients with hilar biliary strictures with different drainage techniques performed—endoscopic drainage, percutaneous, antegrade SEMS placement and combination between endoscopic and percutaneous approaches.

Methods For that purpose, we retrospectively reviewed 121 patients with hilar biliary stricture drainage performed in our center between 2017–2021. Patients were managed with endoscopic drainage, percutaneous drainage alone, antegrade SEMS insertion, or a combination of the two modalities. In 88 patients (57.5%) we performed endoscopic drainage, in 33 (21.6%) percutaneous drainage, and in 32 (20.9%) a combination of the two approaches.

Results There was no statistically significant difference in hemorrhage between the endoscopic and percutaneous approaches 13.6% vs 12.1 respectively. The antegrade SEMS insertion was proven to harbor a higher risk for hemorrhage compared with endoscopic SEMS placement 15.4% vs 11.6%. Pancreatitis was observed more often with the percutaneous antegrade SEMS insertion compared with the endoscopic approach 46.2% vs 34.6%

Conclusions The endoscopic approach remains the gold standard for the management of hilar biliary strictures. A percutaneous approach with antegrade SEMS or drainage insertion can be used as a salvage technique in difficult cases. These procedures should be done in high-volume centers due to the higher complication rate compared with the endoscopic approach.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP583V Hybrid rescue resection of a recurrent fibrotic adenoma in the ascending colon by combining Endoscopic Submucosal Dissection (ESD) and Full Thickness Resection Device (FTRD)

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Abstract Text We describe a hybrid ESD + FTRD technique for the endoscopic removal of a recurrent fibrotic adenoma of the ascending colon. A 20-mm 0-IIa adenoma with an obvious scar of the previous resection attempt, was firstly removed with ESD by using a needle-type knife. However, the presence of severe fibrosis and difficulty to approach the lesion, the ESD procedure was interrupted, and hybrid ESD/FTRD was decided. Histology results confirmed R0 full-thickness resection and showed tubular adenoma with high-grade dyspla-

sia. At 6 months after the procedure an endoscopy revealed no recurrence of the resected adenoma.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP584 Percutaneous endoscopic necrectomy in infected peripancreatic necrotic collection

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DOI 10.1055/s-0043-1765864

Aims The purpose of our work is to present hybrid techniques for treatment of infected peripancreatic necrotic collection (IPNC).

Methods We report a case of complicated pancreatic pseudocyst preceded by distal pancreatectomy and splenectomy for pancreatic body tumor. The work-up started with ineffective initial percutaneous single-catheter drainage of the pseudocyst and an IPNC formation (7.9 cm). We proceeded with stent placement in the pancreatic duct via endoscopic retrograde pancreatography (ERPG) and percutaneous double-catheter drainage. The procedure was followed by two-stage percutaneous endoscopic necrectomy. Due to persistent leakage from the pancreatic duct, a 7 Fr nasal pancreatic drain was placed. After further elevation of amylase levels in the cavity, the nasal pancreatic tube was removed and treatment continued with external catheter drainage with gradual decrease in its diameter (12-9-6.3 Fr).

Results The size of the IPNC was reduced to 2/1 cm. Case work continues by reducing the size of the drainage catheters to achieve complete disappearance of the cavity at the site of the necrotic collection. Amylase levels tend to reduce permanently with continuous outpatient care.

Conclusions Combined percutaneous and endoscopic approach proves as a valuable option for complications like IPNC after distal pancreatectomy with reduced risk compared to open necrectomy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP585 The predictive value of the red density score for sustained clinical remission: a retrospective cohort analysis

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DOI 10.1055/s-0043-1765865

Aims In this retrospective cohort analysis we aimed to assess the predictive value of the RD score for sustained clinical remission in a 5 year follow-up.

Methods All 39 patients included in the RD pilot trial were evaluated for clinical outcomes over a period of 5 years (2017 to 2022). The updated RD score was reassessed based on the initial imaging data in both rectum and sigmoid. The highest RD score was considered as relevant for statistical analysis. A ROC curve was plotted to determine the cut-off of the RD for the composite endpoint of treatment failure (defined as mortality, colectomy, hospitalizations, flares and UC therapy changes). Statistical significance was considered $p < 0.05$.

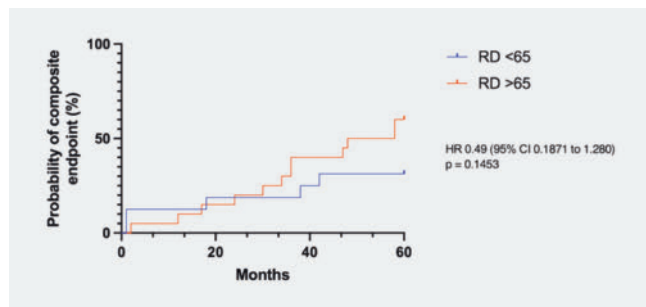
Results Reassessment of the RD score was possible in 36 of the 39 patients. The composite endpoint was reached in 17/39 (43.5%) patients. ROC analysis for clinical remission showed a RD cut-off of 65 (similar to histological cut-off) [1]. The corresponding AUC was 0.68 with a sensitivity of 0.71 and a specificity of 0.63, a positive and negative predictive value of 0.65 and 0.68, respectively. A RD score of > 65 demonstrated a statistically non-significant increase in composite endpoint (HR 0.49 (95% CI 0.1871 – 1.280); $p = 0.1453$) (► Fig. 1).

Conclusions The RD score may be an independent predictor of clinical remission in patients with UC for the disease course up to 5 years, based on the

analysis of retrospective single center data from a heterogenous cohort. Because of the small sample size but the promising trend in this small study population, this RD technology needs further investigation to draw final conclusions on its predictive capacity. Hence, results of the ongoing PROCEED-UC trial are to be awaited, but current trends look very promising.

Conflicts of interest PS is supported by a grant of Research Foundation Flanders (1582221N). RB received speaker's fees, consultancy and research support from Pentax, Fujifilm and Medtronic.

[1] Bossuyt P, Nakase H, Vermeire S et al. Automatic, computer-aided determination of endoscopic and histological inflammation in patients with mild to moderate ulcerative colitis based on red density. *Gut*. 2020; 69: 1778–86



► **Fig. 1** Red density score cut-off of 65 for prediction of reaching the composite endpoint for treatment failure (defined as mortality, colectomy, hospitalizations, flares and UC therapy changes) over 60 months

eP586 Exposed versus non-exposed endoscopic full thickness resection for duodenal sub-epithelial lesions: A tertiary care center experience

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DOI 10.1055/s-0043-1765866

Aims Endoscopic full thickness resection (EFTR) has been shown to be effective in selected lesions located in stomach and colorectum. The data are limited data regarding the feasibility, safety and efficacy of EFTR in duodenum. In this study, we aim to evaluate the feasibility and safety of exposed and non-exposed EFTR in cases with large (≥ 10 mm) duodenal sub-epithelial lesions.

Methods The data of all patients who underwent EFTR for duodenal sub-epithelial lesions with exposed and non-exposed (device assisted) technique were analyzed, retrospectively. The primary outcome of the study was technical success of EFTR in duodenum. The secondary outcomes included adverse events, R0 resection and recurrence at follow-up [1–4].

Results Twenty patients with duodenal sub-epithelial lesions (14.2 ± 3.6 mm) underwent EFTR during the study period. Exposed and non-exposed EFTR were performed in nine and eleven patients, respectively. The mean procedure duration was 70.3 ± 46.5 min. Technical success with exposed and non-exposed techniques was 100% and 75%, respectively. Histologically complete resection (R0) was achieved in 15 (75%) patients. Moderate or severe adverse events were recorded in three patients including leak in two and partial obstruction of lumen in one patient.

Conclusions EFTR is feasible in large duodenal sub-epithelial lesions with a reasonable safety profile. EFTR enables complete resection in majority of the duodenal sub-epithelial lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP587 Correlation between endoscopic ultrasound features according to Rosemont criteria and exocrine pancreatic function in chronic pancreatitis

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DOI 10.1055/s-0043-1765867

Aims Endoscopic ultrasound (EUS) is the most sensitive method to diagnose chronic pancreatitis (CP) in its early stage, and Rosemont criteria (RC) are used to classify its findings. However, data on the correlation between EUS features and pancreatic exocrine insufficiency (PEI) are scarce. We aimed to investigate the correlation between EUS findings and PEI.

Methods This is a retrospective, monocentric cohort study concerning patients prospectively enrolled from 2016 to 2021, with definite or probable CP according to M-ANNHEIM criteria. All patients had a EUS performed and known data about exocrine function, both within 12 months from the diagnosis of CP. PEI was diagnosed for fecal elastase (FE) values ≤ 200 mcg/g or when overt steatorrhea was reverted by enzyme replacement therapy. To evaluate the association between EUS features and PEI, and the accuracy of RC in predicting PEI, logistic regression analyses, Rank correlation, ROC curve and area under the curve (AUROC) were performed.

Results 128 patients were examined (63.3% male, mean age 47 years). 69.5% had a diagnosis of PEI (69.7% based on reduced FE). At multivariate logistic regression among all the RC, only the presence of lithiasis in the main pancreatic duct (MPD) was associated with an increased risk of PEI (OR 2.92, 95% CI 1.29–6.61; $p = 0.01$). Rank analysis showed a weak inverse correlation between Rosemont categories and FE (Spearman's $\rho = -0.02$; $p = 0.03$). Accuracy of Rosemont was moderate (AUROC of 0.62, $p = 0.014$, sensitivity 69.7%, specificity 53.8%).

Conclusions EUS structural findings seem of limited help in identifying patients at risk for PEI but for lithiasis of the MPD. Dynamic and functional tools, such as EUS elastography and pancreatic function tests (secretin), could improve the usefulness of EUS in evaluating exocrine function.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP588 The value of emergency endoscopy in the treatment of sigmoid volvulus: About 136 cases

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DOI 10.1055/s-0043-1765868

Aims The aim of our work is to report through a retrospective study our experience on the endoscopic treatment of sigmoid volvulus.

Methods We collected 136 patients admitted to the emergency for occlusion on sigmoid volvulus over a period of 10 years [January 2006 to November 2022]. The diagnosis was made on a combination of clinical and radiological findings.

Results The mean age was 60.2 years [23-95 years] with a male predominance (sex ratio M/F: 3.1). All patients presented clinically with a low occlusion, the clinical examination showed a distended abdomen with diffuse abdominal tenderness and an empty rectal ampulla on rectal examination. The biological workup revealed a mean CRP of 35.5 [1-345mg/L], White blood cells 10,299 [5000-20,000] The CT scan was performed in all our patients, which showed sigmoid distension in all patients with a 10.2cm [9-11.5cm], "bird's beak" sign in 5 cases. Recto-sigmoidoscopy was performed within an average of 3 days [9 hours-10 days]. Devolvement was performed in 82% of patients with a success rate of 85%. Endoscopy showed signs of endoscopic distress (necrosis, erythematous and purplish congestive mucosa) in 10%, who necessitate an emergency surgery. The complication rate was 13% (only one case of perforation).

Conclusions Sigmoid volvulus is a serious condition that can be life threatening. Emergency endoscopic devolvement improve outcome of these patients, postpone the surgery of the dolicho-sigmoid and decrease the postoperative morbi-mortality.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP589 Esophageal ESD is safe and effective for squamous lesions also in the West

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DOI 10.1055/s-0043-1765869

Aims Endoscopic submucosal dissection (ESD) has evolved into a viable treatment modality for superficial esophageal lesions although experience in the West is limited. The aim of this study was to analyze the effectiveness, safety and long-term outcomes of ESD for esophageal superficial lesions.

Methods Retrospective cohort including consecutive patients submitted to ESD for esophageal superficial lesions at a tertiary oncology hospital between 2013 and 2022.

Results ESD was performed in 30 lesions (28 patients), with a median lesion size of 2.5cm [interquartile range (IQR) 1.5-3.0]. Intraprocedural bleeding rate was 30%. There were no cases of perforation (immediate or delayed) nor of post-procedural bleeding. Two patients (resections >50% circumference) developed stricture (6.7%) requiring dilatation. The en bloc and R0 resection rates were 100% and 87%, respectively. Histologically, 20(67%) patients had squamous cell carcinoma, 9 (30%) squamous high-grade dysplasia and 1(3%) adenocarcinoma. According to the ESGE 2022 recommendations, 20 (67%) lesions were classified as very low risk, 1 (3%) as low risk, 2 (7%) as local risk and 7 (23%) as high risk for lymph node metastasis. Thus, one patient undergone radiotherapy, 3 chemoradiotherapy and 3 esophagectomy. During a median follow-up period of 47 months (IQR 16-79)months, 3 patients developed metachronous lesions and 1 local recurrence. One patient died from disease progression and 2 patients died from esophagectomy complications.

Conclusions Esophageal ESD is a minimally invasive technique, with a very low rate of adverse events and avoiding more invasive treatments in 2/3 of the patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP590V Endoscopic dissection of a complex rectal lesion assisted by novel technology for a deep submucosal tunneling and levelling

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DOI 10.1055/s-0043-1765870

Abstract Text 84-year-old female with LST-GM lesion with a prominent nodule (Paris 0 + IIa + Is3, Kudo V4, JNET 2B5) in the distal rectum. A Speedboat-assist-

ed Submucosal Dissection/SSD approach delivering bipolar radiofrequency energy for cutting tissue, and microwave energy for controlling bleeding was applied. To augment the visualisation and retraction of the lesion, double clip-with-line tractions were deployed on both arches of the tunnel. 'Inside(tunnel)-out(edges)' sweeping movements were repeated to expand the tunnel, mostly in a 3-to-9/6-to-12 o'clock direction. The en-bloc pinned-out specimen measured 10cmx7.5cm and intact muscle layer. Histology confirmed R0 TVA L&HGD. First surveillance revealed no recurrence with and no stenosis.

Conflicts of interest Dr Zacharias Tsiamoulos has a consultant agreement with Creo Medical and CoNmed

eP591V Upper GI bleed due to Gastric Band migration

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DOI 10.1055/s-0043-1765871

Abstract Text In this video we showcase an unusual case of upper gi bleed where a patient presented with upper gi bleed [1]

On endoscopy we found that the gastric band which was placed for bariatric surgery done 3 years ago had eroded and caused ulcer in the proximal stomach. We show how the eroded gastric band was removed endoscopically which saved a major surgery for our patient

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Pai N, Rasane S et al. Endoscopic management of migrated gastric band placed during bariatric surgery

eP592 Intestinal metaplasia of the common bile duct – a rare finding as a cause of indeterminate biliary stricture evaluated by cholangioscopy: case report

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DOI 10.1055/s-0043-1765872

Aims n.a.

Methods Case report

Results A 75-year-old female patient underwent ERCP for obstructive jaundice at a secondary care hospital. Based on the endoscopic image an adenoma of the papilla was suspected, biopsies were taken, following endoscopic sphincterotomy (EST), common bile duct (CBD) clearance was performed. Histopathological analysis showed adenomatous hyperplasia. She was re-hospitalized for jaundice, biliary plastic stent was placed. Nine months later abdominal CT scan revealed dilated extrahepatic and intrahepatic ducts with the biliary stent in place and no pathology in the pancreas. She was referred to our center for ERCP. Fluoroscopy showed a stricture at the junction of the CBD and common hepatic duct. EST was extended and biliary plastic stent was replaced. Brush cytology samples were taken from the stricture showing high-grade dysplasia. The papilla was re-biopsied showing no signs of dysplasia or malignancy. For the direct visual evaluation of the indeterminate biliary stricture digital peroral single-operator cholangioscopy (SpyGlass DSII) was performed, which revealed a papillary structure. Cholangioscopy-assisted targeted biopsies were taken, and the plastic stent was exchanged. Histology from the strictured area revealed small bowel type intestinal metaplasia of the common bile duct. The patient was referred for surgical resection.

Conclusions Intestinal metaplasia is the rarest subtype of metaplasia in the extrahepatic biliary ducts, and only a few cases had been described so far. To the best of our knowledge our case is the first report of an intestinal metaplasia of the common bile duct with a cholangioscopic view.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP593 The relationship of h.pylori in inflammatory bowel disease

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DOI 10.1055/s-0043-1765873

Aims The relationship between H.pylori and IBD is not clear. In this study, we tried to reveal the relationship between H.pylori positivity and IBD.

Methods Independent T-test was used to compare continuous measurement values

according to categorical groups. Chi-square test was used to determine the relationships between categorical variables. SPSS (IBM SPSS for Windows, ver.26)

statistical package program was used for analysis.

Results A total of 105 IBD patients, 60 of whom were men, and 28 healthy volunteers were included in our study. Of the patients, 81 had Crohn's disease and 24 had UC, and the mean age of the patients was 44.34 ± 16.16 years. When the bowel activities of the patients were examined, 15 % of them were in remission, while the disease was active in the others. While H.pylori positivity was not detected in IBD patients who were in remission, the positivity rate was 23 % in patients with active disease (p = 0.016). The H.pylori positivity rate of the patients was 21.1 %, and there was no statistical difference between the control group (p = 0.272).

The H.pylori positivity rate in UC patients was 38.1 %, while it was 14.3 % in Crohn's patients (p = 0.032).

There was no statistically significant difference in the use of biological agents and immunomodulators in UC and Crohn's patients (► **Table 1**).

Conclusions Although the H.pylori positivity rate in IBD did not differ compared to the healthy group,

the H.pylori positivity rate was significantly higher in the case of active disease.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Table 1 Measurements of acute phase reactants in IBD patients

	Mean	Std. Dev.	Min.	Max.
Age (year)	44,34	16,16	18,00	84,00
WBC	7612,62	2630,65	1400,00	13900,00
NEUT/LYMP	3,31	2,59	,59	14,22
CRP	15,45	28,62	,10	170,00

► **Table 1** Measurements of acute phase reactants in IBD patients.

eP594 Novel use radiofrequency ablation at ERCP to successfully unblock at stenosed metal stent

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DOI 10.1055/s-0043-1765874

Aims Intraductal biliary catheter directed radiofrequency ablation (RFA) has been used to relieve malignant biliary obstruction in unresectable cases [1–3], but has rarely been described in benign biliary stenosis [4, 5]. We used SpyGlass cholangioscopy at ERCP to apply RFA to tight stenotic areas in a longstanding, uncovered self-expanding metal stent (SEMS). Our 63 year old male patient had complicated biliary surgery over thirty years prior, with consequent placement of an uncovered SEMS. He initially presented to our tertiary hepato-biliary

centre aged 60 with cholangitis. Bile duct stones were successfully cleared with electro-hydraulic lithotripsy (EHL), and stenosis due to tissue hyperplasia within the stent managed with plastic pigtail stents and later remodelled with a covered SEMS. However, he continued to have recurrent cholangitis requiring multiple courses of antibiotics and ERCPs.

Methods A HabibRM EndoHPB Bipolar Radiofrequency Catheter was placed along the proximal end of the stent using guidewire technique and cholangioscopy. A 7kW current was applied for 60 seconds, then left for 60 seconds. This was repeated at different stenotic segments under fluoroscopic guidance

Results Immediate cholangioscopy revealed thermal desiccation of obstructing tissue and a widely patent CBD. He had a few hours of post-procedural pain but no significant complication. There have been no further episodes of cholangitis or requirement for intervention in the intervening 21 months up to abstract submission.

Conclusions Uncovered metal stents placed for benign indications can cause significant morbidity. We have identified a way of utilising RFA to successfully treat in-stent stenosis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP595 Outcome prediction in Multi-Session Washed Microbiota Transplantation Delivered by Transendoscopic Enteral Tubing in Ulcerative Colitis

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DOI 10.1055/s-0043-1765875

Aims Fecal microbiota transplantation (FMT) methodology based on an automatic microbiota purification system and repeated centrifugation was recently coined in China as washed microbiota transplantation (WMT). Transendoscopic enteral tubing (TET) has also been used as a novel delivery route for FMT into the small intestine (mid-gut TET) and colon (colonic TET). This promising methodology aims to decrease the processing time for preserving living bacteria, deliver a precise enriched dose of microbiota and reduce adverse events (AEs).

Methods Patients with ulcerative colitis (UC) underwent a protocol of multiple WMT transfusions in our center through either mid-gut or colonic TET. WMT protocol was retrospectively evaluated by considering a combination of clinical

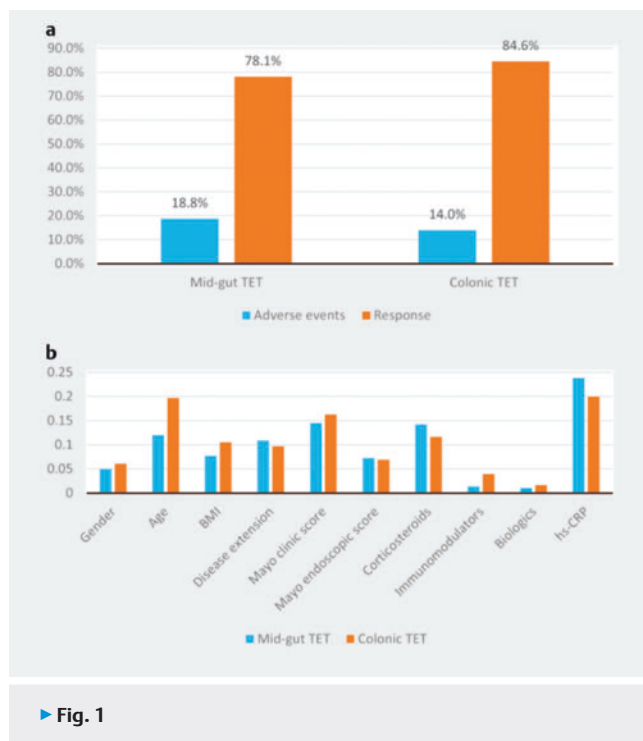
inputs, while patients' response at week (4) and WMT-related AEs were considered outputs.

Results A total of 200 patients with UC received the WMT protocol; 85 patients achieved clinical remission, 80 patients had clinical improvement, and 35 patients failed to achieve a response. Colonic TET was the main WMT delivery route (68%). There was no significant difference in the rate of response or remission by delivering WMT via mid-gut or colonic TET. WMT-related AEs were observed in 15.5% of WMT procedures, with no significant difference in the rate of AEs using TET via the mid-gut or colonic route. Figure (1b) describes the results of categorizing WMT patients according to the delivery route.

Conclusions WMT appears to be a safe and effective therapy in UC management, choosing the proper delivery route, either mid-gut or colonic TET, with the patient and disease condition being correctly considered.

The performance of patients who delivered WMT by mid-gut and colonic TET. (a) WMT-related AEs and response rates in both WMT routes. (b) The performance of patients with the two different WMT delivery routes across a set of input variables. Higher values represent relatively worse performance (► Fig. 1).

Conflicts of interest Faming Zhang conceived the concept of GenFMter and transendoscopic enteral tubing and related devices. The remaining authors declare that the research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.



► Fig. 1

eP596 Colonoscopy surveillance in Lynch syndrome is burdensome and frequently delayed

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DOI 10.1055/s-0043-1765876

Aims Subjects with Lynch syndrome have an increased colorectal cancer risk, hence, biannual colonoscopy surveillance is recommended. We aimed to investigate patients' perception and preferences regarding surveillance, and to further explore compliance behaviour.

Methods Subjects with Lynch syndrome received a validated survey evaluating experiences of most recent three colonoscopies. Subjects were non-compliant to surveillance if the interval between colonoscopies differed by ≥ 6 months from the recommended interval.

Results In total, 217 of 311 (70%) subjects returned the questionnaire. Colonoscopy surveillance was mostly performed biannually (98%), under mild sedation (76%) and with bowel preparation performed by Moviprep (95%). In total, 56% of subjects perceived surveillance as moderately to extremely burdensome, and 22% as impacting quality of life. To reduce the burden, patients prioritised improvements in amount and taste of bowel preparation, laxation-related bowel movements, waiting times, and more personal and respectful approach of endoscopic staff. Additionally, 60% of subjects would favour less-invasive surveillance modalities such as biomarkers. In total, 28% of subjects had delayed colonoscopy surveillance and an additional 10% considered quitting/postponing surveillance. Upon multivariable analysis, patient-related delay was associated with low or medium education, having undergone ≤ 4 colonoscopies and no hospital recall-system.

Conclusions Colonoscopy surveillance in Lynch syndrome is often experienced as burdensome, and is frequently delayed. We identified determinants of surveillance behaviour in this population, and potential interventions to lower the burden and non-compliance rates.

Conflicts of interest EvL, IJ and MJ have nothing to declare. ED has endoscopic equipment on a loan of FujiFilm and Olympus and has received a research grant from FujiFilm. She has received an honorarium for a consultancy from FujiFilm, Olympus, GI Supply, CPP-FAP, PAION and Ambu, and speakers' fees from Olympus, Roche, GI Supply, Norgine, IPSEN, PAION and FujiFilm. NdB has served as a speaker for AbbVie and MSD and has served as a consultant and principal investigator for TEVA Pharma BV and Takeda. He has received a research grant (unrestricted) from Dr. Falk, TEVA Pharma BV, Dutch Digestive Foundation (MLDS) and Takeda; all outside the submitted work. DR has received a research grant (unrestricted) from AbbVie, outside the submitted work. He has served as a member of the Data Safety Monitoring Board of Vivoryon Therapeutics.

eP597V The Forgotten Stent: removal of an embedded Biliary Self-Expanding Metal Stent

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DOI 10.1055/s-0043-1765877

Abstract Text We report a case of a 59 years-old man with acute cholangitis and long-term embedded biliary SEMS placed 4 years earlier for bile duct stones. A new fully covered SEMS was positioned inside the indwelling SEMS ("stent-in-stent" technique), but ERCP performed after 4 weeks failed to retrieve the embedded stent, as the attempts of removal only resulted in partial mobilization and fracture of metal wires. Therefore, single-operator cholangioscopy with Spyglass was performed, and the embedded metal wires were mobilized under direct view by using biopsy forceps through the cholangioscope. Finally, the stent was safely removed with extraction balloon. The patient was discharged without adverse events.

Conflicts of interest Andrea Tringali is a consultant for Boston Scientific and Olympus

eP598V Melanotic macule in the esophageal body. Diagnostic and prognostic implications

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DOI 10.1055/s-0043-1765878

Abstract Text We performed a gastroscopy to a 55-year-old woman. During the gastroscopy we observed millimeter and flat blackish areas 25–27 cm from the dental arch. Biopsies were taken from these areas. The esophageal pathology study describes the esophageal squamous mucosa with pigmentation compatible with a melanotic macula [1–3].

Melanotic macules in the digestive system, although infrequent, must be adequately assessed, since their diagnosis must rule out the presence of syndromes associated with melanotic lesions. In isolation, there is currently no follow-up consensus, since the risk of malignancy, although possible, is infrequent.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP599 Esophageal leukoplakia or epidermoid metaplasia, a rare cause of food impaction

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DOI 10.1055/s-0043-1765879

Aims Esophageal leukoplakia or epidermoid metaplasia (EEM) is rare with unclear etiology. EEM is observed in middle-aged women, localized in mid esophagus with dysphagia as a common symptom. Tobacco, alcohol and acid reflux are the most common risk factors. Although EEM is considered a premalignant condition related to squamous cell carcinoma, there are no guidelines for its management. We present a case of food impaction due to nodular EEM.

Methods A 75-year-old man presented with food bolus impaction. The previous year he reported intermittent episodes of solid food dysphagia. Medical history included diabetes mellitus, obesity and tobacco use (50 pack-year).

Results Esophagogastroduodenoscopy (EGD) showed a piece of meat impacted in the mid esophagus. After removal, careful examination of the esophagus identified whitish confluent cobblestone mucosa extended for 11 cm, with 3 large nodules (~15 mm). Histopathology revealed hyperorthokeratosis consistent with EEM without dysplasia. The patient received proton pump inhibitors (PPI); computed tomography and endoscopic ultrasound showed esophageal wall thickening without enlarged lymph nodes. Surveillance EGD after 3 months revealed low-grade dysplasia; endoscopic removal of nodular lesions and ablation of the residual EEM were scheduled. PPIs is the initial treatment while surveillance is recommended for non-dysplastic EEM 6 months after index endoscopy and then annually. Ablation is proposed for dysplastic EEM without nodular lesions, for which endoscopic resection can be attempted.

Conclusions EEM is a rare but important entity due to its malignant potential. At the moment, the therapeutic management and surveillance remain unclear.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP600V The Endoscopic Mega Plication Technique. A new approach of use the IOP platform doubling the size of the bites and reducing the number of sutures over 40 % and the cost of the procedure

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DOI 10.1055/s-0043-1765880

Abstract Text Endoscopic procedures for weightloss management have grown in the last years due to the society demand of having minimally invasive solutions.

In the video we present a evolution of the POSE 2.0 procedure modifying the way of doing the plications, using the 33mm grasper and 2 g-lix with the objective of creating double transmural bites. We present the video of the technique showing the size of the bites and the cost reduction of the procedure as long as the number of plications are down to an average of 10 instead 18–20 on the regular pattern. A study based on safety, durability and effectiveness of this new patten is actually running.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP601 Tolerability of Endoscopic Variceal Ligation in Cirrhotic Patients without Sedation

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DOI 10.1055/s-0043-1765881

Aims Endoscopic variceal ligation (EVL) is generally performed either with propofol or conscious sedation using midazolam. These agents reduce anxiety and discomfort, hence increase acceptance and tolerability. However, serious adverse events were observed with sedation. Furthermore, additional social implications include prolonged hospital stay, need of transportation, time off from work and requirement of overnight care. We aim to assess the tolerability and safety of EVL with Xylocaine throat spray comparing with diagnostic EGD.

Methods We conducted a prospective study and enrolled 100 patients equally in two groups A (EVL) and B (Diagnostic). EVL was performed for primary or secondary prophylaxis. The comfort scores of doctors, patients, and nurses were recorded as per proforma using Modified Gloucester Comfort Scale (▶ **Table 1**).

Results 63% were male. Mean age was 48.26 and 47.32 years in group A and B respectively. 42% of patients were more than 50 years old. The comfort scores assessed by nurses, doctors, and patients were 0 in 58%, 68% and 65% respectively (Table 1). The comfort score of 2 was given in 4–6% patients. None of the patient were given score 3 or 4 in each group. There was no statistically significant difference in comfort score across both groups. There were no procedure related complications [1–4].

Conclusions Our study shows that EVL in cirrhotic patients could be safely performed under xylocaine throat spray. The comfort scores were similar to the patients who had diagnostic gastroscopy with or without biopsies. EVL without propofol and conscious sedation is cost effective with social advantages and avoids potential serious sedation related adverse events.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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Variables	Category	Group A N=50	Group B N=50	P-Value
Age	17-45	19	16	0.05
	>45	31	34	
Sex	Male	33	30	0.53
	Female	17	20	
Nurse Comfort score	Comfortable (0 score)	32	26	0.08
	Minimal pain (1 score)	18	21	
Doctor Comfort score	Mild pain (2 score)	0	3	0.14
	Comfortable (0 score)	37	31	
	Minimal pain (1 score)	13	17	
	Mild pain (2 score)	0	2	
Patient Comfort score	Comfortable (0 score)	34	31	0.23
	Minimal pain (1 score)	16	17	
	Mild pain (2 score)	0	2	

► Table 1

eP602 Epiphrenic diverticula associated with achalasia cardia. Per oral endoscopic myotomy with diverticula septotomy safe and effective endoscopy treatment patients with acute dysphagia

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DOI 10.1055/s-0043-1765882

Aims Esophageal diverticula are uncommon, but epiphrenic diverticula associated with achalasia cardia are very rare condition esophagus, present with acute dysphagia and chest pain. Endoscopic treatment esophageal diverticula have gained popularity in the last year.

Methods Patient 82 y.o. present with clinical acute dysphagia, regurgitation, vomiting and weight loss 20 kg in the past 3 month. Patient underwent X-ray diagnostic and flexible endoscopy, where the diagnosis was established large epiphrenic diverticula, size 6-7 sm, associated with achalasia cardia. We performed endoscopic tunneling method per oral myotomy with the septotomy epiphrenic diverticula. After creation submucosal esophageal tunnel and separated submucosal diverticula septa, we start myotomy. When completed myotomy, we start and performed full thickness septotomy diverticula. At the end of procedure we clip close submucosal tunnel [1–5].

Results The next day after the operation, we performed an X-ray examination with a contrast agent, where a very good patency of the esophagus was established. The patient started eating the next day without dysphagia.

Conclusions Endoscopy D-POEM safe and effective endoscopy treatment elderly patient who are often poor candidates for surgery. In this case we demonstrated rare condition epiphrenic diverticula associated with achalasia cardia and proposed endoscopy treatment D-POEM with good clinical and endoscopy results.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP603 Occult gastrointestinal bleeding as a manifestation of cytomegalovirus gastritis in an immunocompetent host

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DOI 10.1055/s-0043-1765883

Aims A 73-year-old woman presented with a recent history of fatigue and episodic vomiting in the past 2 months. The physical exam on admission was only notable for palor of the skin and mucosas. Complete blood count (CBC) documented a severe anemia (hemoglobin 5.5 g/dL).

Methods An abdominal CT-scan reveal only adenopathies, without other relevant findings. Upper endoscopy revealed a 25 millimeter lesion with ulceration in the gastric remnant.

Results Because of the macroscopic aspect, a probable gastric neoplasia was assumed and multiple biopsies were taken. However, the histological results showed chronic inflammation with inclusion bodies compatible with CMV infection, confirmed by immunohistochemistry. Assuming a CMV gastritis, in an immunocompetent host, the patient started a regimen with proton-pump inhibitor and valganciclovir with good response and healing of the ulcer in a follow-up endoscopy [1–4].

Conclusions This case reports a rare manifestation of CMV disease in an immunocompetent patient, also with an atypical presentation: occult gastrointestinal bleeding. Invasive disease is more common and severe in immunocompromised patients, such as those with HIV infection, cancer and ongoing chemotherapy, long term corticosteroid therapy and transplant recipients. Endoscopic features are ambiguous making this diagnosis difficult in the absence of high clinical suspicion. CMV gastritis in immunocompetent hosts is assumed to be a self-limiting condition in most cases.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP604V Endoscopic closure of a cystic fistula after complex cholecystectomy. Placement of a fully covered biliary metal stent through ERCP

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DOI 10.1055/s-0043-1765884

Abstract Text Post-surgical biliary fistulas of the cystic duct are a rare complication, which are generally related to complex cholecystectomies that do not allow optimal surgical closure of the bile duct. Cystic duct fistulas usually tend to close spontaneously with the placement of a percutaneous drain, although on some occasions they require a reoperation for surgical closure. In this sense,

a combined technique of sphincterotomy + placement of a biliary stent in the common bile duct by ERCP may be an effective alternative for the closure of the cystic duct fistula and thus avoid a new surgical intervention in a patient with a complex surgical approach [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP605V Malignant anorectal melanoma. Importance of early detection and its prognostic implications

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DOI 10.1055/s-0043-1765885

Abstract Text The appearance of melanomas in the gastrointestinal tract is rare. However, it must be taken into account in the differential diagnosis of gastrointestinal neoplasms, since they are very aggressive tumors and their early detection is essential to be able to offer patients optimal treatment in the initial stages of the disease [1–3].

Within the surgical options in the treatment of these melanomas without distant invasion, it seems that local resection without performing abdominoperineal amputation does not reduce the survival of patients compared to conventional treatment with more aggressive surgical techniques.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP606V A troublesome ERCP – retrieving a proximal migrated biliary stent impacted in the common bile duct

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DOI 10.1055/s-0043-1765886

Abstract Text A 49-year-old man is referred for endoscopic extraction of a migrated plastic stent placed 2 years ago for refractory biliary lithiasis. The cholangiogram shows a deep migrated stent with the distal end exceeding the contour of the bile duct. We tried to mobilize the distal tip with the foreign body forceps, but due to its frailty, it breaks down. Under direct visualization with the cholangioscope we extract the torn parts and cannulate the remaining distal part of the broken stent with a guidewire, pass a sphincterotomy over the guidewire and through the stent, pull the stent to the duodenum, and then safely grab it with a snare.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP607 Clinical audit of colorectal ESD performed for large colorectal mucosal lesions from a region non-endemic for colorectal cancer – Evaluating the predictive factors for difficult resections and determining the learning curve for colorectal ESD

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DOI 10.1055/s-0043-1765887

Aims ESD – superior Enbloc Resection (ER) rates; CR ESD – technically difficult, time consuming, steep learning curve. Evaluate factors predicting difficulty to perform CR ESD, risk factors for failure of ER; calculate learning curve to achieve competency in CR ESD.

Methods Single center retrospective study, 10 years (2012 – 2021). Primary outcome – identify factors predicting difficulty while performing CR ESD. Secondary outcomes – identify risk factors for failure of ER, assess learning curve based on ER rate, S and AE.

Results N = 149; Mean age – 61.36 (± 18.21) y, 101 males (67.8%). Mean size – 46.62mm (± 25.46), 8 circumferential lesions, Median 40mm (IQR 30-60, Range 20-125). ER – 141/149 (94.6%), R0 – 132/142 (92.9%). Mean S (mm²/min) – 9.03 ± 7.94. Predictors of difficult resection (Table 1). ROC curve – lesion size ≤ 68mm as predictor for ER (PPV 95.8%, OR 14.06, p < 0.001). Univariate analysis, increase in lesion size – inferior outcomes for ER (OR 0.96; 0.95–0.98; p < 0.001), prior resection attempts – no significant correlation (OR 0.3; 0.08–1.07; p = 0.063). CUSUM analysis – 47 resections to achieve competency in ESD (▶ Table 1).

Conclusions Increase in lesion size – higher risk of failure of ER; lesions under 7cm easier to perform ER; prior resection attempt – longer procedure time but not associated with lower ER rates; learning curve to attain competency in CR ESD – 47 procedures. [1]

Conflicts of interest Authors do not have any conflict of interest to disclose.

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PREDICTORS OF DIFFICULT RESECTION		
Mean Procedure time (min)		
Naïve lesion	209.77 min ±146.4	p<0.009
Previous resection attempt	298.44 min ±161.1	
Speed per colonic segment (mm ² /min)	Rectum – 10.9 Sigmoid colon – 5.72 Anastomotic site – 4.72 Right colon – 4.22	P<0.001
Increase in procedural time with increase in area of the lesion	3 min for every 100mm ² increase in the area	rho = 0.64 p = <0.001
Size as a predictor of ER	≤ 68 (mm)	PPV 95.8% OR 14.06 p<0.001

▶ Table 1

eP608V Deep ileoscopy performed with standard colonoscope with underwater technique allows to treat Dieulafoy lesion in ileum

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DOI 10.1055/s-0043-1765888

Abstract Text We present a case of an 84-year-old woman with past history of atrial fibrillation on anticoagulant treatment with Edoxaban. The patient begins with progressive anemia of up to 5 g/dl, requiring 15 blood transfusions. Dieulafoy's lesion is a very rare entity in the small intestine, and can cause bleeding of obscure origin. Enteroscopy is an effective technique for treating lesions that are not accessible by conventional endoscopes, although the underwater technique makes it possible to advance to deeper areas by reducing the loop, and the colonic distension, produced during the introduction of the endoscope [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP609 Ectopic sebaceous glands of esophagus – A possible link with reflux esophagitis ?

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DOI 10.1055/s-0043-1765889

Aims A 71-year-old female patient with gastro-esophageal reflux disease (GERD) complained of recurrent heartburn despite optimized medical therapy with proton pump inhibitors twice a day and sucralfate 1gm 4x/day. Her past medical history was relevant for surgeries for multiple neoplasms: cervical cancer at 29 years of age, colon cancer at 48 years of age, and multiple melanomas. She underwent genetic testing but no genes predisposing to cancer were identified.

Methods She underwent upper gastrointestinal endoscopy which revealed multiple yellowish 2 to 3mm plaques along the entire esophagus. There were no relevant changes in the gastric and duodenal mucosa [1–2].

Results Multiple biopsies were taken and the histological results showed ectopic sebaceous glands (ESGs) in the esophagus surrounded by normal mucosa. A follow-up endoscopy 6 years later showed persistent yellowish plaques in the esophagus.

Conclusions Sebaceous glands in the esophagus are rare and their origin still unknown. Most patients are asymptomatic, but a possible relation with GERD has been reported.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP610 Women in menopause are not so disadvantaged: outcome of Endoscopic Sleeve Gastroplasty based on fertility status

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DOI 10.1055/s-0043-1765890

Aims Endoscopic sleeve gastroplasty (ESG) is a safe and effective procedure in class 1 and 2 obese subjects. The effects of menopause on weight are well known. However, given that this patient population is inherently weight-concerned, understanding the effects of ESG on women in menopause is essential to guiding clinicians in counselling this patient population.

Methods A prospective dataset collecting data on all ESG procedures performed in a tertiary referral centre was assessed retrospectively. Data on fertility status (menopause and non-menopause women) were collected. A comparison was performed using the Mann-Whitney U test.

Results Between May 2017 and October 2021, 209 women underwent ESG. Out of the total, fertility status was available for 204 women: 79 menopause (38,7%), and 125 non-menopause women. At baseline, non-menopause women were younger, whereas there were no differences in BMI and weight.

Six months after the procedure, non-menopause women showed significantly higher TBWL, WL and BAROS score compared to the menopausal group. Average TBWL, WL and EWL were not significantly different between the groups at 12 and 24 months (as shown in Table 1).

Table 1. Weight loss trajectories of subjects who underwent Endoscopic Sleeve Gastroplasty, based on menopausal status. Data are reported as median (Interquartile range).

	6 MONTHS			
	WL	EWL	TBWL	BAROS
Menopause (N=73)	15,0 (10,0)	50,8 (24,7)	15,2 (8,6)	3,5 (1,5)
Non-Menopause (N=111)	17,0 (9,0)	54,9 (34,6)	17,2 (8,6)	4,0 (2,0)
P	0,017	0,068	0,0190	0,039
	12 MONTHS			
	WL	EWL	TBWL	BAROS
Menopause (N=69)	13,0 (11,0)	47,8 (31,4)	14,1 (13,0)	3,5 (2,3)
Non-Menopause (N=113)	16,0 (13,5)	52,5 (41,5)	16,3 (13,5)	3,5 (2,8)
P	0,162	0,318	0,2230	0,506
	24 MONTHS			
	WL	EWL	TBWL	BAROS
Menopause (N=40)	13,0 (15,6)	40,5 (39,3)	13,6 (14,8)	2,6 (2,9)
Non-Menopause (N=62)	10,0 (11,8)	35,4 (45,0)	10,4 (13,4)	2,5 (3,4)
P	0,4	0,716	0,5190	0,776

WL= Absolute Weight Loss; EWL=Excess Weight Loss; TBWL= Total Body Weight Loss; BAROS = Bariatric Analysis and Reporting Outcome System questionnaire

► Table 1

Seven menopausal women needed revision procedures (5 Re-ESG, 1 Surgery), whereas ten non-menopausal women underwent revision (8 Re-ESG, two surgery).

Conclusions Non-menopausal women who undergo ESG show better outcomes in the short term. However, this advantage does not persist in the medium and long term (► Table 1).

Weight loss trajectories of subjects who underwent Endoscopic Sleeve Gastroplasty, based on menopausal status. Data are reported as median (Interquartile range).

Conflicts of interest Dr Vincenzo Bove: Consultant for Apollo Endosurgery. All the other authors have nothing to declare. Dr. Ivo Boskoski: Consultant for Apollo Endosurgery, Cook Medical, and Boston Scientific; board member for Endo Tools; research grant recipient from Apollo Endosurgery; food and beverage compensation from Apollo Endosurgery, Cook Medical, Boston Scientific, and Endo Tools. Prof Guido Costamagna: Consultant for and food and beverage compensation from Cook Medical, Boston Scientific, and Olympus.

eP611V Endoscopic treatment of post-surgery dehiscence of oesophagus-ileum-colonic anastomosis: when endoscopy reaches its limit!

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DOI 10.1055/s-0043-1765891

Abstract Text A 55-year-old male underwent a complete gastrectomy with partial esophagectomy due to a gastro-esophageal tumor. Reconstruction included using the right colon and the last loop of the ileum, but he developed an anastomotic leak and intra-thorax collections. Gastroscopy showed a dehiscence of the esophagus-ileum anastomosis with purulent/oily secretions. We decided to deploy an enteral FC-SEMS (150x22mm) with proximal side in the cervical esophagus fixed with both metallic clip and endoscopic sutures, and a further coaxial FC-SEMS (80x22mm) to connect the colon, with the overlapping section fixed with three metallic clips. Unfortunately the colon became ischemic and necrotic, so he underwent surgery.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP612V EUS-guided Jejunal-Jejunal anastomosis with LAMS as mini-invasive treatment for Malignant Afferent Loop Syndrome

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DOI 10.1055/s-0043-1765892

Abstract Text A 79-year-old woman with Malignant Afferent Loop Syndrome (tumour recurrence at the gastro-jejunal anastomosis after Billroth II reconstruction) was referred to our Institute for EUS-guided Jejunal-Jejunal anastomosis between afferent (AL) and efferent (EL) loop in order to drain pancreaticobiliary secretion into the jejunum, decreasing the bile reflux into the stomach. The AL was accessed from the EL using the electrocautery-enhanced delivery system of a 20-mm LAMS (Axios-EC) that was released under EUS and fluoroscopic control, resulting in a large amount of bile drained through the LAMS into the EL. Then, EUS-directed transenteric ERCP was performed with sphincterotomy and plastic biliary-pancreatic stenting.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP613 Multimodal endoscopic approach to management of recurrent sleeve gastrectomy fistula

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DOI 10.1055/s-0043-1765893

Aims A 36-year-old obese woman underwent laparoscopic sleeve gastrectomy. One week after, she developed fever and abdominal pain. Abdominal CT-scan confirmed the suspicion of fistula and showed intra-abdominal fluid collections. She underwent urgent laparoscopy.

Methods Postoperatively, oral methylene was detected in the abdominal drains. An endoscopy detected a fistula orifice measuring 4mm at the gastric cardia as well as a stricture in the gastric body. An over-the-scope-clip (OTS-clip) was applied and a partially covered metal stent placed. Abdominal CT-scan performed one month later revealed persistence of the fistula. Another endoscopy was performed and it revealed proximal migration of the stent leaving the fistula orifice uncovered. The stent was removed and argon plasma applied, followed by closure of the fistula orifice with a new OTS-clips and a new partially covered metal stent.

Results At follow-up endoscopy, 5 weeks later, a severe stricture had formed just above the proximal edge of the stent and was dilated with through-the-scope (TTS) balloon and the metallic stent was removed. A deep laceration at the site of the stricture was closed with TTS clips. Three days later, due to development of sepsis, a new endoscopy was performed and it revealed a 3 mm perforation at the site of the laceration, which was closed with a OTS-clip. Abdominal CT-scan performed 5 weeks later showed no evidence of contrast extravasation. The patient was discharged and has remained asymptomatic [1–3].

Conclusions This case highlights the complex management of fistulas after bariatric surgery requiring multi-modal endoscopic techniques which have lower morbidity and mortality compared to surgical reinterventions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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[2] Bège T, Emungania O, Vitton V, Ah-Soune P, Nocca D, Noël P et al. An endoscopic strategy for management of anastomotic complications from bariatric surgery: a prospective study. *Gastrointest Endosc* 2011; 73: 238–244

[3] Sousa P, Noronha Ferreira C, Coutinho J, Carepa F, Rosa R, Barão A, Marques Ferreira C, Girao J, Ruivo A, Bicha Castelo H, Lopes J, Almeida A, Carrilho Ribeiro L, Velosa J. Fistula Recurrence: A Clinical Reality after Successful Endoscopic Closure of Laparoscopic Sleeve Gastrectomy Fistulas. *GE Port J Gastroenterol* 2019; 26 (4): 242–250. doi:10.1159/000492637

eP614 Percutaneous transhepatic choledochoscopic electrohydraulic lithotripsy (PTSC-EHL) of a common bile duct stone complicating a postsurgical biliary anastomosis

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DOI 10.1055/s-0043-1765894

Aims Until recently, patients with common bile duct stones in a post-surgical anatomy (i.e. Billroth II or Roux-en-Y procedures) had limited options in case the classical endoscopic approach failed. The percutaneous approach, by conventional interventional radiology techniques, was not able to adequately address large stones in the bile ducts. The development of a new type of cholangioscope (the SpyGlass Discovery), dedicated for percutaneous treatment of intraductal disease, has dramatically improved the management of these difficult cases.

Methods We present the case of a 63-year-old man acusing recurrent pain in the upper right abdominal quadrant and jaundice. His medical history revealed

cholecystectomy complicated by a bile duct injury requiring common bile duct resection and Roux-en-Y hepatico-jejunostomy. Magnetic resonance cholangiopancreatography showed an obstructive stone of 25 mm immediately above the bilio-digestive anastomosis.

Results Classic endoscopic approach via enteroscopy failed to reach the bilio-digestive anastomosis. Therefore, a two-step procedure was performed, with creation of a percutaneous fistula that allowed subsequent bilioplasty and cholangioscopy-guided electrohydraulic lithotripsy to be performed using the new SpyGlass Discovery system. After intraductal lithotripsy, the remnant smaller fragments were pushed into the jejunum using a standard extraction balloon.

Conclusions Although PTL is an invasive procedure, it is a feasible and safe option, with fewer complications than surgery. It requires an experienced team of gastroenterologists and radiologists, but is a promising approach of definitive biliary decompression.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP615 Difficult biliary cannulation: an experience of a tertiary Tunisian center

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DOI 10.1055/s-0043-1765895

Aims We aim to determine the prevalence of difficult biliary cannulation (DBC) and its associated factors and to describe the efficiency and safety of used cannulation methods.

Methods We conducted a single-center retrospective study including all patients with naïve papilla who had an endoscopic retrograde cholangiopancreatography (ERCP) procedure in Gastroenterology department of Mohamed Taher Maamouri Hospital from June 2019 to December 2021. DBC was defined based on European Society of Gastrointestinal Endoscopy (ESGE) (5-5-1).

Results We included 664 patients (mean age 62 years and sex ratio M/W = 0.8). Main indication for ERCP was choledocholithiasis (67%, n = 442) followed by malignant biliary stenosis (21%, n = 138). Based on ESGE criteria, prevalence of DBC was 42.62% (n = 283). Prevalence was 21.15% when 15-10-2 cutoffs are applied in trainee-involved procedure. Cumulative biliary success rate was 96.46%. Standard cannulation method achieved access in 98.2% while advanced methods permitted success in 92.2% in fistulotomy, 94.1% in papillotomy and 77.3% in transpancreatic sphincterotomy. Independent predictive factors of DBC in multivariate analysis were: Trainee presence OR 1.80 [1.24-2.65], SOD OR 4.71 [1.11-19.88], biliary stenosis found on imaging examinations (OR 2.53 [1.63-3.92], small papilla OR 4.09 [1.82-9.17] and difficult orientation of the papilla OR 14.90 [3.28-67.62].

Conclusions DBC is a frequent endoscopic situation. Predictors of DBC can be related to trainee involvement in the procedure, anatomical and clinical factors. A thorough understanding of these factors can actively contribute to ERCP management plans.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP616V Malignant degeneration of treated Zenker's diverticulum

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DOI 10.1055/s-0043-1765896

Abstract Text A 75-years-old man with Zenker's diverticulum, endoscopically treated in 2002, presented dysphagia. In the first upper gastrointestinal endos-

copy (UGE), a stenosis of benign aspect was observed, suggestive of recurrence of diverticulum. Endoscopic dilation was considered. But, in new UGE, access to the diverticula was achieved, showing a lesion suggestive of infiltrating neoplasm. Histology showed well-differentiated squamous cell carcinoma. Malignant degeneration of Zenker's diverticulum is a rare complication, more than the recurrence of these. Although accessing the diverticulum by endoscopy might be difficult and risky, the diagnosis must be refined before attempting any therapeutic maneuvers. [1]

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Dissard A et al. "Functional results in endoscopic Zenker's diverticulum surgery." *European annals of otorhinolaryngology, head and neck diseases*. vol. 134,5 2017; 309-313. doi:10.1016/j.ano.2017.02.009

eP617 What is the contribution of colonoscopy in patients with melena and normal upper gastro intestinal endoscopy?

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DOI 10.1055/s-0043-1765897

Aims The aim of our study is to report the role of colonoscopy in the etiological diagnosis of melena with normal upper gastro-intestinal endoscopy; as well as the associated factors.

Methods This is a retrospective descriptive and analytical study, between January 2018 and August 2021, including 40 patients who underwent colonoscopy for melena with a normal upper gastro-intestinal endoscopy. Patients with known IBD were excluded from our study.

Results 1,518 patients underwent colonoscopy, of which 2.6% were for melena. The average age of our patients was 64 years +/- 14.11; with a sex ratio (M/F) of 1.5.

Colonoscopy was normal in 43.6% of cases, when it was pathological (56.4%) it showed: colonic angiodysplasia in 42.9%, colonic diverticulosis in 28.6%, recto-colonial polyps in 25%, an aspect of colitis in 9.5% and a colorectal process in 5% of patients. In univariate analysis, the factors associated with a pathological result at colonoscopy for melena were: age (p = 0.004); the presence of associated constipation (p = 0.009) and diarrhea (p = 0.015).

In multivariate analysis, no factor was found to be statistically significantly related to pathological colonoscopy.

Conclusions Melena is a life-threatening diagnostic and therapeutic emergency. When the upper gastro-intestinal endoscopy is normal, colonoscopy is always recommended. In our study, the endoscopic findings were dominated by colonic angiodysplasia, colonic diverticulosis and colorectal polyps.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP618V Freehand endoscope exchange (FEE) during EUS-guided biliary rendezvous (EUS-RV): A new tip to avoid guidewire entanglements

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DOI 10.1055/s-0043-1765898

Abstract Text EUS-RV involves two limiting-steps: antegrade guidewire passage across the papilla and endoscope exchange, during which friction may result in guidewire dislodgment from the CBD. Periampullary diverticulum resulted in repeated cannulation failure for CBD stones. After 19G EUS-guided CBD puncture, a 0.025" guidewire was passed antegrade into duodenum. The EUS-scope was gently advanced from bulb to 2nd-portion. The distal guidewire-end was retrieved outside the EUS-scope with a 5F-forceps. Using dual

traction, a 7F-plastic stent was placed retrogradely through the EUS-scope into the CBD across invisible papilla. The EUS-scope was removed freely, a duodenoscope introduced, plastic stent cannulated, and ERCP completed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP619V Torrential Bleeding at ERCP – Stent it and Stop it

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DOI 10.1055/s-0043-1765899

Abstract Text A 65-year-old male patient was admitted for ERCP due to choledocholithiasis. During the procedure, a plastic stent was placed after incomplete removal of calculi. An ERCP was performed two months later. The stent was in situ and was removed uneventfully. The cholangiogram revealed a dilation of the main biliary duct and an impacted stone. Calculus removal after balloon dilation up to 15 mm, followed by torrential arterial bleeding. First attempt at hemostasis with balloon compression was ineffective. A fully covered metallic stent (30 Fr x 6 cm) was placed with hemorrhage resolution. The patient was safely discharged after 48 hours. We present a rare complication successfully resolved during the procedure [1].

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Dumonceau J, Kapral C, Aabakken L et al. ERCP-related adverse events: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2020; 52 (2): 127–149

eP620 Prevalence of Barrett's Oesophagus in Somaliland

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DOI 10.1055/s-0043-1765900

Aims The aim of this study was to, for the first time, estimate the prevalence of Barrett's Oesophagus (BE) in Somaliland.

Methods We retrospectively reviewed all patients undergoing an upper GI endoscopy between 1st January 2021 to 1st December 2022 at a recently established endoscopy unit at City Hospital in Hargeisa, Somaliland. All endoscopies were performed by a single expert endoscopist accredited by the UK Joint Advisory Group (JAG). All patients with evidence of endoscopic columnar metaplasia were biopsied for a histological assessment of BE. Demographics of the patients were recorded from the hospital electronic reporting system.

Results Between 1st January 2021 to December 2022, there were 1421 upper GI endoscopies performed. 979 (68.9%) were males (mean age 59.3 years) and 442 (31.1%) were females (mean age 51.4 years). There was a total of four patients (0.28%, all males) who had a histologically confirmed BE; All of them without dysplasia.

Conclusions Our study found that the prevalence of Barrett's oesophagus among the patients undergoing an upper GI endoscopy in Somaliland is very low at 0.28%. It is in fact much lower than the described prevalence in, for instance, African-Americans, which is at 1% [1]. Further studies are required to establish the reasons behind the low prevalence of BE in this region; However, we have noticed that the use of over-the-counter proton pump inhibitors (PPIs) is very common among the people in Somaliland. We therefore hypothesise that the wide-spread use of PPIs might have contributed to the low prevalence of BE in this region.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Alkaddour A, Palacio C, Vega K. Risk of histologic Barrett's esophagus between African Americans and non-Hispanic whites. A meta-analysis

eP621 Interest of colonoscopy in patients with constipation: a comparative study according to age

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DOI 10.1055/s-0043-1765901

Aims The aim of our study is to evaluate the interest of colonoscopy in the exploration of constipation according to the age of the patient.

Methods This is a retrospective descriptive study, including 387 patients who underwent colonoscopy for constipation between January 2018 and August 2021. Patients were divided into 2 groups: Group 1: age < 50 years and Group 2: age > 50 years. The epidemiological, clinical and endoscopic data of the patients were evaluated. Patients with known IBD were excluded from our study. Data collection and statistical analysis were performed using SPSS 21.0 software.

Results A total of 1518 patients underwent colonoscopy, of whom 387 had constipation (25.5%).

The mean age of our patients was 57.18 ± 14.79, with a sex ratio (M/F) = 1.02. Colonoscopy was normal in 62.8% and pathological in 37.2% (G1: 18.6%; G2: 41.5%; p < 0.001). The main pathologies found were: rectal polyps in 61% (G1: 46.7%; G2: 69.1% p = 0.092), colorectal neoplastic lesions in 21.3% (G1: 20%; G2: 22.2% p = 0.670), colonic diverticulosis in 17.7% (G1: 0%; G2: 17.3% p = 0.117), appearance of colitis in 7.8% (G1: 33.3%; G2: 4.9% p = 0.004). In multivariate analysis, the factors associated with pathological colonoscopy for constipation were: age over 50 years (p < 0.001); male gender (p = 0.002); history of colorectal cancer (p = 0.05); and presence of associated anemia (p = 0.01).

Conclusions Our study showed that constipation in the over 50s is an independent risk factor for pathological colonoscopy in cases of constipation. Male gender, history of CRC and anemia were also predictive factors for pathological colonoscopy in this context.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP622 Endoscopic full-thickness resection as the first line treatment for small but highly-suspicious of invasive adenocarcinoma colorectal lesions

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Aims To analyze the oncologic outcomes of endoscopic full-thickness resection (eFTR) of small colorectal lesions but highly-suspicious of invasive adenocarcinoma (HSolA).

Methods Descriptive study of all patients with HSolA colorectal lesions (0-IIc or 0-III Paris morphology and/or NICE 3) suitable to Full-thickness resection device (FTRD) (≤ 30mm) in a tertiary hospital between May-2018 and October-2022. Demographic, clinical, technical, oncological and pathological data were retrospectively collected

Results Twenty lesions fulfilling the inclusion criteria were resected in 20 patients (80% male, 70.1 ± 9.49 years-old), most of them with significant comorbidities (Charlson's comorbidity index 6.55 ± 2.83; 80% of ASA III-IV patients). Lesions were 17.9 ± 4.24 x 13.7 ± 3.53 mm in size; Paris morphology 0-IIc and 0-III in 75% and 15%, respectively; NICE 3 in 70% of cases. Technical success was 100% with R0 resection in 95% and only 1 (5%) adverse event (delayed bleeding). Pathologic results showed invasive adenocarcinoma in 60% (12/20), all of them well or moderately differentiated. Lympho/vascular invasion was present in 75% and budding in 12.3%. All adenocarcinoma patients had NOMO

disease on CT-scan and/or MRI. Finally, eFTR was the sole treatment for 70 % of patients: 8 adenomas, 2 low-risk of nodal involvement adenocarcinomas and 4 high-risk ones in patients who were unfit for surgery. Only 50 % of patients with high-risk adenocarcinomas received oncological surgery.

Conclusions eFTR is safe and has a high R0 resection rate for HSolC colorectal lesions. Thus., it could be considered as first-line treatment since these cases harbour a wide spectrum of conditions, from adenoma to invasive adenocarcinoma, both in patients fit and unfit for surgery.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP623V The classic never dies. Efficacy of the classical method in biliary lithotripsy: fragmentation of biliary lithiasis by direct peroral cholangioscopy with electrohydraulic probe for the treatment of biliary lithiasis

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DOI 10.1055/s-0043-1765903

Abstract Text Biliary lithotripsy with electrohydraulic lithotripsy probe by direct peroral cholangioscopy is an endoscopic alternative to sphincterotomy and endoscopic papillary large-balloon dilation when these techniques are unsuccessful.

Nowadays, biliary lithotripsy is usually performed using mother-baby scope systems with Spyglass, although it is still possible to use an electrohydraulic probe by direct cholangioscopy in centers where this technique is not available [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Angsuwatcharakon P, Rerknimitr R. Cracking Difficult Biliary Stones. *Clin Endosc* 2021; 54 (5): 660–668

[2] Mukai S, Tsuchiya T, Itoi T. Interventional endoscopic ultrasonography for benign biliary diseases in patients with surgically altered anatomy. *Curr Opin Gastroenterol* 2019; 35 (5): 408–415

[3] Parsa N, Khashab MA. The Role of Peroral Cholangioscopy in Evaluating Indeterminate Biliary Strictures. *Clin Endosc* 2019; 52 (6): 556–564. doi:10.5946/ce.2019.011

eP624 Contribution of gastroscopy in non-varicose upper gastrointestinal bleeding and predictive factors for the need for endoscopic treatment : a prospective study

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DOI 10.1055/s-0043-1765904

Aims The aim of our study is to evaluate the contribution of gastroscopy in non-varicose HDH and to assess the factors that predict the need for endoscopic haemostasis.

Methods This prospective monocentric cross-sectional study of 261 patients, was conducted over a one year period from June 2020 to August 2021 in the department of endoscopic emergency of our Hospital.

Results The average age of our patients was 58 ± 17 years, with a sex-ratio of 2.57. 91 % of our patients received PPI treatment with syringe pump before performing the endoscopy.

The main findings at endoscopy were peptic ulcer disease in 39 % of cases, erosive gastritis or duodenitis in 30 % of cases, and esophagitis in 15 % of cases. Active bleeding during endoscopy was identified in 12 % of cases, requiring endoscopic haemostasis in 6.5 % of cases, however, surgery was necessary in 3 patients for bleeding not suitable for endoscopic haemostasis.

In a multivariate analysis following adjustment of confounding factors, only the presence of active bleeding and the use of PPI at syringe pump influenced the need for endoscopic haemostasis. In fact, the presence of active bleeding during endoscopy multiplies the risk of recourse to endoscopic haemostasis by 15, whereas the use of PPI with syringe pump seems to reduce this risk by 75 %.

Conclusions According to our study PPI treatment initiated prior to endoscopy for upper gastrointestinal bleeding may reduce the proportion of patients with stigmata of recent haemorrhage and therefore reduces the need for haemostatic treatment

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP625 Is early ERCP a key element in the prognosis of patients with moderate cholangitis?

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DOI 10.1055/s-0043-1765905

Aims According to the Tokyo 2018 and ESGE 2019 guidelines, endoscopic retrograde cholangiopancreatography (ERCP) should be performed early (within 48–72h) in moderate (grade II) acute cholangitis (AC), which is often impractical. To compare different clinical outcomes (in-hospital and 30-day mortality, persistence of clinical changes at 72 hours, need for emergent ERCP, post-ERCP complications and readmission rate) in patients with moderate AC, submitted to ERCP ≤ 72h (Group 1) and > 72h (Group 2).

Methods Single-center retrospective study, including all cases of moderate AC (TG 18), submitted to ERCP, between 01/2017–07/2022. Data was collected by consulting clinical records [1–2].

Results 141 patients were included, whose 34.3 % (n = 50) were included in Group 1 and 58.9 % (n = 65) in Group 2. The two groups did not show significant differences with regard to median age (78.02 vs 78.00 years), gender (50 % vs 57.3 % women), Charlson Comorbidity Index (CCI, 5.29 vs 5.42 points), previous ERCP (20 % vs 37.6 %) and diagnosis (main bile duct lysis 85.4 % vs 80.20 %). Regarding the outcomes defined in this study, there were no statistically significant differences between the two groups when the remaining variables were analyzed. Age ≥ 75 years was responsible for the moderate severity classification in 45.8 % of AC cases. However, only the CCI, and not age alone, was shown to influence 30-day mortality (OR = 1.616 p = 0.036).

Conclusions In our study, performing ERCP after the first 72 hours was not associated with increased mortality. Thus, the inclusion of age ≥ 75 years as a severity criterion, and the performance of early ERCP in this subgroup of patients with moderate AC, becomes debatable.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Manes G, Paspatis G, Aabakken L et al. Endoscopic management of common bile duct stones: European Society of Gastrointestinal Endoscopy (ESGE) guideline. *Endoscopy*. 2019; 51 (5): 472–491

[2] Kiriya S., Kozaka K., Takada T et al. Tokyo Guidelines 2018: diagnostic criteria and severity grading of acute cholangitis (with videos). *J Hepatobiliary Pancreat Sci* 25: 17–30

eP626 Particular features of colorectal polyps in the elderly: how do they differ from the young?

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DOI 10.1055/s-0043-1765906

Aims The aim is to evaluate the differences between older and younger patients regarding the incidence of colorectal polyps, their endoscopic characteristics and the overall complication rate after resection.

Methods This is a retrospective study conducted from January 2000 to August 2021. Our patients were divided into 2 groups. The inclusion criteria were:

patients with less than four polyps with a size > 3mm found during total colonoscopy with good characterization of the polyps.

Results The mean age was 39.8 ± 8 years in group A and 64.4 ± 8.86 years in group B with no significant difference in sex ratio.

Polyps were mainly located in the left colon in both groups (49.1% and 39.1% in group A and B respectively). According to the Paris classification, there was a significant predominance of sessile polyps in group B (82.8% vs 66.7%, $p = 0.02$).

Cold loop resection was the most common technique used in group A in 41.2% vs. 16.5% ($p < 0.001$) while forceps resection was the most common in group B in 43.3% vs. 23.5% ($p = 0.014$). The early complication rate, defined as the occurrence of bleeding after polypectomy, was not significantly different between the two groups ($p = 0.57$), as well as the late complication rate after using complementary manoeuvres.

Conclusions Our study confirms that endoscopic resection of recto-colonic polyps is a safe procedure in elderly patients and that there is no difference in effectiveness compared to younger patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP627 Predictive factors for therapeutic endoscopic retrograde cholangiopancreatography-related complications in the treatment of choledocholithiasis

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DOI 10.1055/s-0043-1765907

Aims The aim of our study is to evaluate the complication rate of ERCP in the treatment of choledocholithiasis and to assess the factors related to their occurrence.

Methods This is a retrospective descriptive and analytical study including 1048 patients who underwent ERCP for choledocholithiasis between January 2007 and August 2021.

Results Among the patients studied, 60.5% had a solitary stone, 27.6% had multiple choledochal stones and 11.9% had large stones (> 15mm).

Clinically, 18.7% of the patients presented with cholangitis and 9.4% with acute pancreatitis.

A periampullary diverticulum was found in 9.4% of cases. A common bile duct stenosis was present in 6.5% of patients. The primary vacuity rate after ERCP was 77.3%. However, additional maneuvers were used in 20.5% of cases.

Complications were reported in 5.8% of cases, including haemorrhage in 4.5%, pancreatitis in 0.8%, cholangitis in 0.2%, perforation in 0.1% and dormia impaction in 0.2%. No deaths were reported due to our procedures.

In a multivariate analysis following adjustment of confounding factors, only the presence of a large stone (OR = 5.9, CI (1.460- 23.875), $p = 0.013$) and female gender (OR = 1.867, CI (1.012-3.444), $p = 0.046$) increased the risk of complications during ERCP.

Conclusions Our study suggests that female gender and the presence of a large gallstone are associated with a high risk of post-ERCP complications

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP628 Drainage of pancreatic fluid collections with lumen apposing metal stents (LAMS). Our experience

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DOI 10.1055/s-0043-1765908

Aims Evaluate the efficacy and safety of LAMS for drainage of pancreatic fluid collections.

Methods Retrospective descriptive study that includes 30 patients who have undergone 32 endoscopic ultrasound drainage of pancreatic fluid collections by placing a LAMS, from 2018 to present.

Results N = 32 procedures in 30 patients. One patient needed 2 different LAMS for 2 different fluid collections and another patient needed drainage both from gastric fundus and corpus for the same collection due to its extension.

Etiology: Walled-off necrosis (WON): 24. Pseudocyst: 4. Post surgery: 4. Indications for drainage: infection (22) and compressive symptoms (10). LAMS diameter: 8mm (3), 10mm (9), 15mm (13), 20mm (7). Technical success was achieved in 100% of the cases without immediately complications [1–3].

Clinical success (symptom resolution and fluid collection reduction with no need of additional therapies) achieved in 90% (27/30). One patient also needed radiologic drainage and another patient needed both radiologic and surgical drainage due to the collection's length (both reached to the pelvis). One patient died because of a delayed bleeding of unknown etiology. 14 patients required endoscopic necrosectomy, with an average of 5 sessions.

The stents were removed within an average of 47 days (33-82), without complications.

Conclusions LAMS stent placement is a safe technique.

Technical success leads to symptom resolution and decrease in collection size in 90% of patients, preventing from additional invasive procedures.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP629V Endosonographic salvage using tubular SEMS due to a late LAMS dislodgement in a EUS-Gastroenterostomy

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DOI 10.1055/s-0043-1765909

Abstract Text A 53-year old woman with history of unresectable pancreatic adenocarcinoma presented with GOOS (gastric outlet obstructive syndrome) and was treated with placement of an enteral stent. Four months later, the patient presents again onset of GOOS. Endoscopy salvage is carried out by performing an EUS-guided gastroenterostomy with a lumen-apposing metal stent (LAMS). Four months later, new onset of GOOS occurs, due to a late LAMS dislodgment due to neoplastic progression. Endosonographic salvage using several tubular SEMS (enteral and oesophageal) is performed. Five months later, the patient remains with correct oral intake.

Conflicts of interest Joan B Gornals, consultant for Boston Scientific.

eP630 Amyloidosis of the distal bile duct

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DOI 10.1055/s-0043-1765910

Aims Here we want to present a rare case of amyloidosis of the distal bile duct to put awareness of benign bile duct pathologies and to prevent patients from unnecessary surgery.

Methods A 75-year-old patient presented at the Department for Visceral Surgery/Gastroenterology of the Clinics Böblingen-Sindelfingen (Germany) in February 2022 with weight loss, nausea, jaundice and vomiting. Initially the general practitioner detected a gall bladder hydrops via ultrasound. Thinking of a malign bile duct stenosis he send him to our hospital. A CT-Scan was made. Here we could see a double-duct-sign. Via diagnostic laparoscopy a peritoneal carcinosis could be excluded. Endosonographic findings showed an equally thickend wall of the extrahepatic bilde duct. We decided to perform an ERC with cholangioscopy to obtain tissue samples for pathologic investigation and to place a stent.

Results In the Congo red stain you could see a lot of amyloid deposits. Malignant cells were not seen. Knowing this using further blood tests and bone marrow biopsy we identified a multiple myeloma, type IgG lambda. We saw also a cardiac and gastric affection. After two cycles of daratumumab, bortezomib and dexamethasone the patient's gastrointestinal symptoms decreased significantly.

Conclusions Biliary symptoms are a rare manifestation of AL-amyloidosis. This case emphasizes the importance of obtaining bile duct tissue samples in unclear cases of post hepatic jaundice and bile duct thickening.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP631V Endoscopic band ligation as first line treatment for gastric antral vascular ectasia

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DOI 10.1055/s-0043-1765911

Abstract Text Endoscopic band ligation (ELB) is an efficient therapeutic alternative in patients with gastric antral vascular ectasia (GAVE) refractory to standard treatment with argon plasma, but also should be considered as first-line therapy in cases of extensive and severe GAVE, since excellent results have been shown with less need for transfusions, IV iron infusions, and less hospital admissions. [1–4]

We present a 70-year-old man with liver cirrhosis and severe iron deficiency anemia with frequent periodic transfusion requirements (every 2-4 weeks), secondary to GAVE. We proposed ELB as first therapeutic option, which was very effective.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Eccles J, Falk V, Montano-Loza AJ et al. Long-term follow-up in patients with gastric antral vascular ectasia (GAVE) after treatment with endoscopic band ligation (EBL). *Endosc Int Open* 2019; 07 (12): 1624–1629

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[4] Sato T, Yamazaki K, Akaike J. Endoscopic band ligation versus argon plasma coagulation for gastric antral vascular ectasia associated with liver diseases. *Dig Endosc* 2012; 24: 237–242

eP632V Endoscopic Submucosal Dissection in the Colon – a Safe and Effective Method – does the Time also Count?

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DOI 10.1055/s-0043-1765912

Abstract Text Female patient, 76 years old. Colonoscopy, at the sigmoid, a sessile polyp (Paris 0-Is) was identified behind a fold, 35 mm, JNET 2A. ESD was proposed. Submucosal injection with an indigo carmine and adrenaline solution. Mucosal incision followed by submucosal dissection. Removal en bloc. Procedure completion in 15 mins. Adenoma with low grade dysplasia, free margins. ESD in the colon is a safe and secure method, the procedure duration aims to be under 90 minutes. Good accessibility to the lesion and endoscopic stability can make for a quick procedure, comparable to piecemeal mucosectomy, in this case even behind a fold, with the benefit of obtaining a single piece and lowering the risk of local recurrence [1].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Pimentel-Nunes P, Libânio D, Bastiaansen B et al. Endoscopic submucosal dissection for superficial gastrointestinal lesions: ESGE Guideline – Update 2022. *Endoscopy* 2022; 54 (6): 591–622

eP633V Effective endoscopic sealing of a large malignant broncho-esophageal fistula (BEF) using a partially covered self-expandable metal stent (PC-SEMS)

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DOI 10.1055/s-0043-1765913

Abstract Text A 50-year-old woman, with a mediastinal lymphoma on chemotherapy presented cough and dysphagia. Upper endoscopy revealed a large BEF with a 5cm mucosal defect. CT demonstrated a fistula to the left main bronchus. Following multidisciplinary decision a 23x120-mm PC-SEMS was placed in the esophagus across the BEF, hoping that the uncovered ends would prevent migration and effectively seal reflux of GI content into the airway. CT confirmed no further leakage into the airway. Against odds, given the large BEF size, the patient continues chemotherapy and maintains oral intake 6-months after initial stenting, free of BEF symptoms, with an in-situ SEMS.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP635 Evaluation of parameters influencing the quality of colon preparation with a split dose regimen of sulfate salts

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DOI 10.1055/s-0043-1765914

Aims To evaluate the parameters which may influence bowel preparation in a split-dose regimen

Methods Consecutive adults who completed their preparation for colonoscopy with a combination of sodium sulfate anhydrous, magnesium sulfate heptahydrate and potassium sulfate. A questionnaire evaluated diet and laxative intake before the colonoscopy. Cleanliness was evaluated with the Boston Bowel Preparation Scale (BBPS, Optimal=9, Suboptimal=6-8).

Results 435 patients, 59.1% female. Mean age 61.9±11.6 years. Median BMI 26.1 kg/m² (IQR:23.8–29.4). Median liquid intake: 3lt (IQR:2–3.5). Median time between the end of second laxative dose and colonoscopy initiation was 5h:15min (IQR:4:30–6:00). Minor adverse events reported in 62(14.2%) patients. Cecum catheterization in 425(97.7%). BBPS=9 in 279(64.14%) patients. Segmental BBPS=3 was achieved in 387(88.97%), 346(79.54%) and 289(66.44%) patients (p<0.01) in the descending, transverse and ascending colon respectively. In multivariate analysis, BMI (OR=1.05,95%CI:1–1.1) and time between the end of the 2nd laxative dose and colonoscopy initiation

(OR = 1.25, 95 % C.I.:1.08–1.45) were correlated with lower bowel preparation. Overall adenoma detection rate (ADR) was 48.7(95 %C.I.:43.9–53.5). Right colon ADR:34.9(95 %C.I.:30.4–39.6). No difference in the ADR between optimal and suboptimal cleanliness.

Conclusions 1) Split dose of tri-sulfate salts is efficacious and well tolerated 2) A suboptimal cleanliness mainly in the ascending colon does not influence ADR 3) Obesity and time interval between the end of the 2nd dose and colonoscopy initiation negatively influence bowel cleanliness.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP636 EUS-Fine Needle Biopsy of Pancreatic and Biliary Neoplasms in Patients with Biliary Stent: a Single-Center Retrospective Study

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DOI 10.1055/s-0043-1765915

Aims EUS-guided tissue acquisition of pancreatic or biliary lesions could be technically difficult if a biliary stent is in place, even though available data of diagnostic yield in such cases are not conclusive. The aim of this study is to investigate the diagnostic yield of EUS-fine needle biopsy (FNB) of pancreatic or biliary neoplasms after placement of a biliary stent/drainage

Methods This is a retrospective single-center study. Patients who underwent EUS-FNB of pancreatic masses involving the bile duct, or primary biliary lesions after placement of a biliary stent or percutaneous drainage were included (study period January 2019 – August 2022).

Results During the study period, 16 patients (9 females; median age 73, range 51-83) underwent EUS-FNB with an indwelling biliary stent/drainage (6 plastic stents, 6 self-expanding metal stents (SEMS), 4 percutaneous tube drainage). Thirteen patients had pancreatic masses (mean size 22, 1 ± 7, 5 mm); 3 patients had primary biliary strictures. EUS-FNB was performed with 22 G needle in all patients with a median number of passes of 3 (range 2-4). At the final diagnosis, all these patients had malignant disease (16/16). EUS-FNB was diagnostic in 14 cases, with an overall sensitivity of 87,5 % (95 % CI 61,65 % – 98,45 %). False negative results included one case of mixed solid-fluid 25 mm neoplasm of the pancreatic head in a patient with biliary SEMS, and one case of a small (11 mm) pancreatic head neoplasm in a patient with indwelling plastic stent

Conclusions In this study, EUS-FNB for pancreatic and biliary neoplasms in patients with indwelling biliary stent or drainage showed a good diagnostic yield.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP637 Endosonographic evaluation of mediastinal and abdominal lymphadenopathy

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DOI 10.1055/s-0043-1765916

Aims To assess mediastinal and abdominal lymph nodes(LN) by Endoscopic ultrasonography (EUS) and to compare features with fine needle aspiration cytology (FNAC) outcomes.

Methods We conducted this observational cross-sectional study in Gastroenterology department of a tertiary centre in New Delhi, India between July 2018 and June 2019. Patients aged > 18 years, having mediastinal and/or abdominal LN were included. LN morphology was evaluated by EUS and EUS-FNAC was further done. Rapid onsite assessment (ROSE) for sample adequacy was done by a cytopathologist.

Results Of 123 patients analysed (Male: Female = 2.08, age: 19-76 years), multiple LN were detected in 81/123(65.8 %) patients. Necrotic LN were found

in 44/123(35.8 %) and calcification in 9/123(7.3 %) patients. On EUS-FNAC of LN, cytology was granulomatous in 51.2 %, reactive in 32.5 %, malignant in 4.9 % and indeterminate in 11.4 % cases. Highest mean long axis diameter(LAD) (29.0 + /- 10.2 mm, p = 0.05) and short axis diameter(SAD) (16.1 + /- 6.1 mm, p = 0.018) were seen in granulomatous LN. Malignant LN had the highest mean LAD-to-SAD ratio (p = 0.075). Granulomas on FNAC were associated with necrosis in 77.3 % and calcifications in 66.7 % cases. 28.6 % of these granulomatous LN were acid fast bacilli (AFB) positive. Patients having multiple LN on EUS more commonly had granulomas (60.5 %), while solitary LN were mostly reactive (47.6 %, p = 0.03). Abdominal LN were more commonly AFB(+) than mediastinal ones (58.3 % vs 21.6 %, p = 0.01).

Conclusions High LN LAD-to-SAD ratio favours malignancy, whereas necrosis, calcification and multiplicity on EUS favour tuberculosis. AFB detection is often more frequent in abdominal LNs.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP638V Endoscopic therapy for iatrogenic perforation during endoscopic submucosal dissection of a cecal lesion

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DOI 10.1055/s-0043-1765917

Abstract Text An 65-year-old patient underwent endoscopic submucosal dissection of a 60mm Paris 0-IIa lesion, laterally spreading tumor granular homogeneous, in the cecum, not involving the appendix orifice. During the procedure, a 5mm iatrogenic perforation was recognized. The mesocolon adipose tissue was aspirated into the lumen. Three clips were applied, closing the iatrogenic perforation, allowing to finish the procedure. Was achieved en bloc resection. The patient started piperacillin/tazobactam. The computed tomography scan showed pneumoperitoneum. The patient stayed clinically stable and remained 7 days at the hospital [1–2].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Paspatis G.A. et al. Diagnosis and management of iatrogenic endoscopic perforations: European Society of Gastrointestinal Endoscopy (ESGE) Position Statement – Update 2020. *Endoscopy* 2020; 52: 792–810

[2] Pimentel-Nunes P. et al. Endoscopic submucosal dissection for superficial gastrointestinal lesions: European Society of Gastrointestinal Endoscopy (ESGE) Guideline – Update 2022. *Endoscopy* 2022; 54: 591–622

eP639 What are the side effects of direct oral anticoagulants during liver vascular disease?

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DOI 10.1055/s-0043-1765918

Aims Given the potential severity of recurrent thrombosis and the high frequency of pro-thrombotic states in those patients, long-term anticoagulation may be necessary, however there are very few data on DOACs in this context. The aim of our work is to report our experience on the tolerance of DOACs.

Methods A prospective, descriptive, preliminary study of patients followed for liver vascular disease and put on DOACs and who presented a side effect due to this therapy.

Results Of a total of 131 patients followed for liver vascular disease, 11 % were on DOACs and 47 % had an adverse event. All patients were followed up for Portal hypertension, where 29 % for PSVD, portal cavernoma and Budd-Chiari syndromes regarding the Portal hypertension on HAI we got 14 %. The associ-

ated conditions were protein S and C deficiency in all patients, one of whom was taking oral contraception at the same time (14%), and another with hyperhomocysteinemia due to celiac disease. All patients had preserved liver function. The average time of manifestation: 1 month. The following effects occurred: 43 % of metrorrhagia, 29 % for each of the following events: gingivorragia and hematemesis, one of which led to a state of hemorrhagic shock and then death, and 17 % for each of the following events: rectorrhagia, melena, and epistaxis. Maintaining the same treatment for 43 % of patients, temporarily stopping treatment for 14 %, and switching to an AVK for 14 %.

Conclusions DOACs are associated with many side effects, some of which are very severe. Although the few data in the literature are reassuring, especially in patients without liver dysfunction, more results are needed to recommend their use in practice.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP640 Autoimmune gastritis: new insights from endoscopist's point of view

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DOI 10.1055/s-0043-1765919

Aims Autoimmune gastritis (AIG) is more frequently detected by endoscopic examination, yet histology remains the only method of diagnostic confirmation. The aim of our study was to investigate the correlation between endoscopic and histological findings in AIG.

Methods We conducted a retrospective study over a 7-year period. Inclusion criteria were histological AIG diagnosis. Clinico-biological, endoscopic and evolutionary data were collected.

Results We included 78 patients with a mean age of 63 years [38-89] and a sex ratio M/F of 1.1. The most characteristic endoscopic finding was corpus-dominant advanced atrophy attested by the reduction/disappearance of the corpus folds with increased visibility of the submucosal vessels found in 65.4% of cases (N = 51). Erythematous and nodular mucosa was found in 6.4% and 2.6% cases respectively. Twenty patients (25.6%) had normal endoscopy. There was no significant correlation between the endoscopic corpus atrophy and the presence of histological atrophy, regardless of its severity. We detected 7 cases of neoplastic lesions: 2 cases of gastric adenocarcinoma, 1 case of gastric MALT lymphoma, and 4 cases of neuroendocrine tumors (NET) which were all grade 1. Polyps were present in corpus in 20 patients (25.6%), which were mostly subcentimetric, multiple in 65% of cases (N = 13) and solitary in 35% of cases (N = 9). Histological examination showed mostly hyperplastic polyps and the 4 cases of NET. The presence of fundic polyps was significantly correlated with the occurrence of NET [$r = 0.396$, $p < 0.0001$] and gastric cancer [$r = 0.329$, $p = 0.003$].

Conclusions According to our study, the presence of fundic polyps was correlated with neoplastic lesions in AIG, therefore systematic biopsies as well as resection of these lesions should be performed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP641V Retroperitoneal Metastasis from Mixed Germ Cell Testicular Tumor as a cause of Upper Gastrointestinal Bleeding

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DOI 10.1055/s-0043-1765920

Abstract Text We are presenting a case of 24 years old male admitted to hospital due to upper gastrointestinal bleeding. Gastro-duodenoscopy revealed luminal compression in third duodenal part, with macroscopic appearance of stromal tumor, and visible central clot. Few biopsies were performed from the mass. Abdominal ultrasound and contrast enhanced CT scan disclosed large retroperitoneal well-defined mass. Urgent surgical treatment was indicated, and massive retroperitoneal tumor infiltrating duodenum was extirpated. Histopathological findings from duodenal biopsies and extirpated tumor unveiled metastasis from mixed germ cell testicular carcinoma (choriocarcinoma and teratoma).

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP642V Title Rectal bleeding: the stent around the corner

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DOI 10.1055/s-0043-1765921

Abstract Text A 35 years-old woman was admitted to our endoscopy unit for rectal bleeding. The patient had a diagnosis of cervix adenocarcinoma treated with radiotherapy, complicated by colic perforation. An emergency Hartmann's procedure with colic resection, rectal stump closure, and terminal colostomy was performed. The rupture of the right internal iliac artery occurred and was treated with the placement of a vascular stent. The rectoscopy revealed a foreign body in the blind end of the rectal stump. A CT scan confirmed the complete migration of the vascular stent between the rectum and a contiguous chronic pelvic collection.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP643 Characteristics and features of upper gastrointestinal bleeding in patients on antithrombotic drugs: a prospective study

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DOI 10.1055/s-0043-1765922

Aims Evaluate the effect of AT use on endoscopic outcomes in patients admitted for UGIB.

Methods This is a prospective monocentric cross-sectional study of 332 patients conducted between June 2020 and August 2021. We considered as users of AT drugs all patients on antiplatelet agents (low-dose aspirin, thienopyrimidines) and/or anticoagulants (vitamin K antagonists, direct-acting anticoagulants, heparin).

Results The average age was 59 + / - 16.7 years. Our series was characterised by a clear male predominance of 77.1%. 63 patients (19%) were taking AT drugs (41 antiplatelet, 39 anticoagulant). The two groups differed in age (68 vs 57; $p < 0.001$), comorbidities (75.8% vs 16.7%; $p < 0.001$), however there was no statistically significant difference in active bleeding at endoscopy (12.7% vs 16.8%; $p = 0.425$), and the need for endoscopic haemostasis (7.9% vs 16%; $p = 0.1$). In multivariate analysis and adjusting for age, sex, comorbidities, presence of active bleeding and use of antithrombotics, only the presence of active bleeding could predict the need for endoscopic haemostasis. Indeed, the presence of active bleeding at the time of endoscopy multiplies by 26 the risk of recourse to endoscopic haemostasis (OR: 26, CI: 12.9-62.15, $p < 0.001$), whereas the use of AT drugs does not influence the need for endoscopic haemostasis (OR: 0.386, CI: 0.105- 1.42, $p = 0.154$)

Conclusions Older patients using AT admitted for UGIB do not appear to have an increased risk of active bleeding at endoscopy or needing endoscopic haemostasis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP644 Hyperplastic gastric polyps: Prevalence and associated factors

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DOI 10.1055/s-0043-1765923

Aims Hyperplastic polyps are the most frequent gastric polyps (GPs), accounting for 30-90% of cases. The aim of our work was to study the prevalence and associated factors with hyperplastic gastric polyps.

Methods It is about a retrospective study including 119 patients with one or more gastric polyps collected between 2014 and 2021 at the military hospital of Agadir, epidemiological data, endoscopic characteristics were evaluated. The data were analyzed on the Statistical Package for the Social Sciences (SPSS).

Results Of the 3072 Gastrosopies performed. Gastric Polyps were diagnosed in 119 patients. Anatomopathological examination showed 51 hyperplastic polyps, 38 Fundic Gland Polyps and 20 adenomatous polyps. The mean age of the patients with hyperplastic polyps was 57.02 +/- 8.8, the sex ratio (M/F) was 0.82. The revealing indication was mostly epigastric pain (35,3%), followed by digestive bleeding (15,7%) than anemia (11,8%). The polyps were unique in 39 patients, the location was antral in 38 cases, fundal in 10 cases and cardiac in 03 patients. The polyps were sessile in 35 cases. They were \geq 5 mm in size in 34 cases. HP was found in 35 patients (68.6%). In univariate analysis, the associated factors with hyperplastic gastric polyps were a size \geq 5mm ($p=0.047$) and an antral location ($p=0.025$). There was no correlation between the presence of HP and hyperplastic polyps ($p=0.301$) [1-2].

Conclusions In our study, hyperplastic polyp was the most frequent with a prevalence of 42,9%. They often have a size $>$ 5mm and an antral location.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Abraham SC, Singh VK, Yardley JH, Wu TT. Hyperplastic polyps of the stomach: association with histologic patterns of gastritis and gastric atrophy. *Am J Surg Pathol* 2001; 25: 500-7

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eP645 Development and validation of 'BOWELPREP' score to assess adequacy of bowel preparation prior to colonoscopy

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DOI 10.1055/s-0043-1765924

Aims To develop scoring system to assess adequacy of bowel preparation prior to colonoscopy.

Methods Adults (Age $>$ 18 years) undergoing diagnostic colonoscopy were prospectively included from July 2021-July 2022 (Number = 445). Demography, indication of colonoscopy, bowel movements after preparation, stool colour, time interval between preparation completion and procedure, preparation quantity, diet and water consumption in preceding 24 hours were noted. Boston bowel preparation score (BBPS) $<$ 6 was considered as poor bowel preparation. All patients received split dose bowel preparation regimens. Logistic regression was used to determine predictors of poor preparation. Risk scores were assigned using nomogram and Risk score (BOWELPREP score) was developed.

Risk Factor	Inadequate Bowel Preparation	Adequate Bowel Preparation	P value	OR (95 % CI)
Number of Bowel Movements				
< 8	44	128		5.019 (1.568 - 16.063) Score assigned = 10
\geq 8	5	268	0.007	Reference
Stool Color				
Clear / Turbid Liquid	12	339		Reference 3.686 (1.38 - 9.842) Score assigned = 9.7
Semisolid / Solid	37	57	0.009	
Time BP Colonoscopy				
< 6 hrs	24	351		Reference 2.221 (1.013 - 4.869) Score assigned = 5
$>$ 6 hrs	25	45	0.046	

Table 1 : Showing results of multivariate logistic regression analysis and risk scores assigned to each variable using nomogram.

► **Table 1** Showing results of multivariate logistic regression analysis and risk scores assigned to each variable using nomogram.

Results Poor bowel preparation was noted in 49 (11%) cases. On multivariate logistic regression analysis (Table 1), number of bowel movements, stool colour & form, interval between preparation and colonoscopy were significant factors associated with poor bowel preparation. Risk scores were assigned to three predictors using nomogram (► **Table 1**). The nomogram performed well in terms of discrimination with area under ROC curve 0.859, 95% CI: 0.799-0.918, $p < 0.001$. The cut off was 14.85 with 83.7% sensitivity, 83.8% specificity, 38.97% positive predictive value, 97.65% negative predictive value and diagnostic accuracy of 83.8% to determine inadequate bowel preparation.

Conclusions In this prospective study we identified several clinical risk factors associated with inadequate bowel preparation and developed BOWELPREP score a simple, clinical, accurate validated model to predict adequacy of bowel preparation prior to colonoscopy

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP646 Managing the migration of biliary intrahepatically stent:

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DOI 10.1055/s-0043-1765925

Aims Evaluate the frequency and the extraction technics of intrahepatic stent migration

Methods A study is being conducted over 6 years from October 2016 to November 2022, collecting 1554 ERCP including 536 stent placements for various conditions, representing 34% of all ERCPs performed, complicated by 71 migrations, 5 of which are intrahepatic migration, (0.3%) of all biliary stenting. Our series included 5 cases.

Results The plastic biliary stent placement was indicated in 4 cases whose etiology was malignant and one case from a lithiasic etiology, with an average stent diameter of 9 Fr and an average height of 10 cm. No immediate post-ERCP complication was found, with an outstanding evolution. The migration time was on average 124 days discovered by cholangitis in 4 cases (80%) and right hypochondrium pain in only 1 case (20%). Endoscopic management of these complications by replacing the stent with different techniques using extraction balloon in a single patient, Dormia in 2 patients and diathermic loop in a single patient furthermore therapeutic placement of a 2nd metal stent is used in the palliative stage in a single patient.

Conclusions The management of intrahepatic migration stent depends on the endoscopist's experience and the technical platform.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP647 Portal Hypertensive Gastropathy Prevalence And Grading According To Liver Diseases Severity

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DOI 10.1055/s-0043-1765926

Aims The goal of this research is to evaluate the prevalence of PHG and assess its relation to esophageal varices (EV) grading and chronic liver diseases (CLD) stage.

Methods This analytical, descriptive, cross-sectional study was conducted at one center at one year, 1440 patients were liver cirrhosis (CLD screening for varices, upper GIT bleeding, and/or anaemia), demographic parameters, essential laboratory investigation, radiological assessment by ultrasound (US) and detailed endoscopic finding (EV grading, PHG grading according to McCormack classification, Fundal varices, others upper GI ectopic varices) and CLD severity assessed (Child-peugh stage) were recorded and analysed (▶ **Table 1**).

Results The prevalence of PHG was 1128 (78 %) of the cirrhosis patients, 33.8%- 43.2% were mild to moderate PHG, only 1.4% of patients diagnosed by severe PHG, male/female showed significant difference between PHG and non PHG ($p < 0.001$). bilirubin and albumin value showed significant difference p value 0.02, 0.04 between nonPHG (mean/SD 2.2 ± 0.8 , 3.3 ± 0.4) and PHG (2.3 ± 1.7 , 3.04 ± 0.4). 41.1 % of the patients were PHG associated no EV, 37.3 % were both PHG concomitant EV, 20.8 % were EV associated nonPHG while 0.8 % of cirrhosis patients were not EV related to PHG. There were a significant association between EV and PHG with 23.7 % diagnosed mild PHG associated with EV grade 1 and 26.2 % were mild PHG associated with Child. P (C), while 0.07 % of patients were severe PHG associated with EV grade 3-4 and 0.7 % were severe PHG in child. p (C) patients [1, 2].

Conclusions Portal hypertensive gastropathy is high prevalent in liver cirrhosis patient. Mild to moderate grades associated with no to low grade varies in advanced liver decompensation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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Distribution of varices and portal hypertensive gastropathy among liver cirrhosis patients

	PHG	NO PHG	TOTAL	P value
Varices	537 (37.3%)	300 (20.8%)	837 (58.1%)	<0.001
No Varices	591 (41.1%)	12 (0.8%)	603 (41.9%)	
Total	1128 (78.3%)	312 (21.7%)	1440 (100%)	

▶ **Table 1**

eP648 Gastric polyps in southern Morocco: what particularities?

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DOI 10.1055/s-0043-1765927

Aims A gastric polyp (GP) is a raised lesion protruding into the lumen of the stomach. The aim of our work is to study the prevalence, the clinical and endoscopic characteristics and the different histological types of GPs as well as their particularities in our population.

Methods A retrospective study spread over a period of 8 years (2014-2021), involving upper endoscopies performed in the Military Hospital of Agadir in southern Morocco. Data regarding the results were analyzed by SPSS.

Results Of the 3072 gastroscopies, PG was diagnosed in 119 patients. Average age was 56.6 ± 10.4 with a female predominance (sex ratio of 0,75). Indications for Esophagogastroduodenoscopy were mainly Epigastric pain (35.3%), anemia (18.5%), Gastrointestinal bleeding (15.1%). The polyps were sessile in 69.8% and pedunculated in 36 of cases. GP was unique in 75.6% and multiple in 24.4% of cases. The most common location was the antrum (48.7%) followed by fundus ($n = 50$) then cardia (5.9%). The size of the polyps varied from < 0.5 cm to > 2 cm. Pathological examination showed 51 hyperplastic polyps, 38 fundic gland polyps, 20 adenomatous polyps of which 09 were high grade dysplasia, 2 adenocarcinomas and one Peutz-jeghers polyp. The adjacent mucosa was normal in 42 cases; it showed helicobacter pylori gastritis in 77 cases of which 35 cases had a hyperplastic polyp and 14 cases had an adenomatous polyp [1, 2].

Conclusions Hyperplastic polyps and fundic gland polyps are the most common in our population. The discovery of a gastric polyp requires its examination in white light and electronic chromoendoscopy without forgetting specially to examine the surrounding mucosa.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP649 EUS-guided biliary drainage for the management of benign biliary strictures in patients with altered anatomy: a bi-centric experience

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DOI 10.1055/s-0043-1765928

Aims EUS biliary drainage (EUS-BD) has been few described as an alternative option in case of impossibility of ERCP for management of biliary benign stenosis (BBS). The goal of this study is the success of EUS-BD calibration

Methods Retrospective and bi-centric study, including patients with EUS-BD for management of BBS from 2002 to 2022. Hepaticogastrostomy (HGS) was first performed with a fully metal covered stent (FC-SEMS). After one month the FC-SEMS was planned to be changed by double pigtailed plastic stents (DPPS) from the stomach/jejunum to the jejunal loop (altered anatomy) or to the duodenum (inaccessible papilla) every 3 months during one year. Main objective was ablation of all stents.

Results Success of HGS (one case of hepaticojejunostomy) was 100%. Crossing of the stenosis was failed in 4 patients. One patient had an early oncologic disease relapse. A total of 31 underwent multi stenting to calibrate the stenosis. Calibration was stopped in 8 patients; 4 because of oncologic disease relapse, 2 because of complex stenosis (right hepatic duct stenosis), and 2 because of alteration of medical status (oncologic disease excluded). Ablation of the stents could be performed in 13/23 (57%). Calibration was on going for 10 patients. No relapse was noticed after a mean follow-up of 14 months. Morbidity was 41% (15 patients) managed endoscopically (6 migrations, 6 cholangitis, 2 bleeding, 1 cholecystitis)

Conclusions EUS-BD for calibration of benign stenosis of the bile duct in case of altered anatomy or inaccessibility of the papilla could be an alternative option.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP650V T-shape mucosal incision as an alternative for Z-POEM

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DOI 10.1055/s-0043-1765929

Abstract Text A 54-year-old man with symptomatic recurrence after classical endoscopic diverticulotomy was proposed for Z-POEM. Z-POEM was started with mucosal incision directly over the septum. Two submucosal tunnels were made on each side of the cricopharyngeal muscle, with subsequent myotomy. At the end, two T-shaped mucosal incisions were made consisting of longitudinal cranio-caudal incisions on both remaining mucosal flaps. Z-POEM uses the third space to create a tunnel to facilitate complete visualization of the septum and cutting it entirely. With T-shape mucosal incisions, the mucosal flap may be incised up to the base of the diverticulum. The goal is to reduce the mucosal flap and residual pouch, diminishing the theoretical risk of recurrence.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP651 Elderly vs. Young patients : clinical, endoscopic and prognostic particularities in case of upper gastrointestinal bleeding : prospective study

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DOI 10.1055/s-0043-1765930

Aims The aim of our study is to compare the epidemiological, clinical, endoscopic, therapeutic and prognostic characteristics of upper gastrointestinal bleeding in young vs. elderly subjects.

Methods This is a prospective cross-sectional study about 332 patients, conducted over a one-year period between June 2020 and August 2021. We divided our patients into 2 groups, group A corresponding to subjects aged \geq 65 years and group B corresponding to patients < 65 years.

Results Of the 332 endoscopies performed for UDH, 38.9% were older than 65 years. The sex ratio was 2.79. 31.8% of patients were on antithrombotic therapy, and 38.8% had comorbidities.

There was no statistically significant difference between the two groups regarding the origin of upper gastrointestinal bleeding, however there was a difference between the two groups regarding the use of antithrombotics (31, 8% vs 10.8%, $p < 0.001$) the presence of comorbidities (39.1% vs. 20.7% $p < 0.001$) the presence of active bleeding (9.3% vs 18.7%, $p = 0.019$) and the use of endoscopic hemostasis (8.5% vs 17.7%, $p = 0.019$).

In multivariate analysis and adjusting for the studied parameters of age, sex, comorbidities, presence of active bleeding and use of antithrombotic drugs; only the presence of active bleeding could predict the need for endoscopic hemostasis (OR: 29.62, CI: 13.52-64.90, $p < 0.001$), while the use of antithrombotic drugs and age \geq 65 years had no influence on this risk.

Conclusions Although older subjects had more comorbidities, more use of antithrombotics, UGIB in this age group does not appear to be more severe with a lower rate of active bleeding at endoscopy implying a less frequent need for endoscopic hemostasis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP652 Endoscopic full-thickness plication for treatment of PPI-dependent Gastroesophageal Reflux Disease: a case of severe adverse event

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DOI 10.1055/s-0043-1765931

Aims Gastroesophageal reflux disease (GERD) is one of the most common gastrointestinal disorders, with a global prevalence of approximately 20% of adults in Western countries. Treatment options for patients with chronic GERD include long term therapy with Proton Pump Inhibitors (PPIs), laparoscopic fundoplication or endoscopic anti-reflux procedures. Endoscopic full-thickness plication with GERDx (G-SURG, Germany) device has been proven to be safe and effective in improving quality of life in PPI-dependent patients who refuse surgery or long-term medications are not an option. We showed a case of adverse event (SAE) and management related to the device after GERDx.

Methods We performed a GERDx on 64-years-old male patient affected by GERD on PPI-dependent patients who refuse surgery. The patient has a history of reflux esophagitis (Los Angeles grade C) with classic GERD symptoms (heartburn and regurgitation) on long-terms PPI

Results We performed GERDx in endoscopic room and lasted 30 minutes under anesthesiological assistance without intraoperative complications. The patient complained of intractable postoperative pain at 48 hours. The chest and abdomen CT is performed and showed pleural empyema at 72 hours. A diagnostic laparoscopy were performed and revealed suture passing through the left crus of diaphragm. The suture had to be removed and a Dor fundoplication was performed followed by video-assisted thoracoscopic surgery (VATS). The patient is discharged after 30 days in good general condition [1, 2].

Conclusions GERDx is an effective and low invasive technique to treat GERD. Serious adverse events require the availability of surgeons with experience in thoracoscopic and abdominal surgery.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP653 Multimodal endoscopic therapy is effective in managing strictures after vertical gastrectomy

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DOI 10.1055/s-0043-1765932

Aims Vertical gastrectomy is associated with morbidity rater of up to 17.5%. Strictures after verticalgastrectomy are rare and difficult to manage.

Methods We report a case of a 41 year-old male with BMI 42kg/m² who underwent vertical gastrectomy. A week later, he developed persistent vomiting that resulted in dehydration and acute kidney injury. An upper gastrointestinal endoscopy (UGIE) revealed severe reflux esophagitis and a severe stricture of the middle portion of the gastric sleeve. With fluoroscopy a guide wire was passed into the duodenum followed by the endoscopic dilation with Savary-Gillard bougies up to 45Fr which allowed passage of the endoscope and revealed strictured segment measuring 5cm. A partially covered metallic stent (Lusso-Cor30/20/30x240 mm) was placed and it achieved symptomatic relief. An

esophageal contrast study three weeks later, revealed stent migration into the remnant of the gastric fundus and it was removed endoscopically. At the time of UGIE, the stricture in the gastric tube seemed to have resolved. The patient resumed food intake [1].

Results Due to recurrence of vomiting a month later, a third UGIE was performed and it confirmed recurrence of the stricture. Dilatation with Savary-Guillard bougies was performed followed by insertion of a fully covered metallic stent (Hanaarostent 18/24x90 mm). The patient was able to resume oral feeding and the stent removed 12 weeks later. Effective dilatation of the stricture in the gastric tube was obtained and the patient remains asymptomatic.

Conclusions Multimodal interventional endoscopic therapy with dilatation bougies and covered stents allows minimally invasive and effective management of strictures after vertical gastrectomy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP654 Effectiveness of Low-Volume Colonic Preparation and Bisacodyl in Hospitalized Patients: Randomized, Single-Blind Clinical Trial

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DOI 10.1055/s-0043-1765933

Aims To evaluate the quality of bowel preparation through the Boston Bowel Preparation Scale (BBPS) in patients with low-volume and bisacodyl and high-volume preparations. A score $>$ or $=$ 6 points was considered as adequate preparation. Additionally the adverse effects of the preparations were assessed.

Methods Randomized clinical trial, single blind, which was carried out during February 2022 until November 2022. Patients hospitalized with a medical indication for colonoscopy were randomized into two groups: Low-volume (Bisacodyl 10 mg + 2 liters of Polyethylene glycol in divided doses) and High-Volume (4 liters of Polyethylene glycol in divided doses). Finally, after the procedure, tolerance to medication was assessed using a questionnaire.

Results A total of 79 colonoscopies were performed. 39 patients were assigned to the High-volume preparation group and 39 patients to the low-volume preparation group. Regarding the quality of the colonic preparation, there was no statistically significant difference between the groups (97.4% High-volume preparation Vs 87.2% low-volume preparation ($p = 0.20$)). The perception of abdominal pain showed a significant difference in favor of low volume group ($p = 0.011$) [1–11].

Conclusions Low-volume preparation in hospitalized patients was equally effective in achieving a BBPS score of 6 or more points compared to 4-liter bowel preparation in divided dose. The low-volume preparation demonstrated fewer preparation associated adverse effects.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP655 Improving standards for colonoscopy for inflammatory bowel disease by implementing key performance measures – a quality improvement initiative

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DOI 10.1055/s-0043-1765934

Aims There is emerging attention for standardisation for colonoscopy quality measures in patients with inflammatory bowel disease (IBD). ESGE has recently published key performance measures for colonoscopy in IBD. Our study aims to assess our current standards against these key performance measures and to identify areas for improvement.

Methods A retrospective analysis was performed in established IBD patients between June-August 2022. Standards included 1) pre-procedure metrics (indication, consent, safety checklist) and 2) bowel preparation score, photo-documentation, disease activity scores, adequate biopsies, high-definition endoscopy use and chromoendoscopy. We set minimum standards per ESGE and target standards with consensus between ESGE, ECCO and SCENIC guidelines.

Results 125 procedures were analysed; 67 with Crohn's disease and 58 with ulcerative colitis. All procedures had documented indication, intubation of the cecum/ileum and used high-definition endoscopy. 92.8% of procedures documented bowel preparation scores. There was adequate photo-documentation in 91.2% and adequate biopsies in 87.2%. Disease activity score was only recorded in 63.2%. Of 63 procedures performed for dysplasia surveillance, chromoendoscopy was only performed in 57% and 7 (11.1%) patients had dysplasia (► **Table 1**).

Conclusions Quality metrics are important in colonoscopy for IBD patients. Endoscopists routinely performing colonoscopy for indications other than IBD may not be well aware of these. Our baseline data suggests educational interventions are required to improve certain metrics followed by re-assessment. We anticipate this will also help develop the interventions required to sustain quality improvements in this area [1].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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Key Performance Measure	ESGE Minimum Standard (%)	Local Unit Target (%)	Baseline Practice (%)
Adequate Photo-Documentation	>90	>95	91.2
Adequate Biopsies	>80	>90	87.2
Disease Activity Scores	>80	>95	63.2
Chromoendoscopy	>70	>90	57.1

► **Table 1** Performance measures, targets, and baseline practice.

eP656 Role of upper GI endoscopy in the era of immunotherapy – a case series

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DOI 10.1055/s-0043-1765935

Aims Immune-checkpoint inhibitors are a fundamental piece in the treatment of several malignancies. These immunotherapies present specific toxicities related to their mechanism of action, commonly referred to as immune-related adverse events (irAE). Among gastrointestinal irAE, upper GI involvement is infrequent, and gastritis is rarely reported.

Methods We collected cases of immune-mediated gastropathies with endoscopic evaluation at our center from January 2021 to November 2022.

Results We present 5 cases of ir-gastropathies. All patients were under anti-PD1/PDL1 monotherapy, without previous immunotherapy treatment: 2 with pembrolizumab, 2 with nivolumab and 1 with durvalumab. Only 1 patient had previously been submitted to chemotherapy and radiotherapy. Two patients had melanoma, 2 had lung cancer, 1 had urothelial cancer and 1 had glioblastoma. Time from first drug administration to beginning of symptoms ranged from 1.5 to 19 months. Patients presented with nausea (3/5), vomiting (4/5), abdominal pain (4/5), dysphagia (2/5) and diarrhea (2/5). Endoscopic assessment of the stomach revealed erythema in all patients, erosions in 1 patient, exsudate in 1 patient and spontaneous hemorrhage in 2 patients. One patient had concurrent severe duodenitis. One patient had his symptoms resolved after drug cessation, 3 patients improved after corticosteroids (1 per os, 2 intravenous), and 1 patient is still under treatment with infliximab [1–3].

Conclusions Immune-related gastritis is a rare occurrence, resulting in sparse evidence for management of this condition. Endoscopy plays a significant role when immune-mediated gastritis is suspected, since other irAE can mimic symptoms.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP657 Delphi of Delphi: validation of small bowel capsule terminology

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DOI 10.1055/s-0043-1765936

Aims Consistent terminology is essential for reporting reproducible and internationally uniform endoscopic findings. To date, internationally consistent nomenclatures and descriptions for vascular AND inflammatory small bowel (SB) lesions and villous atrophy have been developed among experts. However, uniform terminology has yet to be adopted by all videocapsule (VCE) readers in daily clinical practice. In this study, we challenged already published Delphi statements in a broad group of VCE readers.

Methods During the 4th Italian VCE Congress in Milan, a consensus procedure based on the Delphi method was used to assess agreement among a group of VCE experts. The already published nomenclature and descriptions of vascular, small bowel inflammatory lesions (SB) and villous atrophy were proposed to 82 participants. Agreement between the reference image and the definition was also assessed (► **Table 1**).

Nomenclature	Definitions	% of "strongly agree/agree"
Scalloping	Presence of multiple incisures on the edge of the small bowel folds (cogwheel appearance)	93.6%
Angiectasia	A clearly demarcated, bright-red, flat lesion, consisting of tortuous and clustered capillary dilations, within the mucosal layer (surrounded by intestinal villi). Can be small (few mm) to large (few cm).	94.8%
Red Spot	A miniscule (less than 1 mm), punctuate, and flat lesion with a bright-red area, without linear or vessel appearance, within the mucosal layer (surrounded by intestinal villi).	88.5%
Phlebectasia	A small (few mm), flat to slightly elevated, bluish venous dilatation running below the mucosa (covered by intestinal villi).	83.5%
Aphthoid erosion	Diminutive loss of epithelial layering with a whitish center and a red halo, surrounded by normal mucosa	97.2%
Superficial ulcer	Mildly depressed loss of tissue with a whitish bottom, whose features fit neither with that of aphthoid erosion nor with that of deep ulceration, as previously defined	80.7%
Deep Ulcer	Frankly deep loss of tissue compared to the surrounding swollen/edematous mucosa, with a whitish base	92.3%
Stenosis	Narrowing of the intestinal lumen withholding or delaying the passing of the videocapsule (therefore, to be evaluated on a video)	84.5%

► **Table 1** Delphi consensus on the definition of VCE lesions.

Results The readers succeeded in reaching the agreement on the nomenclature and description of these items (Table 1). The group could not agree on the nomenclature and description of: erythematous patches (78.2%), diminutive angiectasia (64.1%), edema (70.5%), hyperemia (69.8%), denudation (62.8%), mosaicism (74.3%), folds reduction (70.5%), and granular mucosa (77%). Consensus in assigning the agreed definitions to the proposed images was not reached for mosaicism (73.1%), folds reduction (47.4%), granular mucosa (77.6%), edema (31.2%), and hyperemia (43.6%) [1–3].

Conclusions There is still heterogeneity in the interpretation of the pathological lesion of the VCE. The penetrance of Consistent terminology is still expandable.

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP658 PROSPECTIVE MULTICENTER REGISTRY ON THE USE OF HAEMOCER PLUS IN THE TREATMENT AND PREVENTION OF POST-RESECTIONAL BLEEDING

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DOI 10.1055/s-0043-1765937

Aims GI bleeding associated to endoscopic procedure is defined as clinical evidence of bleeding and a drop in hemoglobin of $\geq 2\text{g/dL}$ on the day of the procedure (early bleeding) or up to 14 days after the procedure (delayed bleeding). GI bleeding is, nevertheless, a common complication of endoscopic procedures, such as endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD). We aim to establish a multicenter, observational registry to collect data related to the use of HaemoCer PLUS for the primary prevention of delayed bleeding linked to endoscopic resectional procedures of the lower GI tract.

Methods We enrolled all adults patients undergoing colonic ESD or EMR for lesions bigger than 30 mm where HaemoCer PLUS has been used will be included.

Results Preliminary results of first eleven enrolled patients: seven male; mean age 74.2 years old (65–86). Mean diameter of lesions was 55 mm (35–120 mm). During procedure only two major bleeding occurred treated with hemostatic forceps. In all patients hemostatic powder was applied when there was no visible bleeding. Two patients underwent procedure with ongoing antiplatelet therapy. Only one patient underwent procedure with ongoing antiplatelet and anticoagulant therapies, due to cardiovascular and hepatic comorbidities, and it results in the lonely post-procedural bleeding.

Conclusions Even if this is a preliminary results report, this hemostatic powder seems to be a valuable additional therapy to prevent bleeding in patients with large colonic endoscopic resection with ongoing antiplatelet therapy. Combined antiplatelet and anticoagulant therapy, still remain a difficult to manage situation in daily practice.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP659 Acute upper gastro intestinal bleeding in cirrhotic patients: Beyond portal hypertension

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DOI 10.1055/s-0043-1765938

Aims Upper gastro intestinal bleeding occurs in patients with liver cirrhosis most frequently from variceal bleeding, but it may also result from the same lesions seen in the general population. We aimed to investigate different reasons for acute upper gastro intestinal bleeding (AUGIB) in patients with liver cirrhosis.

Methods We conducted a retrospective single centered study including adult patients (> 18 years old) presenting with AUGIB who were admitted between January 2019 and November 2022. Demographic, clinical, laboratory and endoscopy data were assembled from medical files.

Results A total of 312 patients were admitted during the study period. Overall 78 patients experienced AUGIB episodes (56 females; median of age 49,3; range: 19 – 75) The bleeding was the first episode in 70% of the cases. Melena was the most common form of bleeding. 59% were Child class A and 25% Child class B. In all, 55 episodes were related to portal hypertension (PH), 15 to non portal hypertension. In 5 cases no identifiable source of bleeding was found. 7 patients had varices and other lesions identified at endoscopy. 4 of these bled from duodenal ulcers, 2 from gastric angiodysplasia, and 1 from unidentified site in the duodenum. 15 patients did not have any esophageal or gastric varices but had other lesions at endoscopy. 6 of these bled from gastro duodenal ulcers, 4 from angiodysplasia duodenal lesions, 3 from duodenogastric polyps, 1 from a MalloryWeiss tear and one from a gastric tumor.

Conclusions PH related bleeding is the most common cause of AUGIB in cirrhotic patients. Nevertheless cirrhotic patients may bleed from a variety of other potentially life threatening lesions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP660 Acute upper gastrointestinal bleeding as a result of the arterio-biliary fistula

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DOI 10.1055/s-0043-1765939

Aims A case of acute upper gastrointestinal bleeding as a result of the arterio-biliary fistula

Methods Case Report

Results A 61-year-old woman with transplanted liver (March 2022) was hospitalized in September 2022 due to recurrent cholangitis. Two weeks earlier the patient was discharged from the hospital with diagnosed duodenal ulcer bleeding and cholangitis. In her past medical history patient had post-OLT biliary anastomosis leak and anastomosis site stricture resulting with repeated ERCPs and biliary stent replacement. On the third day of the hospital stay patient developed symptoms of upper gastrointestinal bleeding: melena, hypotension and drop of hemoglobin level. Emergency gastroscopy was performed on the same day: in the duodenal bulb a blood clot was seen which covered two weeks earlier placed clipses. During the gastroscopy the blood clot was removed. No ongoing bleeding or ulceration was observed. Duodenal papilla and biliary stents were covered with blood clot. During the removal of the blood clot acute hemorrhage started from the papilla. Patient became hemodynamically unstable with low blood pressure and tachycardia. Common bile duct was cannulated alongside the biliary stents and closed with 15 mm stone extraction balloon. Patient was immediately transferred to angiography.

Conclusions Patient was diagnosed with right hepatic artery pseudoaneurysm with fistulization to bile the duct. Pseudoaneurysm was covered with 4.5x16mm coronary stent.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP661 Celiac disease – should we perform a routine follow-up endoscopy?

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DOI 10.1055/s-0043-1765940

Aims Routine re-biopsy to assess response to diet is still controversial in celiac disease and serological response is often used as a surrogate for histological recovery. The aim of this study was to assess whether serology is capable to predict mucosal healing.

Methods We collected data retrospectively (between June 2012 and November 2022) from adult celiac patients under a gluten-free diet for at least two years and with negative serology (anti-tissue transglutaminase IgA or IgG < 7 UI/L), who were submitted to a follow-up upper endoscopy with duodenal biopsies (► **Table 1**).

Results A total of 100 celiac patients underwent a follow-up upper gastrointestinal endoscopy. Most individuals were females (83.0%), with a median age of 31 years old (IQR 23-43 years). The median time to duodenal biopsies was 8 years (IQR 4-18) after initial diagnosis and 5 years (IQR 2-10) after the antibody became negative. Macroscopic features, namely mucosal fissuring, bulb atrophy or scalloping of mucosal folds, were detected in 40% of patients. With regard to histological changes, only 67% of individuals achieved complete normalization of the mucosa (Marsh 0). The antibody value did not prove to be a good marker for predicting active intestinal inflammation (AUROC 0.602, 95% CI 0.478-0.727, $p=0.107$). [1-3]

Conclusions Serology appears to be a poor predictor of small-bowel healing. In fact, histological activity is present in about one-third of patients with negative serology. Therefore, we suggest performing a follow-up biopsy, at least two years after starting a gluten-free diet, to assess mucosal healing and identify patients who require more intensive clinical management.

Conflicts of interest Authors do not have any conflict of interest to disclose.
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Marsh classification	Total n=100
Type 0	67
Type 1	6
Type 2	1
Type 3a	18
Type 3b	2
Type 3c	6

► **Table 1** Histologic characteristics in the follow-up of seronegative coeliac patients.

eP662 Aortoesophageal Fistula – A unusual complication of SARS-CoV2 infection

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DOI 10.1055/s-0043-1765941

Aims N/A

Methods N/A

Results N/A

Conclusions This is the case of a 36-year-old male patient with no major pathological history, hospitalized for severe SARS-CoV2 pneumonia, requiring mechanical ventilation and Extracorporeal Membrane Oxygenation.

On the 103rd day of hospitalization, the Emergency Team of Gastroenterology was called to the Intensive Care Unit for abundant hematemeses, associated with hemorrhagic shock.

Upper digestive endoscopy was performed which demonstrated the presence of a massive clot from the proximal esophagus to the duodenal bulb. After its mobilization, there was the presence of a high output pulsating hemorrhage in the proximal esophagus, compatible with aorto-esophageal fistula. The patient underwent emerging angiography that demonstrated the presence of the fistula, as well as a congenital malformation of the aortic arch, with absence of the brachiocephalic trunk, which may predispose to a higher risk of acute aortic syndromes.

Aortoesophageal fistula is a rare and often fatal complication, usually associated with thoracic surgical interventions or neoplastic lesions of the esophagus. This is an extremely rare case, since the patient did not present any of the most common risk factors for the development of aorto-esophageal fistula,

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP663 Closure of mucosal defects post endoscopic resection using an endoloop system: description and results of a new technique in 23 patients

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DOI 10.1055/s-0043-1765942

Aims To define a new technique of closure of mucosal defects post endoscopic mucosal resection (EMR) or endoscopic submucosal dissection (ESD), using an endoloop system, to assess its rate of technical success and of post resection delayed haemorrhage.

Methods After endoscopic resection by EMR or ESD of large colorectal or duodenal lesions (diameter ≥ 25 mm), two similar techniques of closure of mucosal defects were implemented, using a single-channel colonoscope, with a standard channel diameter (> 3.2 mm). An endoloop was dropped directly through the working channel or towed parallel to the endoscope, then fixed to the margin of the resection with several clips (at 0, 2, 4, 6, 8, 10 o'clock). The loop is closed either directly or by being reattached to the mobile hook, followed by closure like a purse-string suture. The endoloop is then definitively released.

Results 23 patients (52% women, median age 67 years) were included in this analysis, 3 under anticoagulant treatment and 4 with antiplatelet therapy. 22 colorectal and 1 duodenal polyp resections were performed (median size of 40 mm). 10 patients had high risk of post-polypectomy hemorrhage for colonic lesions according to the clinically significant bleeding (CPSEB) score. A technical success was obtained in 100% of cases, 4 patients (17%) necessitating one supplementary endoclip. The rate of clinically significant delayed bleeding, delayed perforation or post-polypectomy syndrome was 0%.

Conclusions The presented original methods for closing the mucosal defect, using clips and endoloop, are safe and easy for implementation, allowing an excellent technical success rate and 0% of complications.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP664 IS ONE PASS ENOUGH FOR THE DIAGNOSIS OF THE PANCREATIC MASSES DURING EUS-FNB? A PROSPECTIVE STUDY

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DOI 10.1055/s-0043-1765943

Aims Endoscopic ultrasonography (EUS) with fine needle biopsy (FNB) is nowadays a well-established technique for the sampling of solid lesions pancreatic and non-pancreatic lesions. The aim of our study is to evaluate if during EUS-FNB only one needle pass inside the target lesions with MOSE evaluation can be satisfactory to obtain a correct diagnosis.

Methods Data observationally collected in seven Italian referral centers were considered. According to ESGE guidelines, 3 passes will be performed for each patient and every needle pass was independently evaluated by the pathologist.

Results 176 patients with EUS-FNB for pancreatic masses have been enrolled. 94 patients (53.4%) were male. Mean diameter of lesion was 31.6 mm (+/- 12.4 SD). Adequacy and accuracy for first, second and third passes were 91.4 % and 87.5 %, 93.2 % and 88.6 %, 97.7 % and 94.8 % respectively. Final diagnosis was adenocarcinoma in 149 patients (84.6%), metastases in 12 patients (6.6 %). Most common adverse events have been bleeding, occurred in 17 patients (9.6 %). In "three passes vs one pass" comparison, adequacy and accuracy is in favor of three passes (p 0.009 and p 0.01 respectively). In "three passes vs two passes" comparison, both adequacy and accuracy do not reach significative results, with a positive trend towards (p. 0.03 and 0.04 respectively).

Conclusions Even current results do not allow to leave ESGE guidelines suggestion, this study is crucial to do a step forward in reducing minimum EUS-FNB passes, irrespectively to use of additional evaluation (MOSE, rapid on-site evaluation-ROSE). Maybe further investigations, together with introduction of new FNB needles, will give a conclusive answer.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP665 Technical success, rescue techniques and adverse events with Endoscopic Retrograde Cholangiopancreatography (ERCP) in presence of periampullary diverticulum: A multi-centre experience

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DOI 10.1055/s-0043-1765944

Aims Presence of peri-ampullary diverticulum (PAD) has controversial effect on technical success and adverse effects of Endoscopic Retrograde Cholangiopancreatography (ERCP).

Methods The data base of all patients who underwent ERCP between June-2021 to november-2022 was retrospectively analysed from two tertiary care centres across India. Patient demographics, indication for ERCP, successful cannulation, requirement of rescue techniques and adverse events were reviewed. T-test, Chi-square and Fischer-exact test were used for statistical analysis.

Results A total of 1273 (60 in the PAD group and 1213 in the control group) patient records were retrieved. The mean age was 56.12 ± 12.6 in PAD vs

51.66 ± 14.3 in the control group (p=0.018) with no difference in gender distribution or indication for ERCP (p>0.05). The rate of cannulation failure was higher in the PAD group [3.3 % vs 0%: (p = 0.000)]. The need for rescue techniques did not differ except for the need for needle-knife papillotomy in 7.14% vs 1.48 % (p = 0.003). Need of rescue EUS-guided drainage was required in 1 patient in each arm (p = 0.09). The total number of adverse events [Post-ERCP pancreatitis(PEP), cholangitis, perforation, major bleeding, cholecystitis] did not differ between the two groups with no difference in the rate of PEP (p = 0.90) but 2 patients required rescue surgery in PAD group (1-perforation, 1-bleeding) vs none in absence of PAD (p = 0.002).

Conclusions The presence of PAD during ERCP was associated with increased chances of cannulation failure, the need for rescue techniques, and the requirement for rescue surgery. The rate of PEP did not differ in presence of PAD.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP666 Anti-reflux mucosal ablation (ARMA) – a new treatment for gastroesophageal reflux refractory to proton pump inhibitors?

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DOI 10.1055/s-0043-1765945

Aims Anti-reflux mucosal ablation (ARMA) is a new endoscopic method for proton pump inhibitor (PPI)-refractory gastroesophageal reflux disease (GERD). The aim of this study was to describe our experience regarding the safety and efficacy of ARMA, as well as the impact on patient's quality of life.

Methods We performed a prospective single-center study evaluating the outcome of ARMA in patients with PPI-refractory GERD. GERD-HRQL Questionnaire, FSSG, SF-36v2, EHAS-SF and impedance-pH monitoring were performed at baseline and at 3 months post-ARMA.

Results A total of 13 patients were included, the majority male (61.5 %), with a median age of 37 years old (IQR 32-67). Mucosal ablation was performed using the triangle-tip knife in the spray coagulation mode (45-70W, effect 2). No complications were observed. There were no statistically significant improvements in any of the questionnaires (FSSG 41 vs. 28, p=0.243; GERD-HRQL 33 vs. 32, p=0.084; SF-36v2 111 vs. 107, p=0.258; EHAS 23 vs. 20, p=0.155). Although there have been some improvements in 24-hour pH impedance testing, there were no statistically significant differences regarding the acid exposure time (8 % vs. 6 %, p=0.243) and the number of reflux episodes (68 vs. 54, p=0.246). Indeed, GERD resolution (acid exposure time <4 % and reflux episodes <40) was achieved in only 2 patients after ARMA.

Conclusions In our cohort, ARMA was a safe but not effective therapy for patients with PPI-refractory GERD. However, longer follow-up evaluations and randomized comparative studies are needed to clarify its real role.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP667 Acute pancreatitis (AP) and prognostic scores in the intensive care unit (ICU): what is the best score for each outcome?

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DOI 10.1055/s-0043-1765946

Aims To assess and compare the effectiveness of BISAP, Ranson, APACHE II, SAPS II and SOFA scores in predicting the severity and mortality of AP in an ICU.

Methods Retrospective review of all AP admissions in an ICU, from January 2018 to September 2021. Clinical, demographic, laboratory and imaging data was collected. Different scores and area under the receiver operating characteristic curve (AUROC) were calculated and compared.

Results 50 patients included, 54% male, average age 65.9 ± 17.8 years. Most frequent aetiology was biliar (54%). 22 patients developed severe AP and 12 patients died.

Patients who developed severe AP and who died had higher median scores, with statistical significance for both outcomes in every score. Ranson score only had statistical significance at 48h after admission, and not at admission ($p = 0.095$).

For predicting severity, APACHE II (AUROC 0.84) showed highest discriminating power, with a sensibility of 95.5% and specificity of 60.7%.

Regarding mortality prediction, Ranson at 48h showed the highest discriminating power (AUROC = 0.89). Sensivity and specificity were 100% and 76.3%, respectively. Considering only scores calculated in the first 24h, APACHE II had greater effectiveness (AUROC = 0.84).

Conclusions All prognostic scores were accurate in predicting severity and mortality in patients with AP admitted to the ICU. Our results favour the use of APACHE II in predicting severity and the use of Ranson at 48h for predicting mortality. However, both scores have limitations and poor specificity. Clinicians shouldn't rely solely on scoring systems and other clinical elements must be taken into account.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP668V POEM post-Heller myotomy: when endoscopy is the solution

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DOI 10.1055/s-0043-1765947

Abstract Text A 33 year-old patient with non-specified achalasia (conventional manometry), who underwent Heller myotomy, presented with reappearance of symptomatology (Eckardt score 5) five years later. Upper endoscopy showed annular constriction of esophagogastric transition, which could be passed with difficulty. Esophageal transit revealed an epiphrenic ampulla in its terminal portion and esophageal emptying difficulty. Esophageal manometry showed esophageal aperistalsis, compatible with type II achalasia, with IRP < 15 mmHg. The patient underwent a posterior approach of peroral endoscopic myotomy. There was an improvement of symptoms (Eckardt score 0) until today (10 month follow-up). [1]

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP669 Patients with corpus atrophic gastritis and antrum involvement may have antral healing at long term follow-up: real regression or sampling error?

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DOI 10.1055/s-0043-1765948

Aims Corpus Atrophic Gastritis (CAG) is characterized by inflammation and oxyntic gland loss. CAG is defined as autoimmune when sparing antrum and as *Helicobacter pylori* (Hp)-related (multifocal) when antrum is involved. Possible antral healing has been supposed. Since antrum sparing is crucial for autoimmune gastritis diagnosis and implies a lowering of OLGA-OLGIM risk scores for gastric cancer, we aimed to analyse antral histology at long-term follow-up (FU) in patients with CAG and concomitant antral involvement.

Methods Retrospective study on 117 patients (pts) with CAG and antrum involvement [mean age 63 (range 20-87) yrs; F 67.5%] diagnosed and followed-up with gastroscopy with biopsies according to Sydney System. Mean time of FU was 66 months (range 4-192). At baseline 47 pts (40.2%) had antral

non-atrophic and 70 (59.8%) had antral atrophic gastritis, metaplastic in 84.3%. Hp infection at histology was found in 27.3% of pts, all treated [1–4].

Results At FU 24.8% of pts showed a complete restitutio ad integrum. Antral atrophy and intestinal metaplasia regression was observed 15/70 pts (21.4%). Both antral complete healing and atrophy regression were similar in Hp-cured and not-cured/negatives ($p > 0.05$). At FU, 3 pts showed intestinal metaplasia (not present at baseline), while 5 pts developed atrophy.

Conclusions In nearly ¼ of CAG pts concomitant antral involvement may regress at long-term FU, irrespective of Hp, thus resembling autoimmune gastritis and lowering OLGA-OLGIM scores. Sampling error of antrum mucosa responsible of misdiagnosed antral histological alterations at FU has to be considered. This raises concern about autoimmune gastritis diagnosis and the importance of increasingly accurate and targeted gastric biopsies in patients with CAG.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP670 Clinical, endoscopic and histologic efficacy of orodispersible budesonide on eosinophilic esophagitis: a retrospective observational single center study

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DOI 10.1055/s-0043-1765949

Aims Eosinophilic esophagitis (EoE) is a chronic inflammatory disorder of the esophagus with symptoms of esophageal dysfunction and eosinophil-predominant inflammation. The new orodispersible budesonide tablet with effervescent properties is the first approved esophageal-targeted formulation specifically developed for the treatment of EoE. The primary endpoint of the study is to evaluate the efficacy of orodispersible budesonide in inducing clinical and histological remission of the disease. Secondary endpoints are to evaluate endoscopic remission and drug safety.

Methods This retrospective observational study included 10 patients with an established diagnosis of EoE who failed previous treatments. These patients were clinically and endoscopically evaluated before and after a 12 weeks treatment with the new formulation of orodispersible budesonide (1 mg BD). Clinical, endoscopic and histological assessment was respectively performed with Dysphagia Symptom Questionnaire (DSQ), EREFS score and eosinophil count on esophageal biopsies [1–2].

Results All the enrolled patients reached a significant clinical ($p = 0,0078$), histologic ($p = 0,0002$) and endoscopic ($p = 0,0090$) remission after 12 weeks of treatment. One of them (10%) had a resolution of an esophageal stenosis without the need to endoscopic dilation. Only 3/10 patients (30%) developed

a common adverse event, rapidly resolved with pharmacological treatment, without relapses.

Conclusions Our data indicate that budesonide oral tablets (1 mg BD) is effective in inducing clinical, histological and endoscopic remission without any severe side effect.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP671 Peroral endoscopic myotomy in the management of Zenker's diverticulum: the experience of two tertiary centers

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DOI 10.1055/s-0043-1765950

Aims The aim of our study was to investigate the efficacy and safety of Zenker-peroral endoscopic myotomy (Z-POEM), a third-space approach.

Methods Multicenter retrospective study involving two Portuguese tertiary centers. Data were collected of all patients with symptomatic Zenker's diverticulum (ZD) who underwent Z-POEM. Outcomes included symptoms assessment with the Kothari-Haber Scoring System (KHSS), procedure-related adverse events (AE) and length of hospital stay.

Results Eight patients (6 men and 2 women, mean age 73.1 years [SD 14.5]) underwent Z-POEM. Mean size of ZD was 31.9 mm (SD 10.5). Patients had a mean duration of symptoms prior to the procedure of 37.8 months (SD 26.4). The mean pre-procedure KHSS was 4.6 points (SD 2.5; range 2-10), with dysphagia and regurgitation being the most frequent symptoms. Two patients had been submitted to standard diverticulotomy. All procedures were performed under general anesthesia with orotracheal intubation. The technical success rate was 100% and the mean length of hospital stay was 2,9 ± 0,6 days. After 7-14 days, 7 of 8 patients were asymptomatic (KHSS 0), with 1 patient scoring for dysphagia for solids. All the patients (n = 5) reaching 1-3 months of follow up, remained asymptomatic (KHSS 0). No AE occurred. Asymptomatic subcutaneous emphysema occurred in 2 of 7 patients. The mean follow-up after discharge was 3.4 months (range: 0,03-9).

Conclusions Z-POEM is an effective and safe technique, even for previously treated patients. Long-term follow-up and comparative studies with other treatment modalities are needed.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP672 A rare case of uterine PEComa with pancreatic metastases – the role of endoscopic ultrasound-guided biopsy

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DOI 10.1055/s-0043-1765951

Aims Case report: We report the case of a 54-year-old woman, without relevant past medical history, who was referred due to metrorrhagia. After a uterine myoma was identified, she underwent a total hysterectomy with bilateral salpingectomy. However, the histological examination showed a mesenchymal malignant tumor with 10cm in the uterine fundus, with features suggestive of malignant perivascular epithelioid cell tumor (PEComa) – pT2a, FIGO stage IIA. The surgical margin had no signs of neoplastic involvement but there was venous vascular invasion. Then, the patient started adjuvant chemotherapy. Three months later, she underwent an abdominal computerized tomography scan that revealed a nodular lesion meas-

uring 14x14mm in the body of the pancreas. Other lesions were also identified in the left lung, left kidney and left psoas muscle, as well as several mesenteric, retroperitoneal and iliac lymph nodes. A EUS was performed, which revealed two contiguous hypoechoic lesions in the pancreatic body, with 9x6mm and 12x10mm. A EUS-guided fine needle biopsy was performed (2 passes; 25G Acquire, Boston Scientific), without complications [1–2].

Methods The histological examination revealed metastasis of malignant PEComa.

Results The treatment strategy changed, and the patient started chemotherapy and immunotherapy.

Conclusions Discussion: PEComa is an extremely rare mesenchymal tumor, which can arise in a wide array of anatomic locations. We present a rare case of a uterine PEComa with pancreatic metastases, in which EUS had an essential role in the diagnosis and therapeutic guidance.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP673 Endoscopic resection of small bowel lymphangiomas: A case series

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DOI 10.1055/s-0043-1765952

Aims The authors present 3 cases of successful endoscopic resection of small bowel lymphangiomas after a full evaluation of anaemia.

Methods A 29-year-old woman with no relevant past medical history was admitted with severe symptomatic anaemia (haemoglobin 2.9g/dL) and no visible blood loss. During admission, she performed upper endoscopy and colonoscopy which were normal. Small bowel capsule endoscopy (SBCE) identified a friable and whitish sessile lesion and for that reason she underwent a push enteroscopy. The lesion was identified in the proximal jejunum with around 12mm. En-bloc endoscopic mucosal resection (EMR) was performed.

Results A 72-year-old man underwent SBCE during admission due to iron deficiency anaemia (4.7g/dL). SBCE identified an oozing bleeding from unknown origin. A double balloon enteroscopy identified a sessile lesion with around 9mm, in the proximal jejunum, and oozing bleeding. En-bloc EMR was performed. A 63-year-old man underwent SBCE due to iron deficiency anaemia (9.6g/dL) identifying a 10mm sessile lesion in the distal duodenum and fresh blood. Push enteroscopy reached the lesion and en-bloc EMR was performed.

Conclusions Prophylactic clipping of the mucosal defect was performed in all cases and no complications were reported. Normal haemoglobin levels were reached during follow-up. All histopathological analysis revealed a lymphangioma. This is an uncommon benign tumour with rare involvement of the small bowel that can justify occult and overt gastrointestinal bleeding. Complete resection is the optimal treatment although only a few cases of endoscopic resection are reported.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP674 Artificial intelligence assisted colonoscopies. A useful tool?

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Aims Approximately 1 in 4 lesions are missed during a screening colonoscopy, directly related to interval cancer. The main objective of this study was to compare differences between the percentages of adenomas detected in conventional screening colonoscopies versus artificial intelligence assisted colonoscopies. In other point, we compared polyps and duration of the technique.

Methods Prospective, randomized study of patients with screening colonoscopy due to FOBT +, in our centre, during February-June 2022 with Boston preparation scale >6. Patients were randomized in two groups: conventional colonoscopy (G1) or assisted colonoscopy (G2).

Results A total of 185 patients were included, 94 in G1 and 91 in G2. The percentage with adenomas (AP) in G1 was 54.25% and in G2 59.34%, the difference not being statistically significant ($p=0.485$). The percentage with resected polyps was 64.89% in G1 and 67.03% in G2, with no differences ($p=0.759$). The percentage with polyps in left colon in G1 was 50.00% and in G2 50.54% without significant differences ($p=0.940$); in transverse colon 24.46% and 14.28%, respectively, without differences ($p=0.80$) and in right colon 26.59% and 32.97% without differences ($p=0.343$). Mean exploration time in G1 was 22.27 minutes (DE:10.49) and in G2 21.11 minutes (DE:7.153), with no differences ($p=0.384$).

Conclusions In screening patients in our centre, artificial intelligence did not significantly modify the adenoma detection rate. Our explanation for these results, among other causes, may be that our device is at the beginning of its development.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP676 Hepatic pseudoaneurysm after endoscopic ultrasound-guided liver biopsy

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DOI 10.1055/s-0043-1765954

Aims Clinical case: A 42-year-old Caucasian male was diagnosed with B-cell acute lymphoblastic leukemia. He completed the induction phase of the PETHEMA LAL Ph-2008 protocol. Later, it was noticed new-onset cytocholelasis and hyperbilirubinemia. The metabolic, virological and autoimmune study was negative. The abdominal CT scan revealed a liver with normal morphology. EUS-guided fine needle biopsy was performed (2 passes; 22G Acquire, Boston Scientific) obtaining material that was sent for evaluation. The histological examination was compatible with DILI. Ten days after the liver biopsy, the patient presented sudden epigastric pain. The abdominal CT scan revealed a hepatic pseudoaneurysm with 28x23mm located in segment VIII with origin in a segmental branch of the main trunk of the right hepatic artery. An adjacent intrahepatic hematoma with 54x45mm was also identified. After the diagnosis, the patient underwent a transcatheter arterial embolization. Complete embolization of pseudoaneurysm was accomplished after 3 embolization sessions, performed during 1 week [1–2].

Methods During hospitalization, the patient maintained hemodynamic stability. Abdominal CT showed a dimensional reduction of the pseudoaneurysm, with no evidence of active hemorrhage.

Results The patient was discharged after 15 days of hospitalization.

Conclusions A hepatic pseudoaneurysm is a false aneurysm that develops from leakage of an injured artery into the surrounding tissues forming a cavity outside the artery. To our knowledge, this is the first case described in the literature of hepatic pseudoaneurysm after a EUS-guided liver biopsy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP678 Effectiveness of narrow-band imaging in predicting histology in large colorectal neoplasia – prospective pilot study

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DOI 10.1055/s-0043-1765955

Aims The main aim was to determine and compare the diagnostic accuracy of the narrow-band imaging (NBI) International Colorectal Endoscopic Classification (NICE) and the Japan NBI Expert Team (JNET) classification in predicting histology. Secondary aim was to determine the positive predictive value (PPV) for the NICE and JNET classification.

Methods 211 patients aged 18–75 years (130 men, 62%; mean age 60 years) underwent colonoscopy with endoscopic resection of advanced colorectal neoplasia (defined by size lesions ≥ 10 mm). The Paris classification, NICE and JNET classifications were used for each lesion. The results were compared with the final pathological diagnoses.

Results 257 lesions were analyzed, including 8 (3.1 %) hyperplastic polyps, 47 sessile serrated polyps (18.2 %), 152 (59.1 %) adenomas with LGD, 36 (14.2 %) high-grade adenomas, 12 (4.6 %) superficial submucosal (SM-s) carcinomas and 2 (0.8 %) deep submucosal (SM-d) carcinomas. A total of 200 lesions (77.8 %) were correctly classified according to the JNET classification and 242 lesions (94.2 %) were correctly classified according to the NICE classification. The PPV for NICE 1 lesion was 95.9 %, NICE 2 97.0 % and NICE 3 22.0 %. The PPV for JNET 1 lesions was 95.9 %, JNET 2A 83 %, JNET 2B 52.2 % and JNET 3 22.5 %.

Conclusions The NICE classification was associated with a higher proportion of correctly classified lesions compared to the JNET classification. NICE 3 and JNET 3 were characterized by low PPV. NBI virtual chromoendoscopy shows a low PPV for HGD adenomas and SM-s carcinomas. Increasing the accuracy of the prediction of these lesions and determining the limiting factors will be the subject of further investigation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP679 High risk of submucosal invasion in endoscopic submucosal dissection in the proximal colon

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DOI 10.1055/s-0043-1765956

Aims Aim of our study was to assess technical and clinical outcome of patients undergoing ESD and Hybrid ESD for lesions located proximally to the splenic flexure.

Methods All cases of ESD and Hybrid ESD for lesions proximal to splenic flexure were extracted from our prospectively maintained registry of colorectal ESD. The primary outcome was completeness of resection based on en bloc and R0 resection rates. The secondary outcomes were histology, complications and hospital stay. Low risk adenocarcinoma was defined according to ESGE guidelines.

Results Overall, 98 ESD (48 conventional ESD and 50 Hybrid-ESD) for proximal lesions were performed between 2012 and 2022. Lesions were classified as LST-GH in 8 cases (8.2 %), 40 (40.8 %) LST-GM, 38 (38.8 %) LST-NG, 12 (12.2 %) sessile lesions (0-ls). Technical success of procedures considered as en-bloc resection was 83/98 (84.7 %), 46/48 (95.8 %) for standard ESD and 37/50 (74.0 %) for Hybrid-ESD respectively ($p=0.006$). The mean hospital stay was of 0.74 ± 1.2 days. Major adverse events occur in 1 (1.0 %) patient and was managed conservatively. At pathology, submucosal invasion was found in 22/98 (22.4 %) and R0 was achieved in 12/20 (54.5 %). Among T1 adenocarcinoma,

10 were at low-risk of node metastasis. Further surgery for oncological reasons was performed in 8/98 patients (8.2%); in all of these cases, no residual disease was found in histological report.

Conclusions ESD is technically feasible and a safe procedure in proximal colonic lesions with higher en-bloc resection obtained with standard ESD compared to Hybrid-ESD. The lesions treated in our series were at high risk of submucosal invasion.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP680 Splenic artery aneurysm imitating a gastric subepithelial lesion

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DOI 10.1055/s-0043-1765957

Aims Splenic artery aneurysms (SAA) are a rare, but potentially fatal pathology. They are usually asymptomatic. Presentation as gastric subepithelial lesion (SEL) is very rare.

Methods A 68-year-old female patient with abdominal pain, fullness, and abdominal distension. He went to perform an upper digestive endoscopy, finding a SEL at the gastric body of approximately 1 cm. Endoscopy Ultrasound (EUS) was indicated, evidence of homogeneous anechoic tumor arising from extramural location with well-defined margin without septum or mural nodule. It measures approximately 12mm. Doppler EUS was positive [1–2]

Results SAA is a rare condition, up to 10% can rupture, it is the third most common type of abdominal aneurysm. SSA with the greatest risk of bleeding are those greater than 2 cm. They are generally asymptomatic or present non-specific symptoms: epigastric pain, nausea, vomiting, or anorexia. It is usually found in imaging studies. The presentation as SEL is very rare and the diagnosis is made by EUS and US Doppler. The finding by EUS is homogeneous anechoic tumor, in our case it was evidenced that the aneurysm arising from the splenic artery. Other anechoic lesion in EUS includes.

lymphangioma, varice and duplication cyst, but turbulent arterial flow is an important diagnostic finding.

Conclusions SAA is a very rare but fatal pathology. The presentation as a SEL is very rare but it should be considered in the differential diagnosis of these. EUS and US Doppler is a fundamental instrument for diagnosis

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP681 Combine Use of Peroral and Transhepatic Cholangioscopy Increases the Success Rate of Negotiation of Post Liver Transplant Anastomotic Stricture after Previously Failed Endoscopic and Interventional Radiology Procedures: First Case Report In Literature

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DOI 10.1055/s-0043-1765958

Aims Background: Post liver transplant anastomotic strictures are now conventionally being manage non surgically using endoscopic approach or in case of failure by interventional radiology procedures. If both the approaches fail, then endo-biliary endoscopy can be used in the form of either transpapillary

or transhepatic cholangioscopy. Here we are reporting combine use of both the technique.

Case Report A 47-year-old male s/p Living donor liver transplant on 25-10-21, single RHD anastomosis presented with obstructive jaundice confirmed with imaging. He underwent three ERCs in which only RASD was stented, but RPSD never cannulated. PTBD of RPSD was performed and external drain placed but three attempts failed to internalized the drain due to failure to negotiate AS. Description of technique: We initially approach the patient through transhepatic route but despite the identification of opening, negotiation could not be done due to complete occlusion and acute angle.

Next peroral cholangioscopy was performed and after much difficulty glide wire was finally negotiated. As the length of guide wire was short so it was retrieved transhepatically. Later it was exchanged with 480 cm 0.035 jagwire. The anastomotic stricture was dilated using 8 mm CRE balloon. A 10 Fr x 12 cm PBS placed. Another steny was than placed in RASD.

Conclusions Combine use of Transpapillary and transhepatic cholangioscopies increases the therapeutic options in the management of post-transplant anastomotic strictures.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP682 Analysis of the impact on diagnostic yield of pancreatic FNB specimens based on the length of time and type of preservative used for specimen storage prior to cytohistological processing

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DOI 10.1055/s-0043-1765959

Aims FNB needles are now the preferred diagnostic needles in patients with non-cysticpancreatic lesions, however, sparse literature regarding impact of processing ofthe specimens on DY.

Methods Retrospective analysis of all patients undergoing EUS guided FNB from January 2021 to December 2021 (during the CoVid-19 pandemic), for all non-cystic HPB lesions, in a tertiary HPB centre in England. FNB was performed using Cook Echotip Procure 20G needle or 22-gauge Acquire needle. All patients had minimum 2passes done with the same needle, specimens from each pass were randomly collected in BD Cytolyt or 10% neutral buffered Formalin (4% formaldehyde).Diagnostic yield, specifically in relation to quality of preserved pancreatic acinar tissue and autolysis/degeneration was analysed and diagnostic yield (DY).

Results 146 non-cystic FNBs were performed, with all specimens collected in Cytolyt and67 samples processed in both Cytolyt and formalin preservatives respectively. Autolysis/degenerate pancreatic tissue were seen in 6% of specimens undergoing cytohistological processing within 24hrs of sample collection, compared to 15% in samples processed over 24hrs in the Cytolyt preserve (($P < 0.01$). 100% of samples stored in formalin were diagnostic at <24hrs with one sample nondiagnostic > 24hrs($P = > 0.5$, N.S).

Conclusions This study, builds on our previous data showing core tissue processed in formalin has higher non-diagnostic yield, likely due to less autolysis compared to Cytolyt preservative.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP683 Chronic constipation and colonoscopy: Who and what to expect?

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DOI 10.1055/s-0043-1765960

Aims Constipation is a common reason for consultation in gastroenterology, generating a significant medico-economic impact. The aim is to study the interest of colonoscopy in the exploration of chronic constipation according to the age of the patient.

Methods Retrospective study including patients explored with colonoscopy for constipation. Patients were divided into 2 groups: Group 1 (G1): Age < 45 years and Group 2 (G2): Age > 45 years.

Results We included 282 patients explored by colonoscopy. The mean age was 57.91 years.

100 patients belonged to G1 while 182 patients constituted G2. The sex ratio M/F was estimated at 0.88 and 1.42 in G1 and G2 respectively. Constipation was isolated in 23.8% of cases, it was associated with abdominal pain in 39.4% of cases, abdominal bloating in 26.2% of cases, rectal bleeding in 19.5% of cases, anemia in 28.4% of cases, and altered general condition in 8.5% of cases (G1: 2%, G2: 12.1%, $p = 0.004$). Colonoscopy was pathological in 24% for G1 and in 61% for G2 ($p < 0.001$). The pathologies found were: Recto-colonic polyps in 33.5% (G1: 13%, G2: 42.3%, $p < 0.001$), colorectal process in 5.5% (G1: 1%, G2: 6.6%, $p = 0.032$), colonic diverticulosis in 13.5% (G1: 2%, G2: 17.6%, $p < 0.001$), solitary rectal ulcers in 2.5% of cases. The only factors associated with pathological colonoscopy were age > 45 years ($p < 0.001$) and the presence of anemia ($p = 0.021$). In multivariate analysis only age > 45 years was an independent risk factor for pathological colonoscopy (OR = 4.951, CI = 95%, 2.865-8.556, $p < 0.001$).

Conclusions Age > 45 years is an independent risk factor for pathological colonoscopy in case of constipation, rather agreeing with the latest guidelines for colorectal cancer screening.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP684V Giant pedunculated Brunner's gland adenoma – transpyloric endoscopic resection

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DOI 10.1055/s-0043-1765963

Abstract Text We present a case that illustrates the successful endoscopic resection of a giant Brunner's gland adenoma. A 76-year-old female patient presented with iron deficiency anemia. The upper GI endoscopy revealed a giant pedunculated polyp arising from the transition between the first and the second duodenal portions, with biopsies revealing Brunner's gland hyperplasia. We removed the giant polypoid lesion by mobilizing it to the gastric antrum to facilitate the endoscopic resection. The resection specimen measured 9 cm of maximum length. The histology confirmed the diagnosis of a Brunner's gland adenoma, without dysplasia.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP685 Bleeding location in the gastrointestinal tract: interim analysis from the BLITGIT study

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DOI 10.1055/s-0043-1765962

Aims We aimed to identify the location of lesions suspected of causing blood loss or anaemia in the gastrointestinal tract in patients with iron deficiency anaemia.

Methods Patients referred to three centres (Sheffield, Hong Kong and Szekesfehervar, Hungary) for the investigation of iron deficiency anaemia underwent

small bowel capsule endoscopy (Navicam, AnX Robotica, Plano, US) in the week prior to upper and lower gastrointestinal endoscopy. All lesions were described according to the perceived likelihood of bleeding using the Saurin classification (P0: unlikely; P1: suspected; P2: likely).

Results 56 patients (median age 63 years (IQR 53-72); 55.3% male) had a median haemoglobin of 108 g/L (IQR 99-122) and ferritin 11 (IQR 7-20). Completion rate for gastroscopy, colonoscopy and capsule endoscopy were 98.2%, 96% and 82%. Some patients had more than one P1/P2 lesions. In 16 (29%) patients P1/P2 pathology was identified on gastroscopy (gastric erosions, $n = 4$; petechiae, $n = 4$; varices, $n = 3$; oesophageal erosions, $n = 2$; blood, $n = 2$; eroded polyp, $n = 1$; portal hypertensive gastropathy, $n = 1$; H. pylori gastritis, $n = 1$). In 26 (46%) patients P1/P2 pathology was identified in the small bowel (angioectasia, $n = 11$; erosions, $n = 8$; petechiae, $n = 8$; blood, $n = 7$; ulcers, $n = 5$; coeliac disease, $n = 2$; Crohn's disease, $n = 1$; diverticulae, $n = 1$; portal hypertensive enteropathy, $n = 1$). On colonoscopy 22 (39%) patients had P1/P2 pathology (haemorrhoids, $n = 12$; polyps, $n = 5$; colorectal cancer, $n = 3$; ulcerative colitis, $n = 2$; radiation proctopathy, $n = 1$).

Conclusions The small bowel appears to be at least as common a cause of anaemia as the upper and lower GI tract and examination should be considered routinely.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP686 Adequate electrical energy of stomach irreversible electroporation: A pre-clinical study

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DOI 10.1055/s-0043-1765963

Aims To investigate adequate electrical energy of endoscopic irreversible electroporation (IRE) ablation including voltage and pulse parameters based on histological scoring and COMSOL modeling within non-thermal conditions

Methods Before the experiment, the COMSOL Multiphysics program modeled an artificial stomach of a pig to investigate non-thermal electrical conditions. Nine pigs were used for analysis of proper histologic conditions with IRE ablation. Each pig was electroporated applying needle-type electrodes from 500V to 2000V with pulse numbers of 20 to 80 (intervals of 500V and 20 pulses). Stomach tissues after 24 hours from electroporation were assessed through histology (width + depth + cellular architecture), then histologic scoring was calculated. Then, summed histologic scores were compared to delineate the safe energy intervals.

Results Endoscopic stomach IRE result from the electrical field was compatible with COMSOL Multiphysics. From the lower energy to the maximal energy, endoscopic results varied from congestion to severe hemorrhage and ulceration. Histologic score and ablated damage were well correlated ($r = 0.875$). At the same voltage, the score increased as the number of pulses increased, and histologic scoring increased as the voltage increased. Modeling of the IRE electrical field on the stomach was correlated with thermal distribution well. According to histologic scoring, histologic damage increased significantly from 1000V with 80 pulses and 1500V 60 pulses ($p = 0.042$).

Conclusions Scoring matches well with endoscopic and histologic changes. Histologic damage warrants safe electrical energy compatible to mucosa was within 1000V with pulse number 40 (3J).

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP687 Metastatic Melanoma Presenting as a Gigant Gastric Ulcer

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DOI 10.1055/s-0043-1765964

Aims Melanoma can metastasize to any organ, gastric melanoma is rare. The clinical manifestation is nonspecific. We report a case of a patient with melanoma with gastric metastasis.

Methods A 60-year-old patient with palpable non-painful blackish-purple nodule-type lesions of different sizes distributed throughout the body, under study by the Dermatology service, was admitted due to melena associated with anemia, hemoglobin: 8 mg/dl. Due to melena, an upper digestive endoscopy was scheduled, presenting a giant hyperpigmented ulcer that covers part of the body and gastric antrum, with no recent signs of bleeding. The gastric biopsy showed infiltration of a population of pigmented, single and atypical dischhesive cells.

Pathology revealed that the lamina propria of both the duodenum and the stomach was infiltrated by a population of dischhesive, atypical, single, pigment-ed cells.

Results The symptoms gastric melanoma metastasize are non-specific and include fullness, nausea, asthenia, in our case the patient presented melena [1–2].

The endoscopic finding can present 3 types: ulcerated melanotic nodules, sub-mucosal masses with ulcerations, and mass lesions with necrosis and melanos- is. The appearance as a giant hyperpigmented ulcer is not very common. The treatment used is chemotherapy. Surgery is generally not performed unless the patient is a surgical candidate and has complications that could be alleviated by surgery.

Conclusions gastric melanoma metastasis is rare, and is generally discovered in the final stages of the systemic disease and can present as a hyperpigment-ed ulcerated lesion and treatment is chemotherapy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Metastatic Melanoma Presenting as a Gastric Mass. 2020 Groudan et al. *Cureus* 12(12)

[2] Melanoma with gastric metastases. *Journal of Community Hospital Internal Medicine Perspectives* 2016. Katherine Wong et al

eP688V Spying in a case of occult cholangitis

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DOI 10.1055/s-0043-1765965

Abstract Text Aims:Expanding utility of cholangioscopy in occult cholangitis. Methods:63y M, pancreatitis–symptomatic WON, drainage LAMS–multiple sessions necrosectomy, follow up cholecystectomy. After 2 weeks – Cholangi- tis. MRCP–Distal Biliary Narrowing, post operative GB fossa collection. ERCP – distal CBD external compressio, pus CBD. Cholangioscopy – fistulous tract in mid CBD, pus from the fistulous tract. Stenting done. Results:Patient discharged after 3 days.Follow up MRCP normal, stent removed.Conclusion:This video demonstrates utility of cholangioscope for the evaluation of occult cholangitis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP689 Magnetically guided capsules with robot and artificial intelligence for non-hematemesis gastrointestinal bleeding

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DOI 10.1055/s-0043-1765966

Aims Diagnosis yield of magnetically guided gastric capsule has shown its efficacy compared with conventional gastroscopy, but as colon capsule this device has a limited interest in Europe. we have a long-standing clinical experience in magnetically guided gastric capsule with Olympus-Siemens (391 cases) , Ankon (85 cases) then recently with Robot Omom (10 cases). We assess the clinical benefit in a specific group of patients : non-hematemesis gastrointestinal bleeding as first line examination [1].

Methods It is a feasibility study in non-hematemesis or sever obscure GI bleed- ing cohort as proposed by D.Cave et al. with conventional small bowel capsule.

A cohort of 46 patients were examined with Ankon capsule then recently 6 patients with Robot Omom (29 males ,23 females, mean age 74.3 +/- 19.6).61.9 % of patients suffered cardiovascular diseases with antiplatelet or anticoagulant drugs. Robot gastric examination is performed by a nurse

Results gastric or small bowel angiodysplasias were the most frequent (54.6%) follow by gastric ulcerations or erosions (26.8%) ,small bowel ulcerations (7.2%) tumours (5.9%), Following capsule results ,gastroscopy or spiraled enteros- copy were carried on the next day except in 6 patients with active bleeding endoscopically treated immediately. This protocol shortened hospital stay compared with traditional sequence:gastroscopy ,colonoscopy then small bowel capsule and finally enteroscopy.

Conclusions Robot capsule with artificial intelligence open a new filed in Eu- rope. It also reduce practitioner burden with procedure carried by a nurse and intelligence artificial reading.

Conflicts of interest adviser olympus. , Ankon , jinshan

[1] Marya N., Cave D. A randomized controlled trial comparing efficacy of early capsule endoscopy with standard of cares in the approach to non he- matemesis GI bleeding. *Gastrointest Endosco* 2019; 89: 33–46

eP690V Small Bowel B-Cell Lymphoma Presenting as Autoimmune Hemolytic Anemia and Severe Obscure Gastrointestinal Bleeding

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DOI 10.1055/s-0043-1765967

Abstract Text 75-year-old man admitted for hematochezia and autoimmune hemolytic anemia (AIHA). EGD and colonoscopy were unremarkable. Capsule endoscopy (CE) showed and ulcerated tumor located in the ileum, confirmed by retrograde deep enteroscopy with biopsies. The histopathology revealed diffuse large B – cell lymphoma. Because of ongoing massive bleeding, the patient underwent surgical resection of the mass and combined therapy R-CHOP resulted in remission of the lymphoma. This case highlights the occur- rence of two conditions leading to severe anemia, a) severe obscure GI bleeding and b) hemolytic anemia. Whenever an AIHA is present the clinician must be aware of lymphomas.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP691V Multiple Pockets ESD for a large 15 by 12 cms anorectal LST G mixed nodular polyp- Challenges faced and tricks for success

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DOI 10.1055/s-0043-1765968

Abstract Text 70 year female – 95% circumferential 15 by 12cms Paris 1S + 2A, JNET 2A polyp from anal verge. Reluctant for surgery. ESD planned. Under GA Dissection started at anal verge. Posterior, right and left lateral and anteri- or tunnels made with ESD technique. Significant blood vessels and fibrosis encountered. After 12 hours two tunnels joined. Patient ventilated overnight, procedure done next morning. Patient position changed several times for gravi- ty. Conclusion: Large LST and bulky component have severe fibrosis. Changing patient's position , using, gravity and coagulation grasper for control of bleed- ing are important.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP692 Endoscopic resection of visible precancerous lesions in patients with colonic Inflammatory Bowel Disease

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DOI 10.1055/s-0043-1765979

Aims Evaluate the effectiveness and safety of endoscopic resection (ER) of visible precancerous lesions in colonic Inflammatory Bowel Disease (IBD) patients.

Methods Retrospective study: inclusion of consecutive IBD patients referred to an Endoscopy Unit (2016-2022) to undergo a ER, including endoscopic mucosal resection (EMR), endoscopic submucosal dissection (ESD) and hybrid EMR-ESD (hESD), of visible precancerous lesions. Primary outcome: assessment of rates of en bloc resection, R0 resection and adverse events (AEs). Secondary outcome: rate of post-ER surgery and surgery for refractory IBD.

Results 67 visible lesions (64% non-polypoid, 53% left-side, median size 25 mm, 65% neoplastic pit-pattern) in 67 patients (56% male, median age 58 yrs, 68% ulcerative colitis, median disease duration 160 month, 58% active disease) were included. ESD, hESD, and EMR was performed in 21%, 6%, and 73% of cases. Histopathological diagnoses after ER: inflammatory polyp (33%), SSL (9%), LGD (40%), HGD (14%), adenocarcinoma (3%), and squamous cell carcinoma (1%). Excluding inflammatory polyps, en bloc resection was achieved in 14/14(100%), 3/4(75%), and 15/27(55%) lesions in case of ESD, hESD, and EMR (ESD + hESD vs EMR $p < 0.05$). R0 resection was achieved in 12/14(86%), 3/4(75%), and 15/27(55%) lesions in case of ESD, hESD, and EMR (ESD + hESD vs EMR $p = 0.05$). AEs occurred in 21% (2 bleedings and 1 perforation), 0%, and 3% (1 perforation) of patients treated by ESD, hESD and EMR (ESD + hESD vs EMR $p = N.S.$).

Conclusions ER of visible precancerous lesions performed in a tertiary center is feasible, safe and effective in IBD patients. These data should be confirmed in a wider IBD population.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP693V Anemia and Ulcerative Jejunoileitis in a Child

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DOI 10.1055/s-0043-1765970

Abstract Text A 7-year-old female patient was referred to our department for double balloon enteroscopy (DBE). At age 5 she was diagnosed with Crohn's disease based on failure to thrive, iron-deficiency anemia and capsule endoscopy showing small bowel ulcers. Steroids did not result in clinical improvement. She had recurrent episodes of otitis media. After being non-responsive to azathioprine she was sent for DBE. We found nodular lymphoid hyperplasia and aphthous ulcers in the ileum. Histology showed lack of plasma cells, NLH and increased intraepithelial lymphocytes. Serum immunoglobulins were low, confirming common variable immunodeficiency. The patient responded to the therapy with intravenous immunoglobulins.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP694V McKittrick-Wheelock syndrome as clinical manifestation of a giant rectal adenoma treated with ESD

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DOI 10.1055/s-0043-1765971

Abstract Text McKittrick-Wheelock syndrome is a rare clinical manifestation of large adenoid tumors of the rectum with an excessive loss of electrolytes leading to acute renal failure. Most of those cases reported in the literature have been treated surgically, but recent advances in the field of endoscopic resection now offer a minimally invasive alternative. Here we present the case of a 76-year old female patient with a giant rectal adenoma presenting with massive hypokalemia and acute renal failure. The 18.5x10.5cm large tumor was successfully resected en bloc using endoscopic submucosal dissection, the lateral and deep margins of the specimen were free of tumor. The 6-months follow up revealed no sign of a local recurrence.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP695 Results of the national survey on "Women in Spanish Endoscopy"

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DOI 10.1055/s-0043-1765972

Aims to obtain updated information on spanish female endoscopists: type of endoscopy performed, interest in endoscopy, difficulties in accessing or developing advanced endoscopy, and visibility of female endoscopists

Methods we conducted a survey aimed at female gastroenterologists performing endoscopy in Spain, which was distributed through several scientific societies and social media.

Results 504 responses were obtained, of which 486 were analyzed. Of the respondents, 320 (65.8%) performed basic endoscopy compared to 166 (34.2%) who performed advanced endoscopy. The factors associated with advanced endoscopy were the position held, the implementation of specific training, age and family burden.

Among basic endoscopists, 237 (74.1%) would like to perform more complex procedures, and attributed their absence of dedication to advanced endoscopy to impossibility of dedication(65%), lack of possibility of training(47%) and lack of motivation at work (43%), in contrast to family reasons(10%) or radiological exposure(4%) that were minority causes.

Among advanced endoscopists, 117 (70.5%) had found difficulties in their training. Main reasons were lack of training (62%), lack of motivation at work (48%) and in thirdly place pregnancy/child care (46%).

Conclusions Endoscopy arouses great interest among female gastroenterologists, most of whom wish to perform advanced endoscopy. Classic reasons for the lack of dedication to advanced endoscopy among women have been replaced by others that need to be known in order to advance inclusiveness of women in endoscopy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP696 ERCP in very elderly -treat or threat?

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DOI 10.1055/s-0043-1765973

Aims Endoscopic interventions in the elderly are increasing due to the ongoing rise in life expectancy. Data about the safety of ERCP in the elderly are limited.

Methods Patients who underwent ERCP at the University Gastroenterology Department of Ioannina during a 2-year-period of time, were retrospectively studied. Demographics, indications, and outcomes were recorded in terms of age at the time of ERCP (>85 years, 61-85 years, 40-60 years, and <40 years).

Results 530 patients who underwent ERCP at our center in the last 2 years were studied, 20.7% (n = 110) were >85 years old, 56.0% were 61-85, 21.5% among 40-60 and only 1.6% <40 years. Choledocholithiasis (44.5%), pancreatic tumor (18.1%), cholangiocarcinoma (10.3%), ampulla tumor (1.5%), and benign CBD stenosis (5%) were the main reasons for ERCP. Choledocholithiasis was the most common reason for ERCP in all studied groups, followed by malignancies. The dose of intravenous sedative agents was lower in >85-years-old group. Post-ERCP pancreatitis was less common in the very elderly (2.7% in >85 years vs. 3.7% in 61-85 and 8.7% in 40-60), but cholangitis, hemorrhage, and perforation were equally distributed in all groups. ERCPs were successful across all age groups. In 70% of patients >85 with choledocholithiasis, a stent was left and a second ERCP was performed for cleaning or replacement.

Conclusions ERCP is a safe and effective intervention in elderly. However, sedation and anaesthesia should be particularly monitored in this group. The risk of post-ERCP pancreatitis is reduced in older patients compared to younger age groups.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP697V Interdisciplinary management of a complex colovesical fistula

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DOI 10.1055/s-0043-1765974

Abstract Text In 2021 a 73 male patient underwent a sigmoid cancer operation and he had an early relapse. CT cystography and lower digestive endoscopy verified a colovesical fistula. Second Hartmann's colectomy and left vesicoureteral anastomosis with enterocystic communication closure were performed. The patient, however, had a relapse of the fistula. A 15mm fistulous lesion between the rectum and urinary bladder was identified. First, the fistula was sutured, followed by the placement of a Gore-Tex mesh reinforced with platelet-rich plasma (PRP) and platelet-rich fibrin (PRF). These measures led to reduction of the diameter of the fistula to 8 mm so a mesh was put after re-endoscopy and rejuvenation of the fistula lips and the fistula was sutured again.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP698V Precut Biliary Sphincterotomy and Cannulation Using the Two-In-One Huibregtse Needle Knife-Cannulation Catheter

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DOI 10.1055/s-0043-1765975

Abstract Text Precut biliary sphincterotomy may be needed after failed cannulation, impacted stone, presence of bulgy of hanging papilla, choledocal cyst type III, among other indications. The Huibregtse needle knife is one of the most widely used precut instruments. However, often a hidden secret is forgotten: this instrument is also a practical, pre-curved biliary cannula. This video demonstrates this combination needle-knife catheter in a patient with large, bulgy papilla. The technical aspects of the needle knife are shown, including how to remove the wire and needle, how to conduct a needle

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP699V Retrograde trans-gastric vacuum therapy for treatment of Post-POEM Boerhaave syndrome

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DOI 10.1055/s-0043-1765976

Abstract Text 36-y-Male-POEM for Achalasia.POD1-Contrast swallow-No leak. POD2-Discharged-soft diet.POD7-vomiting f/bchest pain.-CECT Thorax-Defect in the right posterolateral aspect of esophagus with contrast leak.Contained collection in right peri-esophageal region.EGD-wide open incision site s/o Post-Poem Boerhaave syndrome.Narrow tunnel leading to cavity. Tunnel laid open till mouth of cavity. 24Fr-PEG placed. Custom-made EndoVac Sponge prepared.Sponge placed per orally in esophagus at level of cavity. External continuous suction-120mm Hg.Endovac replaced-scope through the PEG tract in a retrograde approach as antegrade placement was cumbersome and risk of extension of mucosal defect. Endovac replaced every 4-5 days for 5 sessions

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP700 Esophageal food impaction revealing underlying esophageal abnormalities?

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DOI 10.1055/s-0043-1765977

Aims Ingestion of foreign bodies (FB) is the second indication for emergency endoscopy. In adults, food impactions (FI) are the most common. It has been suggested that these impactions could reveal some underlying esophageal abnormalities. Our objective was to describe the various underlying endoscopic abnormalities in the case of esophageal FI.

Methods We conducted a retrospective study including, between January 1991 and September 2022, consecutive patients who underwent upper digestive endoscopy for FB extraction.

Results A total of 117 patients were collected. In 32 patients (29.6%), the esophagus was the site of FB impaction. Esophageal FI was noted in 26 patients (81.2%). They were 19 men and 7 women with an average age of 38.80 ± 19.54 years. Upper digestive endoscopy (UDE) revealed an underlying esophageal abnormality in 15 patients (57.7%). Peptic esophagitis was the most common anomaly (7 cases). This esophagitis was complicated by stenosis in 2 patients and by endobrachyoesophagus in 1 patient. Other types of underlying esophageal abnormalities were also noted: regular stenosis in 4 patients (20%), a Schatzki ring in 2 patients (13.3%), 1 case of mycotic esophagitis (6.6%), and 1 case of caustic stenosis (6.6%). UDE showed no endoscopic esophageal abnormality in 11 patients. These patients benefited from esophageal biopsies to look for eosinophilic esophagitis. A sensation of jerking when crossing the cardia by the endoscope in favor of a motor disorder was noted in 1 patient. The manometric exploration confirmed the diagnosis of type II achalasia.

Conclusions In our study, esophageal FI revealed underlying abnormalities in 57.7% of cases. Thus, endoscopic exploration must be systematic even after their spontaneous resolution.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP701 Fast track discharge after percutaneous endoscopic gastrostomy tube removal in head and neck cancer patients in oncological remission: a feasibility and safety study

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DOI 10.1055/s-0043-1765978

Aims Head and neck cancer patients (HNC) have a significant number of prophylactic percutaneous endoscopic gastrostomies (PEG) procedures to provide enteral nutritional support during chemoradiotherapy. After treatment, patients with complete oncological response who reestablish adequate oral intake, remove PEGs. We aim to evaluate the feasibility and safety of PEG tube removal followed by immediate discharge.

Methods Prospective, observational, unicentric study. PEG tube removal with discharge to the outpatient clinics 30 minutes after the procedure and re-initiation of cold liquid diet after 3 hours. Additionally, therapy with double dose of omeprazole 40 mg bid orally for 4 weeks.

Results A total of 120 PEG tube removal patients, between 07/2020 to 09/2022, were included: Male 72,5%; Age 28-81 (mean 60); HNC type: oral cavity 13%; nasopharynx 25% oropharynx 45%; hypopharynx 11%. Mean PEG duration 10,45 months; PEG early infections 6,7%; PEG use in 86,7%, exclusive in 73,3%. PEG removal adverse events 8 (6,7%): persistent gastrocutaneous fistula 7 (5,8%); 1 parastomal hernia (0,8). Approach: 5 solved with medical therapy only (additional 4 weeks of PPI); 1 required endoscopic therapy and 1 went direct surgical intervention. By univariate analysis there was no significant association between adverse events and patient age (p 0,343), Diabetes mellitus (p 0,813), smoking habits (p 0,274), PEG duration (p 0,645) or earlier infections (p 0,659) [1].

Conclusions PEG removal with immediate discharge proved to be safe, with a low rate of adverse events. This approach reduces the patient's discomfort and promotes resources optimization.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Currais P, Faias S et al. Gastrocutaneous fistulas after PEG removal in adult cancer patients: frequency and treatment options. *Surgical Endoscopy* 2020; 35–7

eP702 Hybrid FTRD in the upper and lower GI tract: results of a large Swiss patient cohort

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Aims Hybrid FTRD has been described as an effective approach for large lesions in the duodenum and colorectum with non-lifting sign, as FTRD technique is limited by lesion size. Here we describe results of different hybrid FTRD approaches in a cohort of 40 patients.

Methods Retrospective analysis from data of 40 patients who underwent hybrid EMR-FTRD (16 Hybrid EMR, 8 CAP O Clip, 14 COL-FTRD) for a variety of lesions in the upper (n = 7), mid (n = 8) and lower GI tract (n = 25) was performed. Technical success, histological confirmation of margin-free resection and adverse events were assessed.

Results 32 of 40 (80%) lesions could be resected macroscopically complete. Full thickness resection was achieved in all cases. Histological work-up of the full-thickness specimens showed free lateral margins in 37 patients (92.5%) and positive margins in three patients. One of these patients received successful EMR treatment with negative histology on index endoscopy. In the hybrid EMR group there were three cases of bleeding requiring hospitalisation and one hospitalisation due to periprocedurally closed perforation while n = 4 pa-

tients were prophylactically hospitalized in the CAP O CLIP and COL FTRD collective due to old age.

Conclusions Hybrid EMR-EFTR and associated techniques seems to be safe and effective for lesions across the GI tract

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP703 The pierced colon – when biliary stents go the wrong way

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DOI 10.1055/s-0043-1765980

Aims Bowel perforation of straight biliary stents is a rare complication of biliary stenting. While duodenal perforation opposite to the papilla is not uncommon, colonic perforation, mainly in the sigmoid colon, is a rare complication. Colonic perforation outside anatomically predisposed sites has not been reported to date.

Methods We report the successful endoscopic treatment of a 78-year old male with a straight biliary plastic stent perforating the ascending colon without underlying structural abnormality in the affected segment. Perforation was detected incidentally during CT, the patient had been under continued antibiotic therapy for liver abscess. Stent extraction was performed by endoscopic snare; the site of perforation was closed with through-the-scope clips. The patient remained asymptomatic [1–5].

Results We reviewed the relevant literature on bowel perforations due to migrated biliary stents. Straight plastic stents caused 25 of 32 reported colonic perforations, while only one perforation was related to a pigtail stent, 5 cases did not state the involved stent type. Straight plastic stents appear to entail a higher risk of colonic perforation. Most cases were managed surgically (20/32), endoscopic therapy was performed in 10/32 cases; two stents were removed through a colocolic fistula. One patient had a colonic perforation after stent removal and required surgery. Mortality is low (1/32).

Conclusions Our case highlights colonic perforation as a serious, but fortunately very rare complication of biliary stenting.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP704 Push endoscopic gastrostomy in high-risk patients – is it really safe?

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DOI 10.1055/s-0043-1765981

Aims Percutaneous endoscopic gastrostomy (PEG) enables artificial enteral feeding in patients with head and neck cancers (HNC). In some circumstances,

due to anatomical constraints, the pull technique is not feasible. Furthermore, push PEG tubes in HNC are considered a better option to reduce the risk of metastasis at the PEG site, although rare. We aim to report the outcomes in a retrospective cohort of high-risk patients undergoing PEG placement with the push technique comparing it with patients in whom the pull method was feasible.

Methods We included all patients who underwent PEG insertion with the push technique (n=5, only 1 not due to malignancy), from 10/2021 to 10/2022, and compared them to patients who underwent pull PEG insertion for malignant dysphagia (n=24), from 02/2017 to 06/2022.

Results A total of 29 patients were included, 25 (86.2%) were men and had a median age of 64 and 72 years when comparing pull vs push technique (p=0.41). During admission, 3 patients from the pull group died (12.5%), 2 due to hospital acquired respiratory infections. Seven-day and 30-day mortality was 4.2%vs0% (p=1) and 13%vs40% (p=0.21), respectively, when comparing pull vs push groups. Overall mortality is shown in Table 1. No cases of metastasis to the PEG site were reported (► Table 1).

Conclusions Our initial data shows a somewhat higher 30-day mortality for the push technique, although these data are limited by small sample size and retrospective analysis. Even so, endoscopic gastrostomy placement using the push method is an overall safe and feasible procedure in high-risk patients whose alternatives were radiologic or surgical gastrostomy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Pull method (n=24)	Push method (n=5)	p value
Intraoperative bleeding requiring treatment	3 (12.5%)	0 (0%)	1
Non-scheduled tube replacement during follow-up	5 (22.7%)	3 (60%)	0.14
Overall mortality during follow-up	19 (79.2%)	3 (60%)	0.29

► Table 1

eP705V Staged Endoscopic Closure of Acute Entero-Colic Fistula (ECF) Caused by Lumen-Apposing Metal Stent (LAMS) Misplacement with Over-The-Scope Clip (OTS-clip)

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DOI 10.1055/s-0043-1765982

Abstract Text Acute ECFs due to LAMS misplacement during intended gallbladder/pancreatic necrosis drainage, respectively, were effectively managed with dual (proximal + distal) OTS-clip closure [1–2].

Roux-en-Y subtotal gastrectomy with attempted EUS-GBD. LAMS deployment reveals stools in the hepatic flexure mistaken on prior EUS for gallbladder stones. Dual OTS-clip closure was done 9 days at repeat endoscopy for melena. The splenic flexure was mistaken for infected WON. 6-weeks later, with gastric and colonic access, LAMS removal and dual OTS-clip closure was done.

Colonic interposition should be recognized during EUS-guided WON/GB drainage, particularly in altered anatomy. Delayed LAMS removal with dual OTS-clip closure can safely avoid surgery.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP706V Choledochoduodenostomy mediated rendezvous as a third line approach to achieve ERCP in benign diseases: a video case

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DOI 10.1055/s-0043-1765983

Abstract Text Common bile duct (CBD) cannulation cannot be achieved in all patients. In such cases endoscopic ultrasound rendezvous (EUS-Rv) is recommended, though it is not always to pass the guidewire across the papilla. We present a 61-years old female with large CBD stones, who was referred after failed attempts to ERCP and EUS-Rv. Following this, we placed a lumen apposing metal stent (LAMS) to create a CDS. Six weeks later, another ERCP via the CDS was scheduled to facilitate guidewire passage into the duodenum, to be picked up with a snare and proceed with an ERCP, and the duct was cleared. ERCP Rv via a LAMS CDS is a feasible technique as a salvage measure in cases of unsuccessful cannulation in ERCP for benign disease.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP707 Risk factors of post-ERCP pancreatitis compared to asymptomatic hyperamylasemia: a retrospective study

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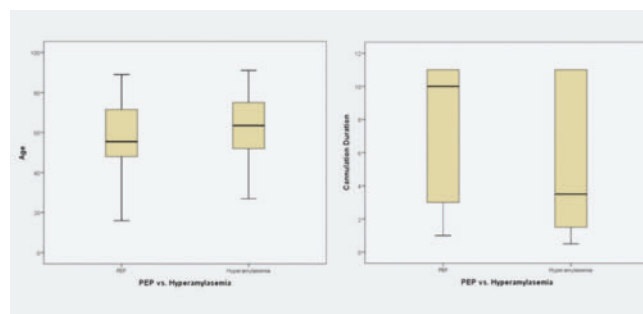
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DOI 10.1055/s-0043-1765984

DOI 10.1055/s-0043-1765984

Aims Although ERCP-related hyperamylasemia has a minor implication in clinical practice, post-ERCP pancreatitis (PEP) is considered a serious ERCP-related adverse event. We aimed to compare the incidence and risk factors of PEP and asymptomatic hyperamylasemia.

Methods In this retrospective study, a total of 618 patients who underwent ERCP with a native papilla were divided according to the occurrence of PEP and hyperamylasemia. The primary outcomes were selective cannulation time, cannulation methods, ERCP procedure duration, and findings. Using logistic regression, we investigate the possible risk factors of PEP and hyperamylasemia considering age, gender, difficult cannulation, and using precut techniques.



► Fig. 1 a Age distribution in PEP vs Hyperamylasemia groups. b Cannulation duration in PEP vs Hyperamylasemia

Results The incidence of PEP was 5.1% (n=32), while asymptomatic hyperamylasemia was reported in 9.7% (n=60). The significantly lower median Age was reported in the PEP group (p=0.004), in addition to a greater percentage of females but without significant difference. The PEP group was associated with significantly longer cannulation time (p<0.001) and a higher incidence of difficult cannulation (p=0.001), but the cannulation success rate did not differ among groups. Using transpancreatic sphincterotomy (TPS) was significantly

more common in the in-hyperamylasemia group. Four risk factors for pancreatitis were identified: difficult cannulation (AOR = 4.516), cholangitis (AOR = 3.224), Age (AOR = 2.766), and female gender (AOR = 2.240) while two risk factors for hyperamylasemia; using TPS technique (AOR = 2.3) and difficult cannulation (AOR = 1.621).

Conclusions Difficult cannulation was identified as the main risk factor for both PEP and hyperamylasemia while using TPS as difficult cannulation technique just affected serum amylase elevation (► Fig. 1).

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP708 The dark side of the papilla

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DOI 10.1055/s-0043-1765985

Aims Many extra-pancreatic tumors may secondarily involve the pancreas. EUS is crucial for both defining morphology and acquiring tissue for diagnosis.

Methods A 59-year-old female with a history of surgical excision of cutaneous melanoma 3 years before, and following immunotherapy, presented with main pancreatic duct (MPD) dilation incidentally discovered during oncological follow-up. Oncological markers (CEA, Ca19.9) were normal. A 25 mm hypointense solid lesion with MPD dilation and suspected intraductal nodules, without vessel involvement, was found on MRI. Intense fluorodeoxyglucose uptake was observed in the pancreatic head on PET-CT. EUS-FNA was not adequate for diagnosis.

Results The patient was then referred to our Unit, where EUS was repeated. A solid inhomogeneous lesion, hypervascular after Sonovue, associated with upstream MPD dilation (12 mm) was found. The lesion grew spreading into the main and secondary pancreatic ducts. Moreover, multiple suspicious lymph nodes and partial thrombosis of the superior mesenteric vein were described. The papilla was protruding with “dark” tissue from the pancreatic side. Endoscopic samples were obtained by standard forceps and a diagnosis of melanoma was formulated. The patient started chemo- plus immunotherapy and continued follow-up (9 months).

Conclusions Commonly, on EUS, pancreatic metastases appear as intrapancreatic, homogeneous round-shaped nodules, with variable contrast enhancement. Specifically, the lack of distinct findings makes diagnosis difficult in metastatic melanoma. Our patient had an atypical intraductal growth, with protruding tissue from the papilla. In these cases, instead of EUS-guided tissue acquisition, standard endoscopic sampling can be performed providing tissue for diagnosis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP709 Successful Management of a Portal-Systemic Bleeding During an Endoscopic Hepaticogastrostomy

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DOI 10.1055/s-0043-1765986

Aims To successfully manage a serious complication after failed endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS)

Methods A 52-year-old male with jaundice secondary to unresectable hepatocarcinoma left lobe biliary obstruction was admitted for EUS-HGS. The dilated intrahepatic biliary ducts were identified with the linear echoendoscope. Assessment of potential vascular structures prior to a 19-gauge-needle puncture was done with color Doppler ultrasound. Contrast was injected to obtain an antegrade cholangiogram and a guidewire was advanced into the biliary duct. However, its distal tip inadvertently dissected the wall into a peripheral vessel of the portal system. A fully covered biliary metal stent was deployed over the guidewire resulting in its proximal end located inside the portal system and the distal end in the gastric lumen.

Results An extraction biliary balloon was then advanced over the guidewire and inflated inside the biliary duct to temporarily cease the bleeding. The pa-

tient was immediately transferred to the interventional radiology (IR) room where the balloon was deflated, the stent was slightly pulled back into the biliary duct and the echoendoscope was exchanged maintaining the guidewire position. An IR catheter was advanced over the guidewire and embolization of the vessel was successfully done with a microvascular plug. The patient was hemodynamically stable during the entire procedure. He was discharged from Intensive Care the following day with no further complications.

Conclusions Therapeutic endoscopic procedures may harbor serious adverse events. Staying calm and designing a multidisciplinary approach can prevent further procedure-related comorbidities.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP710 The role of EUS in evaluating pancreatic NET epidemiologic trends: a single center experience

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DOI 10.1055/s-0043-1765987

Aims Pancreatic neuroendocrine neoplasms (pNENs) are a group of rare and clinically heterogeneous tumors and their incidence has been steadily raising worldwide. Improvements in endoscopic ultrasound (EUS) and in biopsy sampling have allowed better study and characterization of this neoplasm. The aim of this study is to evaluate the incidence, prevalence and temporal trends of pNENs in our single institution.

Methods In this observational retrospective cohort study, we analyzed 109 patients based in the province of Udine (Italy) from 2009 to 2021 who underwent EUS-FNA of pNENs lesions. All statistical analyses were performed using R version 4.2.2 software.

Results In our study females had lower incidence and longer survival rates than males. The incidence of pNENs increased from 0.55 per 100000 inhabitants in 2009 to 3.40 per 100000 inhabitants in 2018 (maximum incidence); the prevalence, instead, was 16.22 per 100000 inhabitants in the period of study. In 63.3% of the patients pNENs were an incidental finding. In most of the cases the patients had a localized disease. Compared to 2018 (peak of the number of diagnoses, 18), in 2020 under the SARS-CoV-2 pandemic we found a 44.4% reduction in the total number of diagnoses of pNENs (10). This confirms the negative effect of SARS-CoV-2 pandemic on highly-impacting diseases such as cancers [1].

Conclusions There has been a steady increase in the incidence of pNENs with notable stage migration, as most patients are recently diagnosed in early stages of the disease. The SARSCoV-2 pandemic has reduced pNENs diagnoses, probably due to a decrease of first line imaging.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP711V EUS-guided gallbladder drainage (EUS-GBD) as second option after failed ERCP for malignant distal biliary obstruction (MDBO)

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DOI 10.1055/s-0043-1765988

Abstract Text A 64-year-old male was admitted for jaundice. He refused blood transfusions if necessary. CT scan showed pancreatic tumor with dilation of the biliary tree and liver metastasis. Two ERCP attempts failed. Precut biliary cannulation technique, and EUS-guided biliary drainage as hepaticogastrostomy or choledochoduodenostomy were avoided because of increased risk of bleed-

ing. So, we performed a cholecystogastrostomy with a 15x10 lumen-apposing metal stent with an optimal clinical result. EUS-GBD was safe and effective as a second option of biliary drainage after failed ERCP for MDBO.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP712 Double endoscope technique for EUS-guided gastroenteroanastomosis using lumen-apposing metal stents (LAMS) in clinical practice

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DOI 10.1055/s-0043-1765989

Aims To review a technique using two endoscopes and instillation of water to create a EUS-guided gastroenteroanastomosis with a LAMS in a single step.

Methods This was a clinical practice study. Informed consent was obtained for all procedures in the two centers. Either an ultrathin or a regular endoscope were advanced past the obstruction and left there, an echoendoscope was advanced to the stomach in parallel, water was instilled through the working channel of the disconnected endoscope, once an appropriate intestinal loop was targeted access was obtained with the energized tip of the stent delivery system and a 15mm LAMS was deployed. The procedure time from the insertion of the first endoscope to the release of the stent was calculated in the total series and compared in the first and last three procedures using the U Mann-Whitney test (► Fig. 1).

Results Fourteen procedures were identified, 12 using an ultrathin and 2 using a regular endoscope. It was possible to complete the technique in 85,7%(12/14). The overall mean time was 617,25seconds while the mean time decreased from 738seconds in the first three to 415seconds in the last three. There was a trend towards a faster procedure when experience was gained. Two procedures could not be completed due to impossibility to advance the endoscope past the obstruction. There were no immediate complications.

Conclusions The use of an endoscope (ultrathin or regular) results in an effective and fast technique for the creation of an EUS-guided gastroenteroanastomosis especially when experience in the technique is acquired. Nevertheless, the technique still features a non-negligible rate of incomplete procedures mainly related to the obstruction degree.

Conflicts of interest Authors do not have any conflict of interest to disclose.



► Fig. 1

eP713 Frequency and risk factors of post-ERCP pancreatitis: experience from a tertiary-care referral center in Greece

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DOI 10.1055/s-0043-1765990

Aims Post-endoscopic retrograde cholangiopancreatography (ERCP) pancreatitis (PEP) is the most common complication of ERCP, associated with significant morbidity. This study aimed to evaluate the frequency of PEP and to identify risk factors associated with its occurrence.

Methods Data from consecutive ERCPs, performed by four experienced endoscopists (between 1/2020 and 10/2022), were retrospectively analyzed. PEP was defined as the onset of abdominal pain associated with an increase (3-fold or greater) in serum amylase and severity was assessed using the revised Atlanta criteria. Difficult cannulation was defined as multiple contacts with the papilla, prolonged cannulation time or inadvertent pancreatic duct cannulation. Risk factors of PEP were evaluated using logistic regression analysis.

Results We included 142 ERCPs in 128 patients (mean age 72 ± 15 years) with the most common indication being choledocholithiasis (84.5%). In 124/142 (87.3%) cases there was a significant (>8mm) dilatation of the common bile duct (CBD), a prior sphincterotomy in 25/142 (17.6%), whereas in 28/142 (19.7%) a periampullary diverticulum existed. Difficult cannulation was reported in 28/142 (19.7%) cases, pre-cut sphincterotomy was performed in 16/142 (11.3%) and in 14/142 (9.8%) a prophylactic pancreatic stent was placed. The incidence of PEP was 10/142 (7%), of which 9/10 were mild and 1/10 severe, with no deaths observed. Absence of significant CBD dilatation (OR = 4.72, p = 0.04), difficult cannulation (OR = 3.50, p = 0.04) and age < 70 years (OR = 3.2, p = 0.04) were predictors of PEP.

Conclusions In our setting, PEP occurs in 7% and it is mild in 90% of cases. Younger age, absence of significant bile duct dilatation and difficult cannulation are risk factors for its occurrence.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP714 Non-invasive approaches for esophageal microbiota analysis: a pilot study

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DOI 10.1055/s-0043-1765991

Aims There is growing evidence that alterations in the composition of esophageal microbiota occur in gastroesophageal reflux disease (GERD). Recently non-invasive esophageal swabs have been introduced collecting a representative sample of the microbiota along the entire length of the esophagus [1].

Methods We aimed to profile the bacteriome of the esophagus and oral swabs in patients with symptoms of GERD. The collection of oral microbiota and esophageal microbiota by a minimally invasive tool EsophaCap was performed in 12 patients, who were followed up for GERD. The bacteriome was analyzed by sequencing the V1-V2 region of the 16S rRNA gene on the Illumina MiniSeq platform enabling classification up to the species level.

Results The analysis of the most abundant phyla in both analyzed samples (oral swabs and EsophaCap) corresponded to the typical bacteria composition of the upper GIT. Although the most abundant taxa overlapped between both

sampling methods, the oral swabs did not cluster distinctly from Esophacap samples. The samples collected by Esophacap showed higher alpha diversity and the proportional abundances between both collection methods differed significantly. Besides, we observed statistically significant differences in the representation of the diagnostically important bacterial genera such as *Prevotella* ($p < 0.001$) or *Veillonella* ($p < 0.001$) that showed higher representation in Esophacap samples compared to oral samples.

Conclusions The results of our pilot study suggest that Esophacap, reflects more appropriately the bacterial structure of the upper GIT compared to oral swabs.

Conflicts of interest Acknowledgements: Supported by the Ministry of Health of the Czech Republic, grant nr. NU20-03-00126 and by Ministry of Health of the Czech Republic – conceptual development of research organization (FNBr, 65269705, Sup 3/21).

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eP715 Examining Current Approaches to Identifying and Managing Hereditary Colorectal Cancer in an Irish Colorectal Cancer Screening Population

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DOI 10.1055/s-0043-1765992

Aims Hereditary cancer syndromes account for 5-10% of all colorectal cancers (CRCs). Optimal management includes identification and diagnosis, access to genetic services, inclusion in a registry and high-quality endoscopic surveillance. In Ireland there are no national guidelines or referral pathways for hereditary CRC, which likely results in variability in approaches to management. The aim of the study was to examine current approaches to identification and management of hereditary CRC within Ireland's National screening programme, BowelScreen.

Methods A ten-question survey was distributed, via SurveyMonkey, to the lead endoscopist at the 14 BowelScreen sites between February and May 2022.

Results Twelve (86%) sites responded. Eight (67%) report testing all CRCs for Lynch Syndrome (LS). Only 58% of sites report referring those with mismatch repair deficiency (possible LS) for genetic testing. While seven (58%) sites manage endoscopic surveillance, only three (25%) provide an outpatient service, with minimal nursing or administrative support, and only two (17%) maintain a registry. Two (17%) sites have access to a clinician with clinical genetics training and one site has access to genetic counselling.

Conclusions Significant variability exists in the identification and management of hereditary CRC. Areas to address include ensuring testing of all CRCs for LS, maintenance of a registry and access to genetic services. Developing national diagnostic guidelines and referral pathways, could promote standardised management of hereditary CRC. BowelScreen may be uniquely suited to incorporate this management given the existing consultant-delivered endoscopy, strict key performance indicators and robust recall mechanisms and this should be explored further.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP716 Endoscopic ultrasound guided heart biopsy, a minimally invasive method for the diagnosis of Erdheim Chester disease

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DOI 10.1055/s-0043-1765993

Aims Erdheim-Chester disease (ECD) is a rare non-Langerhans histiocytic multisystem disorder, characterized by infiltration of lipid-laden foamy macrophages within different tissues: bone cardiovascular system, retroperitoneum,

central nervous system and skin. Cardiac involvement in ECD is present in 60% of the patients and is associated with a poor prognosis. We report the case of a patient diagnosed with ECD thanks to an endoscopic ultrasound-guided fine-needle biopsy (EUS-FNB).

Methods A 60-year-old man presented with dyspnea after three years of asthenia, anorexia and involuntary weight loss. CT scan showed bilateral pulmonary thromboembolism with an extensive cardiovascular infiltration including right atrium, periaortic and superior vena cava. Thoracic radiologist raised the suspicion of EC disease vs. Ig G4 related disease. PET-CT, cardiac magnetic resonance (MRI) and a bone gammagraphy supported CT information.

Results A linear endoscopic ultrasound demonstrated a large hyperechoic enlargement of right atrium and thoracoabdominal aorta. EUS-guided fine-needle biopsy of the right atrium was carried out with a 22G needle, using the slow-pull technique. Procedure ended after three biopsy passes without any complications including pain, cardiac arrhythmias, hemodynamic instability or bleeding. Histology showed tissue infiltration of lipid-laden foamy macrophages CD68 (+) consistent with ECD and the molecular analysis detected BRAFV600E mutation. Treatment with vemurafenib (BRAF inhibitor) was proposed.

Conclusions Endoscopic ultrasound guided heart biopsy allows the diagnosis of Erdheim Chester disease and permits tailored therapy based on the specific mutation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP717V Endoscopic ultrasound guided heart biopsy, a minimally invasive method for the diagnosis of Erdheim Chester disease

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DOI 10.1055/s-0043-1765994

Abstract Text Erdheim-Chester disease (ECD) is a rare non-Langerhans histiocytic multisystem disorder. We report ECD diagnosis thanks to an endoscopic ultrasound-guided fine-needle heart biopsy (EUS-FNB). A linear EUS showed a large enlargement of right atrium and aorta. EUS-FNB of the right atrium was carried out with a 22G needle, using the slow-pull technique, without complications. Histology showed infiltration of lipid-laden foamy macrophages CD68 (+) consistent with ECD and the molecular analysis detected BRAFV600E mutation. Treatment with vemurafenib (BRAF inhibitor) was proposed. Endoscopic ultrasound guided heart biopsy allows the diagnosis of Erdheim-Chester disease and a tailored therapy based on the specific mutation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP718 Use of microfoam sclerotherapy in bleeding associated with portal hypertension

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DOI 10.1055/s-0043-1765995

Aims For the purpose of hemostasis, the Tessari (2000) technique of intravascular endoscopic "microfoam" sclerotherapy with 3% polidocanol, which is effective for active bleeding, can be used in patients with Sarin veins I and II.

Methods With acute bleeding from GOV I and GOV II veins, sclerosing of the source of bleeding (1-2 veins) is possible, and with repeated intervention after 2 days of all varicose veins. After sclerotherapy, when blood is flowing from the injection sites, a Sengstaken-Blakemore probe is inserted for up to 24 hours with intermittent decompression of the esophageal balloon. The technique was performed in 38 patients: the average age was 56 years, 64% of them were men [1].

Results Efficiency was evaluated according to the following: achievement of final hemostasis; presence of local and general complications; lethality Stable

hemostasis without the occurrence of early recurrent bleeding was achieved in 32 patients (84%) of patients. There were the following complications: the occurrence of an ulcer at the injection site with recurrent bleeding in 1 patient; occurrence of ulcers without recurrence of bleeding in 5. 32 patients had dysphagia on day 1 and day 2, which were stopped by PPI. Out of 38 patients, 6 (15.7%) died.

Conclusions The use of intravascular sclerotherapy is a fairly effective technique, the presence of concomitant pathology is prognostically unfavorable for endoscopic hemostasis, and indicates the possibility of local and general complications, which can be predicted using the Child-Turcotte-Pugh, MELD scale.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP719 Groove pancreatitis, one of the medical “rare-earth elements” with severe clinical impact

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DOI 10.1055/s-0043-1765996

Aims Groove Pancreatitis (GP) is a rare form (with limited available data) of chronic pancreatitis involving the area between duodenum, pancreatic head and choledochus (pancreatic-duodenal groove). The aim of this study was focused on the assessment of risk factors, clinical features, treatments and complications related to GP in our monocentric experience.

Methods This observational retrospective study involved 21 patients with GP diagnosis from 2013 to 2022. We collected data on demographic features, alcohol and tobacco consumption, symptoms at diagnosis, treatments and complications during follow-up (FU).

Results The majority of patients (76%) was male, mean age of 56.3 y at diagnosis; mean FU duration was 27.3 months. The 57% of patients were considered as heavy smokers. 29% of patients showed alcohol habit (mean duration 14.9 years) and a mean consumption 6.8 units of alcohol/day. Symptoms at diagnosis were abdominal pain (85.7%), jaundice (14.3%), exocrine pancreatic insufficiency (23.8%). During FU 33% of patients developed a duodenal stricture and 2 patients developed pancreatic cancer. 43% of patients underwent endoscopic treatment (biliary, pancreatic, duodenal stenting) and 19% underwent surgery.

Conclusions Our results confirm that GP especially occurs in males, with alcohol and tobacco habits; endoscopic and surgical treatments are often needed for symptoms relief. Further studies with a larger sample are needed to confirm our results, to assess different treatment options impact on symptoms and survival and to investigate the relationship between GP and pancreatic cancer.

Conflicts of interest Claudio Giovanni De Angelis is a consultant for Medi-Globe, Olympus and Boston Scientific

eP720V Curative ESD of a large rectal tubulovillous adenoma with high grade dysplasia

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DOI 10.1055/s-0043-1765997

Abstract Text A 42-year-old female presented with rectal bleeding. Colonoscopy revealed a large rectal polyp measuring 6cm located 2cm above the anal verge. After marking the borders, submucosal injection was followed by a cir-

cumferential mucosal incision. Due to extensive fibrosis, traction was applied at multiple points using the clip/string technique to facilitate submucosal dissection. Final pathology showed a tubulovillous adenoma with focal high-grade dysplasia. Follow-up 9 months later showed a clean scar without residual adenoma.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP721 Local endoscopic pancreatic necrosectomy vs international endoscopic pancreatic necrosectomy: A real life quality control study

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DOI 10.1055/s-0043-1765998

Aims Endoscopic pancreatic necrosectomy (EPN) is the standard of care for symptomatic walled off necrosis. EPN is a complex procedure consisting of an EUS guided necrosis pancreatic drainage, usually using luminal apposing metal stents (LAMS), and its extraction to the digestive tract. EPN performance has been published from high volume tertiary centers, but little is known about its practice in low volume or non-tertiary centers.

AIMS: To compare the safety and efficacy of this procedure performed in our institution (non tertiary center) with a standard international study (Parsa N, *Endoscopy* 2020).

Methods Comparative retrospective study involving two cohort of patients. Local Group (LG): patients who underwent EPN in our center with 15 mm LAMS (AXIOS stent) and international group (ING): patients belonging to the international EPN study with identical LAMS. The endpoint of the study was the clinical success, and secondary endpoint were the adverse events.

Results EPN performed with 15 mm LAMS were compared: 22 patients in LG, and 204 in ING. Both groups were comparable for baseline characteristics. Technical success was obtained in 21/22 patients, 95% LG vs. 204/204 100% in ING; p = ns). Clinical success was also similar between groups (21/22, 95% in LG vs. 187/204, 91.7% ING; p = ns). There were no differences concerning the adverse events (4/22, 18% LG vs. 31/204, 15.2% ING; p = ns) and mortality (0 LG, vs 0 ING) between both groups.

Conclusions EPN performed in a non-tertiary center is safe, effective and comparable with those practiced in high-volume tertiary centers.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP722 Green endoscopy practice survey of the French society of digestive endoscopy (SFED)

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DOI 10.1055/s-0043-1765999

Aims The French society of digestive endoscopy (SFED) and the Nurse Group for Endoscopy training (GIFE) carried out a survey of ecological endoscopy practices throughout France.

Methods A survey composed of two different digital forms (Google, USA) was sent to the SFED and to the GIFE mailing lists. Data were collected from January to April 2022. The first questionnaire included 32 questions, concerning the

participants' sensitivity to the ecological cause, the devices used, the type of water used, the clothes worn in the endoscopy room (ER) and recycling circuits. The second questionnaire consisted of 31 questions, concerning the participants' data storage systems, the use of recycled paper, the means of transport (► **Table 1**).

Results The participants' characteristics are summarized in Table 1. The average sensitivity to the ecological causes was 7.6/10. Single use plastic cup are used in 45.0% of cases, reusable valves in 88.4%, reusable bite blocks in 49.5%, single-use hemostatic clips in 94.3%. Sterile bottled water (SBW) is used in 57.7% for the endoscope aspiration tests, in 72.3% for the insufflation and endoscope lens wash jar, in 25.5% for the irrigation pump. 71.2% of the participants wear fabric scrubs, 87.6% single use surgical caps, 88.7% washable theatre clogs. There was a glass recycling loop (RL) in 73.1% of ER, a cardboard RL in 38.3% and a plastic RL in 59.3%. 24.6% of participants store pictures on a server, 35.1% print and store them, 30.1% only print them. 50.7% recycle paper, 22% use recycled paper sheets. 21.6% go to work to work by bike, 60.3% by car, 8.1% by foot, 3.9% using public transportation.

Conclusions To conclude, it is the largest descriptive study of eco-endoscopy practices carried out to date. This work will help target future areas of work for a greener endoscopy practice.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Questionnaire		1	2
Number of participants		707	345
Profession	Doctor	55.7%	55.1%
	Nurse	38.6%	
	Unit managers and maintenance agents	5.7%	44.9%
Age	< 40	35.5%	37.9%
	40-60	54.3%	52.5%
	> 60	10.2%	9.6%
Practice	Hospital	36.5%	42.3%
	University hospital	24.2%	20.0%
	Private clinic within a large group	29.3%	22.9%
	Financially autonomous private clinic	10.0%	6.7%

► **Table 1** Participants' characteristics.

eP723 Case load dependent curative resection rate in esophageal endoscopic submucosal dissection (ESD) – Results from the German ESD Registry

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DOI 10.1055/s-0043-1766000

Aims ESD is a technically challenging method for the endoscopic resection of large superficial gastrointestinal lesions, which requires a long training period. Especially for the treatment of early cancer an R0 resection is critical. Using the German ESD registry, we aimed at examining a possible correlation of case volume and R0 / curative resection rates in early adenocarcinoma of the esophagus.

Methods Patient data was collected from the German ESD registry for the period of January 2017 to November 2019. Participating centers were categorized according to their ESD case volume with an arbitrary cutoff of 50 ESD procedures per year. Then R0 resection rates and curative resection rates (G1-2, L0, V0, R0, SM invasion ≤ 500 µm), were determined for ESD in early adenocarcinomas of the distal esophagus.

Results 141 and 148 ESDs in Barrett's carcinoma were performed in the category over and under 50 ESDs per year. The en bloc resection rates were 97.8% (138) and 94.6% (140) (n.s.). The R0 resection rates were 88.0% (124) and 63.5% (94) (p < 0.01). Curative resection rates were 80.8% (114) and 58.8% (87) (p < 0.001).

Conclusions Data from the German ESD registry show a statistically significant correlation between case load and curative resection rate for ESD in early adenocarcinoma of the esophagus. However, the number of cases and centers is still not large enough for a final conclusion. Furthermore, there may be confounding factors not addressed, such as the number of interventionalists per center. Standardized training for ESD may improve clinical outcomes.

Conflicts of interest FLD: Olympus, Erbe, FalkIS: Olympus

eP724 Usefulness of endoscopic treatment in subjects with post-COVID 19 cholangitis

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DOI 10.1055/s-0043-1766001

Aims SARS-CoV-2 virus is endemic worldwide and also affects the biliary tract. We aimed to investigate the safety and benefit of treatment by endoscopic retrograde colangiogrammatography in those patients with stones/sludge in biliary tract in post COVID.

Methods Prospective series of patients with cholangitis and sludge/small stones/casts in the biliary tract after an active not hospitalized COVID was considered. The abnormal biliary findings were identified by magnetic resonance cholangiopacreatography when the nasopharyngeal swab was already negative and all patients underwent endoscopic treatment.

Results From Oct 2020 to Oct 2022, seventy one patients (55 men), median age 71 yrs, were included (21 mild, 23 moderate and 27 severe cholangitis). Mean time from negativization of the swab to diagnosis of cholangitis was 32 days. On MRI/TC, 64(90%) had common bile duct dilated, 51(72%) intrahepatic dilated, 24(34%) liver abscesses/pseudocyst, 22(31%) secondary sclerosing cholangitis (SSC), 56(79%) cholecystitis. In all patients a sphincterotomy was performed, in 63 (88.7%) stones were extracted, in 8 (11.2%) a stent was placed. Cholangitis worsened in 20 (28%) and 15 (21%) died. Prognosis was worsened by severe cholangitis (p = 0.06), SSC (p > 0.01), delayed diagnosis (p = 0.08), unvaccinated (p = 0.1). Patients with comorbidities, such as diabetes, were more likely to SSC (p = 0.005) [1–3].

Conclusions Acute cholangitis is a sneaky complication of COVID, which can occur after the negativization of the nasopharyngeal swab, fatal if not treated early and in subjects with comorbidities. Endoscopic treatment is safe and effective when performed early, before secondary sclerosing cholangitis develops.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP725 Does Underwater endoscopic submucosal dissection increase dissection speed in right colonic adenomas? A single center experience

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DOI 10.1055/s-0043-1766002

Aims Endoscopic Submucosal Dissection (ESD) is becoming a method of choice to treat colorectal neoplasms with suspected submucosal invasion, even for right-sided adenomas, traditionally considered as complex and time-consuming. We investigated the impact of underwater technique applied to treatment of right colon lesion with ESD.

Methods Right colonic ESD performed between 2014 and 2021 were included. We compared the following parameters in procedures carried underwater or with CO₂-insufflation: lesion size, en bloc resection, negative margins, curative resection, dissection speed, lesion morphology, adverse events including delayed bleeding and perforation, and post-polypectomy syndrome.

Results 54 right colon polyps (size 37.9 ± 14.5mm) were included. 24 lesions (size 43.4 ± 19.4 mm) were removed underwater and 30 lesions (size 33.4 ± 12 mm) with CO₂-insufflation. 7 were LST-HG, 18 LST-GM, 3 sessile; 20 LST-NG-F; 6 LST-NG-PD. All the lesions were removed en bloc. Histology showed R0 resection in 96% in the UW-group and 90% in the CO₂-group; curative resection was obtained in 88% in the UW-group and 77% in the CO₂-group; adverse events were 8% in the UW-group and 3% in the CO₂-group; dissection speed was 18.8 ± 13.7 mm²/min in the UW-group and 14.1 ± 9.1 mm²/min in the CO₂-group (p 0.14) (► **Table 1**).

Conclusions According to our experience, there were no significant differences between underwater and CO₂-insufflation ESD in “en bloc” resection rate, negative margins, curative resection and adverse events, but we noticed an increased dissection speed for UW-ESD compared to conventional ESD although probably, due to our small sample, difference wasn't statistically significant. Further studies are needed to validate our results.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	Total (54)	UW-ESD (24)	CO ₂ -ESD (30)	p
Morphology:				
- LST-HG	7 (13%)	3 (13%)	4 (13%)	
- LST-GM	18 (33%)	10 (42%)	8 (27%)	
- Sessile	3 (5%)	1 (4%)	2 (7%)	
- LST-NG-F	20 (37%)	10 (42%)	10 (33%)	
- LST-NG-PD	6 (11%)	0	6 (20%)	
Resection:				
- En bloc	54 (100%)	24 (100%)	30 (100%)	
- R0	50 (92%)	23 (96%)	27 (90%)	0.62
- Curative	47 (87%)	21 (88%)	23 (77%)	0.48
Adverse events				
- Delayed bleeding	3 (5%)	2 (8%)	1 (3%)	0.58
- Delayed perforation	0	0	0	
- Post-polypectomy syndrome	2 (3%)	1 (4%)	1 (3%)	
	1 (2%)	1 (4%)	0	
Dissection speed	16.2±11.6 mm ² /min	18.8±13.7 mm ² /min	14.1±9.1 mm ² /min	0.14

► **Table 1**

eP726V Retrieving large colonic endoscopic submucosal dissection specimens: the advantage of a protector hood

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DOI 10.1055/s-0043-1766003

Abstract Text A 83-year-old male was referred for endoscopic resection of a 60 mm granular nodular-mixed type laterally spreading tumour, Paris 0-Is, JNET 2B, in the cecum. Endoscopic submucosal dissection (ESD) was initiated distally followed by the creation of a pocket, with stepwise proximal progression until complete en bloc resection. The lesion was removed per rectum without fragmentation with the aid of a protector hood assembled at the tip of the

endoscope. Retrieval of large colorectal lesions can be cumbersome with risk of fragmentation and incomplete recovery. The use of protector hood allows its complete en bloc recovery, while passing through the anal sphincter.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP727V Is it a gallbladder or a bladder? A complication of endoscopic ultrasound-guided gallbladder drainage

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DOI 10.1055/s-0043-1766004

Abstract Text A 85-year-old woman presented to our unit with abdominal pain. Laboratory tests and abdominal computed tomography (CT) were suggestive for acute cholecystitis. The patient underwent an endoscopic ultrasound-guided gallbladder drainage since she was unfit for surgery for her comorbidities. After 4 days, the patient conditions worsened and the CT showed that the lumen-apposing metal stent (LAMS) was deployed in the bladder. Finally, the LAMS was surgically removed from the stomach and from the bladder. The patient was discharged 12 days after surgery in good conditions.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP728V Radiation-associated vascular ectasias (RAVE) in the stomach. A rare case of presentation

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DOI 10.1055/s-0043-1766005

Abstract Text Male of 68 years who received adjuvant radiotherapy after a non-curative endoscopic submucosal dissection for a pT1b esophageal squamous cell carcinoma. A follow-up endoscopy showed a 3cm circumferential segment of multiple telangiectasias immediately distal to the gastroesophageal junction that was consistent with an uncommon presentation of radiation-associated vascular ectasias (RAVE). Months later, he presented with severe anemia and melena. An urgent endoscopy revealed a moderate and diffuse bleeding secondary to the RAVE. A single-session radiofrequency ablation therapy was performed to control the bleeding, eradicate the RAVE and successfully recover the hemoglobin levels [1–2].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP729V Transgastric gallbladder stone clearance

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DOI 10.1055/s-0043-1766006

Abstract Text A 78-year-old male presented with recurrent right upper abdominal pain. He recalled undergoing biliary surgery as a neonate in 1945, but the nature of the procedure was unknown. MRCP suggested possible choledochoduodenostomy for presumed biliary atresia. At ERCP there was a normal ampulla but no connection between the lower common bile duct and the intrahepatic ducts. Instead, the bile drained through the cystic duct and gallbladder into the stomach via a fistula. A cholecystogram revealed multiple stones in the gallbladder. The fistula opening was dilated and cholangioscopy-guided

lithotripsy performed. Complete stone extraction was achieved after intubation of the gallbladder with a gastroscope.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP730 Spontaneous rupture of a subphrenic abscess after splenectomy into the stomach: successful treatment with endoscopic vacuum therapy

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DOI 10.1055/s-0043-1766007

Aims We present a rare case of a ruptured subphrenic abscess into the stomach after an emergency splenectomy that was successfully treated with endoscopic vacuum therapy.

Methods A 71-year-old male presented in the emergency department with hypovolemic shock. The abdominal computed tomography (CT) showed an acute rupture of the spleen with active bleeding and haemoperitoneum. An emergency splenectomy was performed. On the 11th postoperative day a subphrenic abscess was diagnosed and a CT-guided percutaneous drainage was placed. After the injection of contrast agent via the catheter a spontaneous drainage of the abscess into the stomach was detected.

Results In the upper endoscopy the perforation site was located at the great curvature of the body. Closure of the defect with an over-the-scope clip device (OTSC System, Ovesco Endoscopy, Germany) was unsuccessful due to the inflammation of the mucosal edges. Therefore, a 13 mm Eso-SPONGE (B. Braun Medical, Melsungen, Germany) was placed in the cavity over the plastic tube. The sponge was connected to the suction bottle with a negative pressure of -125 mmHg. After 48 hours a new vacuum sponge was replaced. At day 5 the cavity was completely retracted and covered with granulation tissue. The sponge was removed and four 10-French transgastric double pigtail stents were placed.

Conclusions Six weeks later a complete resolution of the abscess and epithelialisation of the defect in the stomach after spontaneous passage of the stents was achieved.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP731 Endoscopic removal of a 10 cm long wire perforating the duodenum reaching the ascending colon and closure of the defect with an over-the-scope clip system

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DOI 10.1055/s-0043-1766008

Aims We present a case of a duodenal perforation due to a long wire that was successfully treated endoscopically.

Methods A 16-year-old male with known borderline personality disorder (BPD) was referred from his general practitioner to the paediatric surgery department complaining of abdominal pain and vomiting. The patient was treated several times in our gastroenterology department due to deliberate foreign body ingestion, but at the time of admission he could not remember swallowing any object. The abdomen was tender over the right quadrant with a negative peritoneal sign. The computed tomography showed a long, radiopaque foreign object located in the second portion of the duodenum, penetrating the duodenal wall. The object became lodged in the subhepatic space next to the hepatic flexure and the ascending colon. A pneumoperitoneum, ascites or the presence of an abscess was excluded. The patient was referred to our hospital for endoscopic removal.

Results An upper endoscopy with a distal cap was performed. A metal wire piercing the duodenal wall in the proximal C-loop was detected and success-

fully removed with the grasping forceps. The defect was closed with an over-the-scope clip device (OTSC System 12/6a, Ovesco Endoscopy, Tuebingen, Germany). A contrast agent was injected in the lumen under fluoroscopic guidance, excluding any external spread.

Conclusions After remaining for 24 hours asymptomatic the patient was transferred to the psychiatry department.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP732 Prevalence of Serrated Polyposis Syndrome (SPS) in an Irish Colorectal Cancer (CRC) Screening Population

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DOI 10.1055/s-0043-1766009

Aims SPS is associated with an increased risk of CRC, but is often under-recognised. SPS is diagnosed clinically based on the number, size and site of serrated polyps as defined by the World Health Organisation. Correctly identifying those with SPS is essential to allow endoscopic surveillance to be implemented. Our aim was to identify individuals undergoing colonoscopy as part of the Irish National CRC screening programme, BowelScreen, who fulfilled criteria for SPS and to determine if they had been recognised previously.

Methods A retrospective review of individuals who underwent a colonoscopy at one BowelScreen screening site between 2010 and 2015 was performed. Endoscopy and histology reports were used to identify the number, size, site and histology of polyps.

Results 1,992 individuals had a colonoscopy during the study period. 9.6% (n = 192) had at least one serrated polyp. 2.6% (n = 53) had 5 or more serrated polyps. 0.3% (n = 6) fulfilled criteria for SPS. Only 1 (16.7%) individual had been recognised as having SPS previously. 83% of those with SPS met criteria based on the cumulative polyp count over multiple colonoscopies and would not have met criteria based on polyps found at a single colonoscopy.

Conclusions The prevalence of SPS in our screening population of 0.3% is similar to the prevalence demonstrated in other screening cohorts internationally. Under-recognition was evident with only one individual having been identified as having SPS previously. The importance of tracking cumulative polyp numbers and histology in those with more than one colonoscopy has also been highlighted given the majority of individuals only met criteria following polyps found at subsequent colonoscopies.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP733V Water-lily sign by Endosonography as pathognomonic feature of Hydatid cyst rupture in bile ducts

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DOI 10.1055/s-0043-1766010

Abstract Text Method: 4 different patients with obstructive jaundice who were evaluated with EUS. Results: Two patients had been already evaluated with CT scan, The remaining two patients had not been evaluated with CT scan.

In all Patients EUS tracing of bile ducts showed water-lily sign, Sphincterotomy was done. Daughter cysts and/or membranes extracted out.

Conclusion When EUS is available, it is cost effective, time saving and accurate diagnostic tool. Moreover, Water-lily sign could be considered an endosonographic pathognomonic feature of hydatid cyst rupture into bile ducts.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP734 Impact of the COVID-19 Pandemic on Treatment and Control of Helicobacter Pylori Infection

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DOI 10.1055/s-0043-1766011

Aims investigate the impact of the COVID-19 pandemic on the management of patients infected with Helicobacter pylori(Hp)

Methods Patients with 1st time diagnosis of Hp infection during endoscopy received a 1st-line eradication treatment (10days Esomeprazole 40mgBID, Amoxicillin 1gBID, Clarithromycin 500mg BID and Metronidazole 500mgBID) and were retested at least after 30 days with a 13C-labeled urea breath test (UBT). Three periods were compared: pre-pandemic period (01/2019–01/2020–PPP), 2nd period first year of the pandemic (01/2020–01/2021–FPY) and 3rd the second year of the pandemic (01/2021-01/2022-SPY)

Results 2965 patients had upper endoscopy (1203PPP, 860FPY and 902SPY). Among 554 tested Hp + , 289 (52.2%) males. Mean age:57.4 ± 16.2 years. 378 (68.2%) received anti-Hp treatment [142(72.4%), 108(67.4%) and 128(67.4%) during PPP, FPY and SPY respectively]-p=0.24. Of those who received treatment, 106(74%) in PPP, 69(63%) in FPY and 83(64.8%) in SPY had a UBT test. During all periods , hospitalized patients (OR=0.53,95 % C.I.: 0.29–0.98) employees during FPY(OR=0.24,95 % C.I.:0.07–0.8), and surprisingly, unemployed during SPY(OR=0.18, 95 % C.I.:0.04–0.74) and refugees (OR=0.32, 95 % C.I.:0.17–0.62) were less likely to receive Hp eradication treatment

Conclusions COVID-19 pandemic led to an >25% upper endoscopy decrease in both years compared to PPP. However, percentages of HP positivity, treatment and retesting adherence were only marginally affected

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP735 Combination of large sphincterotomy with 20mm endoscopic very large balloon dilation for difficult biliary stones: a tertiary center experience

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DOI 10.1055/s-0043-1766012

Aims Combining large (up to 15mm) diameter balloon dilatation (ELBD) with sphincterotomy for the removal of large (> 12mm) common bile duct stones provide an increase in stone removal rate, a decrease in the need for lithotripsy, recurrence rate, and several repetitive procedures. However, data on very large diameter (> 15mm) balloon dilatation (EVLBD) are scarce. We here report the data of 13 patients in whom 20mm EVLBD was performed for common bile duct stone clearance during ERCP.

Methods Data of 1728 ERCP procedures performed in our tertiary care hospital between June 2020 and June 2022 were reviewed retrospectively. Demographic data of the patients and information about the procedures were collected.

Results The data of the patients (46% male, mean age: 72.5 ± 12.1 years) who underwent the procedure are given in Table-1. The distal common bile duct diameter was 23 ± 2.8 mm. Large sphincterotomy (incision extends up to the superior part of the intramural bile duct) was performed in all patients. The stone or stones were completely extracted in all patients and none of them needed lithotripter. Stapfer Type-2 perforation developed in only 1 patient as a complication, and it was successfully managed with a biliary fully-covered self expandable metal stent and hemoclips [1–4].

Conclusions EVLBD may be an effective and safe method for en-bloc extraction of large stones in properly selected patients and experienced centers. The ef-

ficacy in patients with altered anatomy and in comparative studies with balloons of other sizes or with sphincterotomy alone.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP736 First use of Endo-SPONGE for an anastomotic leak in Cyprus

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DOI 10.1055/s-0043-1766013

Aims Post-operative anastomotic leaks represent a major complication. Endo-SPONGE is a minimally invasive endoscopic vacuum technique (EVT) used for post-operative leaks. We present a case of a post-operative leak successfully treated with Endo-SPONGE.

Methods A 75-year-old male patient was submitted to low anterior resection(LAR) due to rectal adenocarcinoma (T3N1M0), after neo-adjuvant chemo-radiotherapy. The patient admitted for abdominal pain and diarrhea 15 days after LAR. Computed tomography revealed a leak with fluid collection at the level of the anastomosis. Rectosigmoidoscopy revealed the leak 10cm above the anal verge with a cavity of 4cm in the largest diameter.

Results The leak was managed with broad spectrum antibiotics, administration of EVT with Endo-SPONGE and the formation of defunctioning ileostomy. Endo-SPONGE was placed successfully 20 days after the operation. The patient was submitted in total to 6 changes of the Endo-SPONGE in 2 months as an outpatient. Endoscopic reassessment 8 weeks later demonstrated significant reduction of the cavity (< 1cm). No major complications related to the EVT were reported. Twelve weeks after the completion of EVT treatment, endoscopy showed a small pseudo-diverticulum at the site of cavity. Subsequently ileostomy closure was performed with concomitant intestinal continuity restoration. The patient recovered well with regular bowel movements.

Conclusions Prompt use of Endo-SPONGE for small-to-medium-sized cavities, despite neo-adjuvant treatment is a valid option with good results for the management of post-operative- leaks after LAR

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP737V Denture at a wrong place “A Big Trouble”

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DOI 10.1055/s-0043-1766014

Abstract Text • 54 year male patient, No comorbidities with fresh bleeding per rectum since 10 days. Vitals stable, PR examination normal. Hb 12.5gm/dl, PT 12sec, AptT 34 sec, Colonoscopy after split bowel preparation revealed large faceted impacted denture in recto sigmoid. Removed with a rat tooth forcps after disimpaction. Area of impaction revealed nodularity with deep sinuses but no full thickness perforation. Biopsy no neoplasm. CECT abdomen no perforation Retrospective history of accidental ingestion of denture 5 months back. Conclusion: Endoscopic removal is safe and feasible if there are no signs of obstruction and perforation

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP738 The effect of contrast medium on efficacy of electrohydraulic lithotripsy in cholangioscopy

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DOI 10.1055/s-0043-1766015

Aims Electrohydraulic lithotripsy (EHL) is used in cholangioscopy to fragment biliary/pancreatic duct stones. EHL relies on the propagation of a shockwave through a normal saline, but anecdote suggests reduced efficacy in the presence of significant ERCP contrast media. We aimed to test the robustness of this impression.

Methods To assess the effect of conducting medium on EHL efficacy we devised a tabletop in-vitro model. An egg was submerged in either normal saline of pure contrast medium (Omnipaque) and tip of Autolith[®] EHL probe was secured 2mm from shell. Number of EHL pulses (medium power) needed to crack the shell were analysed.

Results 10 eggs were used in the saline group and 13 eggs were used in the contrast group. The mean number of EHL impulses required to crack an egg submerged in saline was 25, while a mean of 56 impulses were needed to crack an egg submerged in contrast. This difference was statistically significant ($p = 0.04$).

Conclusions In this in vitro model, EHL is less effective in contrast medium compared with saline. This may have implications for the clinical application of EHL and suggests that minimizing contrast filling at ERCP may enhance the efficacy of cholangioscopy-directed EHL.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP739V Tip of an Iceberg

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DOI 10.1055/s-0043-1766016

Abstract Text 65 year old, Intermittent dysphagia, Multiple co-morbidities, CECT Abdomen and upper GI Endoscopy- A 2 cm submucosal tumour just below GE Junction with no lymphnodes. STER planned. Short submucosal tunnel amde in lwer esophagus. Tumor isolated. With further dissection atleast three extensions of the tumor in differnet directions noted and entire tumor in shape of an "S" was dissected. Haemostasis secured and mucosal incision closed. Endoscopic view can be deceptive submucosal lesions. Leiomyomas can be multilobed. STER is ideal for esophageal and GE junction SMT's.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP740 Comparison of the optical polyp characterisation by endoscopic experts and arteficial intelligence deep learning neural network (advanced version of Polybrain)

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DOI 10.1055/s-0043-1766017

Aims Background: Precise recognition and characterization of polyps is essential in the prevention of CRC. Artificial intelligence deep learning algorithm-based Decision Support System (AI-DSS) was developed to achieve high accuracy in polyp characterization, in advance to assist in everyday practice for non-expert endoscopists. The advanced version of our AI-DSS (Polybrain) has an automatized lesion segmentation function of the endoscopic images, so the AI-DSS can predict the histology during colonoscopy.

Aim: Comparing the differentiation performance and accuracy between adenomas and hyperplastic polyps of our AI-DSS (Polybrain) to seven colonoscopy experts.

Methods AI-DSS was trained on selected pictures of our anonymous electronic database, for which there were histological diagnosis. For this analysis, 596 histologically identified sub-centimetric colorectal polyps and 2309 HD, electronic chromo-endoscopic images were used. The test set contained 211 pictures taken by white light and virtual chromoendoscopy techniques from 123 randomly selected polyps. AI-DSS was classified the polyps to 3 categories (hyperplastic polyp, adenoma and non-polyp) after auto segmentation of the images. We compared the AI-DSS result to the summarized decision of the expert endoscopists (► Fig. 1).

Results Polybrain AI-DSS segmentation performance: IOU: 86.5 %, DSC: 91.8 %, Sensitivity: 95.1 %, Specificity: 95.8 %, Accuracy: 95.5 %

Conclusions Polybrain AI-DSS is just as accurate tool for real-time polyp segmentation and histology prediction as high quality expert endoscopists.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Performance of the prediction of histology		
	experts endoscopists	Polybrain AI-DSS
accuracy	86.6%	86.6%
PPV	88.5%	80.3%
NPV	83.5%	94.3%
sensitivity	89.5%	94.6%

► Fig. 1

eP741 Vacuum therapy as rescue treatment for uncontrollable sepsis after endovascular treatment of aortoesophageal fistula

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DOI 10.1055/s-0043-1766018

Aims To prove the usefulness of vacuum therapy in the treatment of uncontrolled sepsis and the repair of esophageal gap due to AEF. Aortoesophageal fistula (AEF) is a life threatening disease due to massive gastrointestinal bleeding. Thoracic endovascular aortic repair (TEVAR) is the standard of care since achieves hemostasia. However, mortality is very high and is associated to sepsis secondary to mediastinitis.

Methods A 78 year-old patient was admitted because of chest pain, fever and hematemesis. Computed Tomography scan showed a para-aortic hematoma with air bubbles suspicious of AEF secondary to thoracic aortic aneurysm. A gastroscopy visualized an orifice in the esophageal wall near a violet extrinsic compression corresponding to AEF and hematoma. TEVAR was carried out achieving hemostasia, but an uncontrolled sepsis developed. Esophageal stent and surgery were discarded, and vacuum therapy was proposed.

Results An endoluminal vacuum therapy system was placed. It consisted of a polyurethane sponge connected to a negative pressure pump by a naso-sponge catheter. After 18 days and 3 eso-sponge replacements, a 2mm orifice was observed. An esophagogram showed no leakage. The patient started oral intake and could be discharged 9 days after eso-sponge removal. Three months later, gastroscopy revealed a complete resolution [1–2].

Conclusions Vacuum therapy is an effective therapy for the management of sepsis and wall gap of aortoesophageal fistula after endovascular treatment.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP742 Safety and efficacy of EUS-guided drainage for liver abscess and biloma: single center experience in a district hospital in Japan

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DOI 10.1055/s-0043-1766019

Aims The aim of this study was to assess the technical feasibility and clinical implication of EUS-guided drainage for liver abscess and biloma.

Methods Between December 2003 and March 2022, 6 patients (mean age 78.5 years, range, 68-88 years; 5 males) with liver abscesses who underwent EUS-guided drainage were enrolled in this study. The indications, techniques and complications were retrospectively evaluated.

Results The indications were failed medical therapy (n = 2), difficulty in performing percutaneous drainage (n = 2) and preferred internal drainage (n = 2). The mean size of the abscess was 9.0 ± 4.2 cm (4.7-18). Five patients had left lobe liver abscess and 1 patient with Chilaiditi syndrome had abscess in the right lobe. EUS-guided transgastric drainage was done in 5 patients and transduodenal drainage in 1 patient with abscess in the right lobe. Access site was dilated by 6 Fr cystotome with 4-mm biliary balloon dilator (n = 2), biliary balloon dilator (n = 1), 10Fr Soehendra biliary dilation catheter (n = 1), ERCP catheter (n = 1) or precut needle knife (n = 1). This was followed by the insertion of one 7Fr double-pigtail stent with 6Fr naso-cystic catheter (n = 4), one case each of 7Fr straight stent and 5Fr naso-cystic catheter. The procedure was technically successful in all patients. Clinical success was achieved in 5 patients (83.3%). One patient with abscess in the right lobe required additional percutaneous drainage. There has been no recurrence in any patient during a mean follow-up period of 14.6 months (2.4–30.4). There were no procedure-related complications.

Conclusions EUS-guided drainage of liver abscesses is technically feasible, safe, as well as effective with good long-term follow-up results.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP743 Neoplasia Characterisation in IBD Colon: Can a Generic Colon CADx Algorithm Work in Characterising Polyps in an IBD Colon?

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DOI 10.1055/s-0043-1766020

Aims Although polyps in IBD colons are morphologically similar to those found in a non-IBD colons, there are a number of additional lesions seen as a result of inflammation, such as pseudo-polyps, inflammatory polyps and regenerative mucosa and even expert endoscopists struggle with optical diagnosis. Computer aided diagnosis (CADx) could improve lesion characterisation in this cohort of patients but a dedicated CADx algorithm has yet to be developed. Here we assess the performance of an existing generic colon CADx algorithm on lesion characterisation in IBD patients.

Methods Endoscopy videos were prospectively collected during IBD surveillance colonoscopy. Videos were then analysed by a pre-existing CADx algorithm (WISE VISION, NEC Japan) which was developed using 55,890 polyp images. The CADx system categorised polyps as neoplastic (adenoma, low or high grade dysplasia) or non-neoplastic (hyperplastic, regenerative, inflammatory and pseudo-polyps). Comparison was made with histology results.

Results 86 lesions in 20 patients were identified during colonoscopy. 17 patients had Ulcerative Colitis, 3 patients had Crohn's disease. There was active inflammation in 40% of patients. 24.42% (n = 21) of lesions were neoplastic on histology, the remaining were non-neoplastic. CADx performance for sensitivity, specificity and accuracy was 88.89%, 80.64% and 74.44% respectively.

Conclusions Our data demonstrates that the existing non-IBD CADx algorithm performs reasonably well for characterisation of neoplasia in IBD colon.

Fine-tuning and dedicated training of this algorithm could further improve the performance for use in IBD.

Conflicts of interest Professor Bhandari has received research grants or is the advisory board for Fujifilm, Boston, Olympus, Pentax, 3-D matrix, NEC (Japan), Medtronic.

eP744 The case “EMR versus ESD in the colon”

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DOI 10.1055/s-0043-1766021

Aims To compare key performance measures and safety of EMR and ESD in colonic lesions.

Methods Patients who underwent colorectal EMR or ESD between September 2015 and February 2022 were retrospectively collected. Outcomes were *en bloc* resection, R0 resection, adverse events [all complications, clinically relevant complications (AGREEclassification > 1), severe complications (AGREEclassification > 3b), surgery due to adverse events] and local recurrence rate.

Results In 448 patients (mean age 72y; 58.2 % males), 448 colorectal resections were performed of which 281(62.6 %) with EMR and 168(37.4 %) with ESD. *En-bloc* and R0 resection rates were significantly lower in the EMR group as compared to the ESD group [(25 vs. 80.8 %; p < .001) and (38.8 % vs 73.8 %; p < .001) respectively]. Local recurrence rate was significantly higher in the EMR group (11.7 % vs. 0.6 %; p < .001). EMR resulted in a lower overall complication rate (7.9 % vs 14.9 %; p = .019), however no significant differences were observed regarding clinically relevant complications or severe complications. Similar post-procedural bleeding rates were found (early bleeding 1.4 vs 1.8 %; delayed bleeding 4.6 vs. 3.6 %; p = ns). No patients required surgical intervention following an adverse event.

Conclusions ESD has the benefits of high *en-bloc* and R0 resection rates with a lower recurrence rate as compared to EMR. ESD does not lead to more clinically relevant complications. This suggests that the decision to choose ESD over EMR for selected colonic lesions can be advocated.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP745 Balloon dilations in anastomotic stricture after total gastrectomy and esophagectomy with colon interposition after caustic ingestion

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DOI 10.1055/s-0043-1766022

Aims The ingestion of caustic liquids may have complications such as strictures, gastric outflow obstruction and malignancy or perforation and death.

Methods A 42-year-old male patient ingested voluntary an acid liquid [nitric acid]. He had hoarseness, difficulty swallowing and epigastric pain, while laboratory testing observed a significant increase in inflammatory markers and LDH. The CT scan showed thickening of the esophagus, stomach and duodenum, while air bubbles were observed in the stomach wall of the body and antrum. A laryngoscopy showed edema, redness and ulcers in the base of tongue, epiglottis and vocal cords. The esophagoduodenoscopy revealed hemorrhage, erosions and some deep gray ulcers in the esophagus, while the stomach had focal deep ulcers and blood clots (Zargar classification IIIA). The patient underwent conservative treatment with intravenous fluids, broad-spectrum antibiotics and corticosteroids [1–5].

Results A week later he appeared hemodynamical unstable and had hematemesis. The CT scan showed rupture in fundus of the stomach and surgeons performed total gastrectomy, esophagostomy and jejunostomy feeding. One month later he developed dysphagia and he underwent esophagectomy with

colic interposition and intraoperative dilation with bougies in the part of the upper esophageal sphincter.

Conclusions Even though the first approach in our patient's management was conservative, eventually he needed gastrectomy, esophagectomy and over 20 balloon dilation sessions in order to eat sufficiently. He had a stricture of 5cm length under the upper esophageal sphincter, because of the caustic liquid and the anastomotic area which needed dilation.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP746V Resection of a large recurrent lateral-lary-spreading tumor with extended cold piecemeal endoscopic mucosal resection (p-EMR) and endoscopic full-thickness resection (EFTR)

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DOI 10.1055/s-0043-1766023

Abstract Text Post-polypectomy surveillance colonoscopy on a 73-year-old man revealed a 35mm recurrent LST(Paris IIa + IIc, NICE type2, Kudo IIII) on a scarred, previously tattooed area at the hepatic flexure. Given the severe fibrosis in the central area, ESD would have been difficult, at high-risk of adverse events (AEs). We performed hybrid resection (HR) with extended cold piecemeal EMR (p-EMR) of the peripheral area and full-thickness resection (EFTR) of the central, depressed, non-lifting area, without AEs. Histology: tubulovillous adenoma with high-grade dysplasia.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP747 Cloud Technology And Capsule Endoscopy: A single Centre Users' Experience Of Online Video Analysis And Reporting

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DOI 10.1055/s-0043-1766024

Aims To assess the efficacy of Medtronic's PillCam Remote Reader System.

Methods PillCam remote reader technical data was collected from the capsule endoscopy database and hospital server over a 6 month period. User-reported performance was collected using an online survey.

Outcomes included: Overall procedure success, video upload and report download success rates and speeds, video analysis & technical success, encryption/decryption rates, and user/reader satisfaction.

Results Data from 162 studies allocated to 7 different readers was collected, 141 SBCE, 21 CCE and 1 Crohn's capsule. Overall procedure success, video upload / download, rates were 100%.

Only 2 upload delays occurred (both <24 hours). All videos were reported, in 1(0.6%) a Lewis score could not be completed. There were no encryption/decryption errors.

100% of respondents felt it easy to access and use, in contrast to 30% for the old system. 71% felt it increased department efficiency and 85% would 'definitely' incorporate it into future practice. Self-reported additional benefits included: off-site reading, enabling multisite conferences.

Users reported issues included admin support for uploading, and lack of access to other hospital system while offsite.

Conclusions PillCam remote reader is a reliable, secure and effective capsule analysis platform and should be incorporated into any capsule service development plan.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP748 Analysis of the patency and complications of biliary plastic stents. A retrospective two-year single center analysis

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DOI 10.1055/s-0043-1766025

Aims This paper aimed to identify risk factors related to the patency of BPS (biliary plastic stents) in our cohort.

Methods A retrospective analysis was made on patients who underwent ERCP in our center during a two-year period. Patients with malignant etiology were excluded and were enrolled for analysis patients who had performed at least one ERCP reintervention and a BPS was placed at the index ERCP. [1]

Results 1354 ERCP procedures have been performed in our Endoscopy Department, out of which 1077 were for benign pathology. 212/1077 (19.7%) have been reinterventions for benign etiology. Thus, BPS were previously placed. In 81.1% of cases, the obstruction was caused by choledocholithiasis, 9.5% due to common biliary duct stenosis, 7% by chronic pancreatitis, and in 2.4% of the cases by other causes. The median time between the initial procedure and reintervention was 90 (1-1095) days. In 32% (68/212) of the subjects, the reintervention was performed due to acute cholangitis, out of which 34% had severe cholangitis according to Tokyo Guidelines 2018. In univariate regression analysis, the following parameters were independent predictors for cholangitis in BPS: total bilirubin values (TB), liver enzymes, days until reintervention and C-reactive protein (CRP) ($p < 0.05$).

Conclusions In our cohort, 19.7% have been reinterventions for a benign pathology with a previous BPS placement. In 32% of them the reintervention was subsequent to acute cholangitis. Days until reintervention, liver enzymes, TB and CRP were associated with acute cholangitis.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Yokoe M, Hata J, Takada T et al. Tokyo Guidelines 2018: diagnostic criteria and severity grading of acute cholecystitis. *J Hepatobiliary Pancreat Sci*. 2018 Jan; 25

eP749 Technical and clinical outcomes of urgent ERCP performed with single-use duodenoscope (SUD) in consecutive patients with moderate-to-severe cholangitis – a single-center prospective study

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DOI 10.1055/s-0043-1766026

Aims To assess the outcomes of urgent ERCP performed with single-use duodenoscope (SUD) in patients admitted for moderate or severe cholangitis.

Methods Between 2021-2022 consecutive patients with moderate-to-severe cholangitis were prospectively enrolled. Procedures were conducted with EX-ALT-D scope (Boston Scientific). Technical success rate was defined as the completion of the planned procedure without the need to switch to a reusable duodenoscope. Patients were followed up for 3-month.

Results Twenty-one consecutive patients (11 female, age 82 [67-91] years) were enrolled. Five (23.8%) had severe cholangitis; 17 (81.0%) were ASA 3 or 4. Median age-adjusted Charlson comorbidity index was 6 [4-9]; 8 patients (38.1%) were on antiplatelet agents. Mean white blood cell count was $8300 \pm 3900/\text{mm}^3$; median C reactive protein was $8 [5-12] \text{ mg/dL}$; mean procalcitonin was $4.3 \pm 2.3 \text{ ng/mL}$. 11 patients (52.4%) had gallbladder in situ; 16 (76.2%) had a naïve papilla. Technical success rate was 100% (no need to switch). In 17 (80.9%) cases biliary sphincterotomy and in 5 (23.8%) cases large-balloon papillary were performed. In 18 (85.7%) cases, complete stone clearance was achieved; in 6 (28.6%) cases, biliary stent was placed. No patients had post-ERCP pancreatitis or infections. Two (9.5%) showed delayed bleeding (due to stent migration and EUS-GBD). All patients achieved clinical success rate and no patient died within 30-day. In-hospital and 3-month mortality were 4.8% and 14.3%, respectively. No recurrent cholangitis was observed.

Conclusions SUD use for urgent ERCP was safe and effective in moderate or severe cholangitis. This approach eliminates duodenoscope contamination without impairing patients' outcomes.

Conflicts of interest Andrea Lisotti has a proctorship contract with Boston Scientific

eP750 Tissue sampling in the diagnosis of malignant biliary strictures – a lot of room for improvement: a single-center retrospective study

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DOI 10.1055/s-0043-1766027

Aims Establishing an accurate diagnosis including pathological confirmation of malignancy is paramount in the management of biliary strictures. However, the overall diagnostic accuracy of the available sampling techniques is still sub-optimal. We aimed to assess the rate of histological confirmation in cases of suspected intrinsic malignant extrahepatic bile duct strictures.

Methods We performed a single center retrospective analysis of pathology results of suspected patients with intrinsic malignant bile duct strictures. All patients undergoing ERCP for drainage and tissue acquisition who had a pre-procedure imaging series (CT and/or MRCP) indicative of malignancy were included in our analysis.

Results We included 61 consecutive procedures performed over a 24-month period. 82% of procedures were performed for perihilar strictures. The preferred method of tissue acquisition was X-ray guided forceps biopsy (70.5% of cases). Other methods consisted of cholangioscopy-guided biopsies (3.3%) or a combination of the two methods (3.3%) or brush-citology (16.4%). Malignancy was confirmed in 39 cases (63.9%). The diagnostic accuracy was not improved after a second pathologist reviewed the initial biopsies.

Conclusions Confirmation of malignancy remains suboptimal even in cases with a high pre-test probability based on pre-procedure cross-sectional imaging techniques (► **Table 1**).

Conflicts of interest Authors do not have any conflict of interest to disclose.

Stricture type	Tissue acquisition method				Malignancy confirmation			
	Hilar strictures	Distal strictures	forceps	Spy-bite	Spy-bite + forceps	Brush	yes	No
50 (81.9%)	7 (11.5%)	43(70.5%)	2(3.3%)	2(3.3%)	10(16.4%)	39(63.9%)	13(21.3%)	8(13.1%)

► **Table 1** Characteristics of included procedures.

eP751V Intermittent gastric outlet obstruction and mild acute pancreatitis caused by large gastric pedunculated polyp. A video case

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DOI 10.1055/s-0043-1766028

Abstract Text A 75 y.o man, admitted for recurrent post-prandial vomit for two weeks. CT scan showed a 25 mm solid polyp in second duodenum, and pancreatic head enlargement. Blood test increased amylase and lipase consistent with acute pancreatitis. MRCP excluded biliary stones. Gastroscopy showed a pedunculated polyp with long stalk in the antrum and a 25 mm head prolapsed in duodenal bulb, causing an intermittent ball valve obstruction. Polyp resection solved patient symptoms. Gastric polyps can rarely protrude through the pylorus and causing progressive gastric outlet obstruction, even rarer is ampulla of Vater compression [1–2].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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[2] de la Cruz R.A., Albillos J.C. et al. Prolapsed hyperplastic gastric polyp causing pancreatitis: case report. *Abdom Imaging* 2001; 26: 584–586

eP752 BLOCK DOUBLE FORCE technique to bypass biliary stricture

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DOI 10.1055/s-0043-1766029

Aims to evaluate the use of BLOCK DOUBLE FORCE technique to bypass biliary stricture

Methods Retrospective evaluation of all cases with biliary stricture underwent ERCP. Study started December 2018 till June 2022. All patients who have distal obstructions were antecedently excluded. Regardless the etiology, focus made to assess the level of difficulty to pass the stricture site. If wiring was not successful within 20 minutes using standard approach, then a new technique we name it BLOCK DOUBLE FORCE is used. In this technique, a combination of wire push and dye pressure injection is simultaneously applied

Results A total number of 37 patients of biliary stricture were included (21 females and 16 males), age range between 29 and 94 years. Among them, 19 patients have stricture in CHD, double level seen in 4 patients and 14 at level of proximal CHD. Success using standard approach was made within the time limit in 25 patients. In the remaining 12 patients the BLOCK DOUBLE FORCE technique was implemented.

Conclusions When a difficult stricture is faced on ERCP, the application of the BLOCK DOUBLE FORCE technique will increase success rate reducing the procedure time, reduce the need for second session of ERCP, avoid the need for more invasive procedures and ultimately reduce the risks to the patients.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP753 Cyanoacrylate injection and coil-assisted retrograde transvenous obliteration of splenorenal shunts as methods of choice in acute gastric variceal bleeding

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DOI 10.1055/s-0043-1766030

Aims The aim of this study was to present the outcomes of acute gastric variceal hemorrhage (GVH) after achieving hemostasis using cyanoacrylate injection and coil-assisted retrograde transvenous obliteration (CARTO) of splenorenal shunts.

Methods A prospective study was conducted among 98 patients admitted in Department of Gastroenterology for endoscopically confirmed gastric or esophageal variceal bleeding in the period from January 2016 to December 2021. Patients were followed up for 6 weeks after primary hemostasis was made.

Results Among patients included in the study, 79 (80.6%) presented with esophageal variceal bleeding, 19 (19.4%) with GVH, the majority were male (71, 71.4%), and the mean age was 61 years (\pm 12,6 years). Portal hypertension caused by alcoholic liver disease was the main cause of variceal bleeding (67.3%). In the GVH patient group, primary hemostasis was achieved using cyanoacrylate injection in 94.7% (18/19) and 5.3% (1/19) using CARTO of splenorenal shunts. Variceal rebleeding occurred in 2 (10.5%) of GVH patient group during the follow-up period, both in cyanoacrylate subgroup. Rebleeding was resolved using cyanoacrylate injection in 1 patient and CARTO of splenorenal shunts in other one. 30-day mortality in GVH group was 5.3% (1/19), the cause of death was sepsis [1–3].

Conclusions Cyanoacrylate injection and CARTO of splenorenal shunts are the method of choice in achieving hemostasis in acute GVH as in cases of GVH rebleeding.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Luo X, Xiang T, Wu J, Wang X et al. Endoscopic Cyanoacrylate Injection Versus Balloon-Occluded Retrograde Transvenous Obliteration for Prevention of Gastric Variceal Bleeding: A Randomized Controlled Trial. *Hepatology* 2021; 74 (4): 2074–2084. doi:10.1002/hep.31718

[2] Patel M, Molvar C. Evolution of Retrograde Transvenous Obliteration Techniques. *Semin Intervent Radiol* 2018; 35 (3): 185–193. doi:10.1055/s-0038-1660796

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eP754 Endoscopic and Histological Gastritis: Less Than Meets the Eye

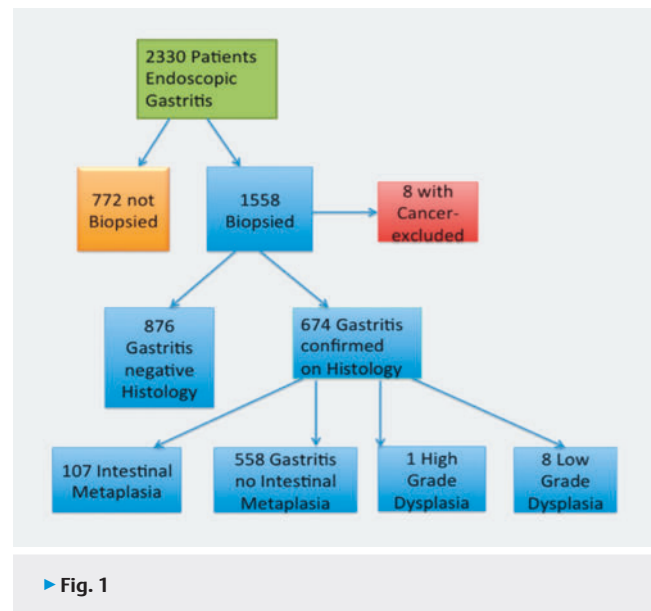
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DOI 10.1055/s-0043-1766031

Aims Gastritis is a histological diagnosis of inflammation of the gastric mucosa¹. When referred for endoscopy it is often reported at time of gastroscopy, prior to confirmation on biopsy. We aimed to assess endoscopic versus histological diagnosis of gastritis.

Methods We performed a single centre retrospective analysis over a two-year period. Endoscopic electronic results were compared to histopathology reports [1].



► Fig. 1

Results Two thousand three hundred and thirty patients were diagnosed with Gastritis at endoscopy. Sixty seven percent of patients (n = 1558) had gastric biopsies taken at time of procedure. Eight occurred in the presence of a new diagnosis of cancer and were excluded. Of the remaining population forty three percent (n = 674) had gastritis on biopsy. Fifty seven percent (n = 876) of endoscopic diagnoses of gastritis were not confirmed histologically. Although trainees performed more biopsies than consultants (69% versus 59%) there was no discrepancy between rates of histology confirmation (41% versus 43%). One hundred and seven patients with histological gastritis also had Intestinal Metaplasia, fifty three percent of which had biopsies taken from more than one site. Of the nine patients with dysplasia -8 low grade and 1 high grade-only two patients did not have a clinical suspicion documented at time of endoscopy. It is unclear why thirty three percent of patients did not have biopsies, but it was not dependent on patient age, gender or seniority of endoscopist (► Fig. 1).

Conclusions These findings suggest clinical practice is extremely varied and recommendations are required for biopsies in patients with suspected gastritis. Gastritis Flowchart

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Ehrenpreis E. Best Practice Guidelines Gastritis. *British Medical Journal* 2022

eP755 Bariatric tourism complications and its burden on Irish health system

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DOI 10.1055/s-0043-1766032

Aims Bariatric surgery is an effective intervention for severe obesity. In Ireland, the lengthy waiting list for this surgery is the main reason patients embark on bariatric tourism. The risks to patients and the impact of this decision on the Irish Healthcare system are unknown.

Methods Data has been prospectively collected since January 2020 from patients who have presented to St. Vincent's University Hospital with complications related to bariatric surgery performed abroad. Patient demographics, place and date of surgery abroad, complications and interventions required are recorded. Cost of care provided was estimated from HIPE data (► Table 1).

	N=30 (Total)	N=18, cost of treatment €254,066
LOS	18.6 days	14.2 days
Post op leak	5 (16%)	3 (16.6%)
CT	16 (53%)	10 (55 %)
	2.6/patient	2.8/patient
Endoscopic intervention	9 (30%)	7 (38.8%)

► Table 1

Results Thirty patients (26 female and 4 male) presented with bariatric surgery related complications over 34 months related to Sleeve gastrectomy (n = 22, 73%), gastric bypass (n = 2, 6.6%), intragastric balloon placement (n = 2, 6.6%) and gastric banding (n = 1). The most frequent surgery destination was Turkey (n = 17, 56%) among 7 other countries. 24 patients required admission, with average length of stay (LOS) 18.6 days. A longer LOS was noted in patients with staple line leak, average 55.5 days. Service utilization is summarised in Table 1. Nine patients underwent gastroscopy (30%) with 3 patients requiring OVESCO clip (10%) and 4 requiring oesophageal stent (13%). Five patients required complex revisional surgery. Cost of treatment data was available for 18 patients – € 254,066 [1–2].

Conclusions The volume of patients undertaking bariatric tourism is unknown, so it is not possible to calculate the morbidity rate. However, bariatric tourism with postoperative complications carry a significant burden on patients and the healthcare system. Services that provide this emergency care to patients should be adequately resourced.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Kowalewski PK, Rogula TG, Lagardere AO et al. Current Practice of Global Bariatric Tourism—Survey-Based Study. *Obesity Surgery* 2019; 29: 3553–3559 [2] Khorgami Z, Shoar S, Andalib A et al. Trends in utilization of bariatric surgery, 2010-2014: sleeve gastrectomy dominates. *Surg Obes Relat Dis.* 2017; 13: 774–8

eP756 Delayed bleeding after endoscopic submucosal dissection of premalignant and malignant lesions: Is the BEST-J score useful?

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DOI 10.1055/s-0043-1766033

Aims Endoscopic submucosal dissection (ESD) is the first-line treatment in gastric superficial neoplasms. Bleeding is the most frequent potentially life-threatening complication. We aim to evaluate the applicability of the BEST-J score in predicting post-ESD delayed bleeding risk.

Methods Consecutive patients who underwent ESD for gastric neoplasms in a tertiary center, from March 2011 to November 2022, were included in a retrospective study evaluating the occurrence of post-ESD delayed bleeding (occurring up to 30 days) and the applicability of BEST-J score that includes 10 variables: intake of warfarin, direct-acting oral anticoagulants (DOAC), P2Y12 receptor antagonists, cilostazol, aspirin; tumor size > 30mm or located in gastric lower third; multiple tumors; hemodialysis; and discontinuation of anti-thrombotics.

Results Ninety-eight patients (56.1% male; median age 74years [IQR 14]) were included. Fifteen (15.3%) patients were under anticoagulation, 11 of them with DOAC. Antiplatelet agents were taken by 18 (18.4%) patients, acetylsalicylic

acid in 14 cases. Delayed bleeding occurred in 11 (11.5%) patients with a median time of 3 days after ESD. In the multivariable analysis, anticoagulation (OR 35.7; p < 0.001) and antiplatelet therapy (OR 7.97; p = 0.048) were the only factors statistically associated with bleeding risk. The BEST-J score was also statistically associated with delayed bleeding (OR 3.2; p < 0.001) with an AUC of 0.88 (95%CI 0.76-0.99) [1–2].

Conclusions The BEST-J score seems to be a very accurate tool in stratifying the risk of delayed bleeding after ESD for gastric neoplasms. Closer surveillance and bleeding prophylactic interventions should be considered in patients with high-risk of this complication.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Pimentel-Nunes P, Libânio D, Bastiaansen BAJ et al. Endoscopic submucosal dissection for superficial gastrointestinal lesions: European Society of Gastrointestinal Endoscopy (ESGE) Guideline – Update 2022. *Endoscopy* 2022; 54 (6): 591–622 [2] Hatta W, Tsuji Y, Yoshio T et al. Prediction model of bleeding after endoscopic submucosal dissection for early gastric cancer: BEST-J score. *Gut* 2021; 70: 476–484

eP757 SSL Detection Rate- The latest KPI?

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DOI 10.1055/s-0043-1766034

Aims Sessile serrated polyps (SSLs) are increasingly recognised as important precursors to colorectal cancer. SSL detection rates are a potential key performance indicator (KPI) at colonoscopy. An SSL detection rate of 10% has been suggested as a minimum KPI standard

Methods A retrospective analysis of colonoscopy reports and respective histology over a six-month period between January and June 2022 was performed. Data from four consenting endoscopists was included. SSLs and hyperplastic polyps, above the rectum, were included.

Results 457 colonoscopies performed during the study period were included. Median ages were 64 [IQR 17-88]; total cohort and 66 [IQR 40-78]; SSL cohort. 85 patients had ≥ 1 SSL giving a 19% SSL detection rate which ranged from 4-25% between endoscopists. Most of those with SSLs were male at 58% which was higher than the 49% in the general population. The majority of SSLs (65%) were identified in the right colon. 93% had a single SSL identified. Associations with SSL detection included 'age > 50 years' (p = 0.023) and colonoscopy performed as part of the National Colorectal Cancer Screening programme (p = 0.02).

Conclusions This audit demonstrates associations with SSL detection, age and indication for colonoscopy. It also demonstrates the utility of an SSL detection rate as a KPI. To further examine optimal SSL detection rates, it would be of benefit to review individual post colonoscopy colorectal cancer rates. Comparison of SSL detection rates against KPI's such as caecal intubation rate and withdrawal time may also help determine the use of SSL detection rate as a KPI.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP758 Performance of digital single operator cholangioscopy biliary sampling vs ERCP brushings and cold biopsies in indeterminate biliary lesions: an Australian experience

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DOI 10.1055/s-0043-1766035

Aims To compare the sensitivity, specificity, and accuracy of digital single operator cholangioscopy (D-SOC) target biopsies (Spybite Max) versus ERCP with traditional biliary sampling (brushings and cold biopsies) in the diagnosis of indeterminate biliary lesions (IBL).

Methods We conducted a retrospective audit of all patients who underwent ERCP with traditional biliary sampling and D-SOC targeted biopsies for IBL from February 2020 to November 2022. All patients had their demographics, lesion location, mode of sampling, results of formal histopathology, and adverse events recorded. All histopathology was analysed by a single expert gastrointestinal pathologist. For a lesion to be considered truly benign, benign pathology, multi-disciplinary team consensus and/or 6 month follow up period was required.

Results Median age was 73 (26-82) for D-SOC, 70 (33-89) for cold biopsies, and 72 (43-89) for brushings. Cold biopsies had a sensitivity of 79% while brushings had a sensitivity of 27%. D-SOC biopsies had a sensitivity of 69%. Specificity was 100% for all. Accuracy was 85% for D-SOC biopsies, 90% for cold biopsies and 48% for brushings. 11/27 (41%) D-SOC procedures were index ERCPs. Location was predominantly lower bile duct for cold biopsies (73%) and brushings (55%), while D-SOC was mostly utilised for upper biliary lesions (75%). All adverse events were mild and required only conservative management (► **Table 1**).

Conclusions ERCP guided cold biopsies remain an accurate and safe tool in the diagnosis of IBL especially in the lower bile duct. Brushings have the lowest yield, suggesting that they may be a useful as an adjunct. Spyglassn allows for access to the upper bile duct where traditional biliary sampling may have difficulty with similar pick-up rate and safety profile.

Conflicts of interest Authors do not have any conflict of interest to disclose.

	D-SOC	Cold biopsies	Brushings
Procedures, n	27	52	31
Histopathology results, n (%)			
Benign	18 (67)	32 (62)	26 (84)
Neoplastic	9 (33)	20 (38)	5 (16)
Final diagnosis, n (%)			
Benign	12 (50)	25 (51)	9 (31)
Neoplastic	12 (50)	24 (49)	20 (69)

► **Table 1**

eP759 Endoscopic sleeve gastropasty with corporal submucosal exposition and antral myotomy: a modified technique to improve weight loss

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DOI 10.1055/s-0043-1766036

Aims Success of endoscopic sleeve gastropasty depends solely on suture stability to maintain integrity of plications. Modifications to the technique to approximate submucosal surfaces via endoscopic mucosal resection and argon plasma coagulation (APC), as well as pylorus-sparing antral myotomy to weaken the antral pump, have been described elsewhere. Our aim is to introduce a modified ESG technique to achieve increased weight loss (► **Table 1**).

Methods Two patients, ages 42 and 61, with grade 3 obesity, MAFLD, dyslipidemia and high blood pressure, were selected for this modified technique. Under general anesthesia, Forced APC was used to create a submucosal tissue injury of gastric corpus in 4 quadrants. Eight submucosal defects through band ligation mucosal resection along the greater curvature were created and a 5cm full thickness pylorus-sparing antral myotomy was performed before endoscopic suture. A full thickness suturing device was used to close the antral mucosotomy with one running suture. Another running suture was made at the incisura and then 4 "U" pattern sutures in the gastric body were executed. [1-3]

Results Procedure time was 130 and 120 minutes respectively. No complications occurred on a 1 month follow up. 6.45% and 8.4% TBWL was achieved at one month, as well as significant triglyceride drop in patient 1 and significant transaminase drop in patient 2.

Conclusions Combination of different techniques to approximate corporal submucosal surfaces and to delay gastric antral emptying might improve weight loss and metabolic parameters achieved with conventional ESG.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Thompson C, Jirapinyo P, Shah R et al. Gastroplasty with Endoscopic Myotomy (GEM) for the Treatment of Obesity: Preliminary Efficacy and Physiologic Results. *Gastroenterol* 2022; 163: 1173-1175

[2] Razzak F, Mahmoud T, Ghazi R et al. Argon plasma coagulation prior to endoscopic sleeve gastropasty for weight loss. *Video GIE* 2022; 7: 445-447

[3] Mahmoud T, Vargas E, Ghazi R et al. The Osculating Circles Gastropasty: A Novel Endoscopic Submucosal Resection Enhanced Endoluminal Suturing for Obesity. *Gastroenterol* 2021; 161: 1806-1808

Parameter	Patient 1		Patient 2	
	Pre-modified ESG	1 month post ESG	Pre-modified ESG	1 month post ESG
Weight (kg)	124	116	114	104,4
Triglycerides (mg/dL)	176	169	411	242
AST (U/L)	92	43	16	34
ALT (U/L)	194	103	15	43

► **Table 1**

eP760V Unusual endoscopic findings by capsule endoscopy: Duodenal and jejunal pseudomelanosis in patients with intake AT2 antagonists

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DOI 10.1055/s-0043-1766037

Abstract Text Duodenal and jejunal Pseudomelanosis is a rare benign condition characterized by black-brown speckled pigmentation of the duodenal and jejunal mucosa. Medications such as AT2 antagonists have been related to this condition. We report the case of 3 patients with diabetes mellitus and hypertension who were sent for capsule endoscopy due to suspicion of small bowel bleeding. The Three patients had Telmisartan Intake. The capsule endoscopy showed multiple diminutive black spots throughout the duodenum and jejunum. Histology showed multiple foci of a brown-black granular pigment inside macrophages within the tips of the villi [1-3].

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] D'Ercole M, Lopez G, Elli L et al. A Rare Case of Duodenal Pseudomelanosis. *Diagnostics (Basel)* 2021; 11 (11): 2152

[2] Zakaria A, Abdu B, Al Share B et al. Pseudomelanosis intestini "from pylorus to jejunum:" A rare endoscopic finding in a patient with GI bleeding. *J Family Med Prim Care* 2018; 7 (5): 1120-1122

[3] Lopez G, D'Ercole M, Ferrero S et al. Duodenal Pseudomelanosis: A Literature Review. *Diagnostics (Basel)* 2021; 11 (11): 1974

eP761 The endoscopic placement of esophageal stent as a “bridge” to thoracic surgery in an intubated patient with COVID 19

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DOI 10.1055/s-0043-1766038

Aims A 48 y.o. female patient with leukocytosis, BMI > 30, SAT 75 %, unvaccinated with abdominal dilatation, mainly in the epigastric region, with presence of air in the rhinogastric drainage tube, was subdued in EGD procedure.

Methods Ten days before the patient was diagnosed with COVID-19 in a country hospital and was transferred to our ICU for further treatment. She was subdued to an endotracheal intubation with oral tracheotube placement. Soon thereafter, the pressure as well as the abdominal dilatation and air in the drainage tube was absent.

Results The ICU unit asked for urgent EGD, to preclude tracheoesophageal fistula. During the EGD, exactly beneath the upper esophageal sphincter (~3cm), the presence of cuff, of oral tracheotube, and tracheoesophageal fistula with Φ 2 cm gap, was found (Photo 1,2). As a result of the heavy respiratory insufficiency and poor overall condition, the thoracic surgery approach was impossible at the time. A guidewire was driven forward throughout the pyloric antrum, and we used an expendable metallic coated stent with Φ 18mm and 18cm, which was covering the fistula 2cm above and 2cm peripherally (Photo 3,4).

Conclusions Initially, during the inflation of the endoprosthesis, it moved inferior to the gap, and in continuance, with foreign body forceps, it was moved in the correct spot, with its upper apex 1cm above the gap. Subsequently the leakage of air was stopped, as well as the abdominal dilatation of the patient.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP762 Clinical outcomes of patients presenting through a regional upper GI bleed service: A retrospective study

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DOI 10.1055/s-0043-1766039

Aims The aim of this study was to assess clinical outcomes of patients presenting with upper GI bleeding (UGIB). A regional bleed service (RBS) was established to support the hospitals that didn't a 24/7 UGIB service. We included patients who were transferred from local and district hospitals for endoscopy and subsequent management [1].

Methods Pts presenting with suspected and confirmed UGIB to the hospital over a 4-year period was conducted. Severity of UGIB was determined by standard screening tools such as Glasgow-Blatchford bleeding score (GBS) and Rockall risk scoring system.

Results 29 patients who were transferred for a RBS (group A) and 419 patients including in-patients and those presenting to A&E with UGIB (group B) were compared. Mean time to endoscopy was 1.49 days for Group A and 1.51 days for Group B. Overall timing of procedure within 12h and 24h was not found to have any significant impact on outcomes such as rebleeding rates ($p = 0.77$) and 30-day mortality ($p = 0.64$) however, endoscopy within 12 hours had an

effect on need for further management including radiological and surgical interventions ($p = 0.02$). Pts who underwent endoscopy within the first 24 hours were more likely to require blood transfusion (group A = 50 %, group B = 35 %; $p = 0.02$) perhaps due to sustaining a more significant bleed. 48% of patients in group A and 27% of patients in group B received endotherapy ($p = 0.02$) (► Fig. 1).

Conclusions The regional UGIB service is safe and effective. The transfers had higher need for transfusion, endotherapy and longer length of stay.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] <https://www.bsg.org.uk/clinical-resource/nice-guidelines-on-acute-upper-gastrointestinal-bleeding-in-over-16s/>

	Group A (transfers)	Group B (non-transfers)
Mean age	57.97 years	66.78 years
LOS	20.13 days	10.05 days
Need for endotherapy	48%	27%
Mortality	17%	12%
Varices	38%	8%

► Fig. 1

eP763 The safety and efficacy of direct oral anticoagulant resumption following a gastrointestinal bleeding episode: A systematic review and meta-analysis

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DOI 10.1055/s-0043-1766040

Aims The number of patients treated with direct oral anticoagulants (DOACs) has rapidly elevated in the last decade. Compared to Vitamin-K antagonists, DOACs have a better safety profile, except for gastrointestinal bleeding (GIB). After successfully managing GIB, a therapy reintroduction decision must be made carefully, although data addressing this topic is lacking. We aim to determine the safety and efficacy of DOACs resumption after GIB.

Methods Studies that reported rebleeding, thromboembolic events, and mortality after restarting or withholding DOACs were selected as eligible articles. The systematic research was conducted in five databases (MEDLINE, EMBASE, CENTRAL, Web of Science, and Scopus). Random effect model was implemented to calculate pooled odds ratio (OR) with 95% confidence interval (CI). ROBINS-I tool was used for risk of bias assessment, and certainty of the evidence was evaluated with the GRADE approach.

Results From 9188 articles, 4 retrospective cohort studies were included in the meta-analysis. We did not find a significant increase in the risk of rebleeding in patients restarting DOACs after index GIB (OR = 1.12; CI: 0.74–1.68). The outcomes of thromboembolic events and mortality data were not suitable for meta-analytic calculations. Single studies did not show statistically significant differences in these outcomes (OR = 1.21, CI: 0.61–2.42; OR = 2.36, CI: 0.52–10.78, respectively). Data quality assessment showed a serious overall risk of bias and very low quality of evidence (GRADE D).

Conclusions DOAC resumption after a GIB episode may not elevate the risk of rebleeding. However, the need for high-quality randomized clinical trials is crucial.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP764 Magnetic balloon technology for solving colon loops: first in human clinical trial

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DOI 10.1055/s-0043-1766041

Aims A colonoscopy CE marked add-on device (Endorail by Endostart srl, Certaldo, Italy) was developed to straighten loops and facilitate colonoscope positioning and progression. The aim of the study is to evaluate the safety and efficacy of magnetic balloon technology in solving colon loops.

Methods An open-label, not-controlled, prospective, single-center, interventional trial was conducted at Humanitas Research Hospital. Looping development and resolution was demonstrated by clinical judgement. Pain was recorded 30 minutes after the procedure using a visual analogue scale (VAS). A phone follow-up visit was scheduled after 7 days. Endorail is composed by a balloon catheter that can be inserted on demand in the 3,7 adult colonoscope tool channel, then filled with a syringe of ferromagnetic fluid and anchored with an external permanent magnet.

Results Six caucasian patients (42-64 yrs, 4 males, BMI: 19,6-24,1) were enrolled between February 11, 2020 and March 11, 2020. In 5 patients, magnetic anchorage was achieved, balloon undocking did not occur during the straightening maneuvers and the loop was always solved. One patient, due to the use of a colonoscope channel has been excluded from the analysis. All 6 patients regularly completed the colonoscopy. No device deficiencies or malfunctions occurred. No patient experienced pain within 30 minutes after completing the procedure (VAS: 0). None of the 6 participant patients experienced adverse.

Conclusions This first clinical study provided preliminary evidence that magnetic balloon technology is safe and effective in solving colon loops.

Conflicts of interest medtronic consultantlaborie consultant3D matrix consultantapollo endosurgery consultantantebe consultantfujifilm consultant

eP765 General Anaesthesia or Conscious Sedation for Enteroscopy: Patient Reported Experience

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DOI 10.1055/s-0043-1766042

Aims To assess patient reported experience of device assisted enteroscopy (DAE) under Conscious Sedation (CS) and General Anaesthesia (GA).

Methods Patients attending for DAE were asked to complete a modified "ENDOPREM" questionnaire post-procedure. Procedure data were also recorded. Comparisons were made between those having GA and CS.

Results 35 patients (response rate = 66%) returned completed questionnaires (GA = 14 and CS = 19).

Overall satisfaction scores were excellent in both groups at 100%. However, in the CS group, discomfort during the procedure was experienced by 47.4%, while 21.1% experienced moderate to severe pain. 26.3% of CS patients experienced more pain than they expected. Mean midazolam and fentanyl doses were 5.3mg and 69.0mg respectively in the CS group [1].

Discomfort post-procedure was similar between both groups 21.1% (CS) vs 21.4% (GA), $p = 1.00$.

When demographics were examined GA procedures were performed on younger patients, 60yrs (CS) vs 41yrs (GA). Indication differences were also noted between the 2 groups with anaemia the primary indication in 57.9% (CS) vs

7.1% (GA), $p = 0.004$. GA procedures were more likely to have a targeted intervention in mind, 92.9% (GA) vs 42.1% (CS), $p = 0.004$ ▶ **Table 1**.

Conclusions Patients have high satisfaction with DAE performed under GA. Significant discomfort and pain was experienced in the CS group with many experiencing pain greater than expected. The selection of more complex DAE procedures for GA will likely improve patient experience.

Conflicts of interest Authors do not have any conflict of interest to disclose.
[1] Neilson LJ, Sharp L, Patterson JM et al The Newcastle ENDOPREM: a validated patient reported experience measure for gastrointestinal endoscopy. *BMJ Open Gastroenterology* 2021;8

	Conscious Sedation	General Anaesthesia	
n	19	14	
mean age	60.3	41	$p=0.002$
male	13 (68.4%)	4 (28.6%)	$p=0.008$
ADBE	16 (84.2%)	8 (57.1%)	
RDBE	3 (15.8%)	5 (42.9%)	

	Conscious Sedation	General Anaesthesia	
Anaemia/SSBB	12	1	$p=0.001$
Radiological abnormality	3	6	
Suspected Crohns Disease	3	3	
Lesion on Capsule	1	2	
Capsule Retrieval	-	1	
Stricture Dilatation	-	1	

▶ **Table 1**

an issue of debate. Lactate is an established parameter for risk stratification in a variety of medical emergencies and could identify critically ill patients, who may benefit from urgent endoscopy.

Methods We retrospectively analyzed all patients with elevated lactate levels, who presented to the emergency department between 01/01/2015 and 31/12/2019 due to suspected AUGIB.

Results Of 134 included cases 81.3% had an Charlson comorbidity index of ≥ 3 and 50.4% presented with shock. 15 (11.2%) patients died and mortality rates rose with increasing lactate levels. Urgent endoscopy within 6 hours (UE) and early endoscopy after 6 hours (EE) were performed in 64 (47.8%) and 70 (52.2%) patients, respectively. Patients who underwent UE had lower systolic blood pressure (107.6mmHg vs. 123.2mmHg; $p = 0.001$) and received blood transfusions more frequently (79.7% vs 64.3%; $p = 0.048$), but interestingly need for endoscopic intervention (26.6% vs 20.0%; $p = 0.37$), rebleeding (17.2% vs. 15.7%; $p = 0.82$) and mortality (9.4% vs. 11.4%; $p = 0.7$) did not differ significantly. Subgroup analysis of patients with lactate levels ≥ 5 mmol/l indicated a non-significant trend towards more interventions (28% vs 14.3%; $p = 0.33$) and lower mortality (16% vs 28.6%; $p = 0.351$), if UE was performed.

Conclusions Our findings support the recommendations of current guidelines to perform EE after sufficient resuscitation and management of comorbid illnesses. Further research must clarify, if lactate levels ≥ 5 mmol/l can identify patients at high risk, who might benefit from UE.

Conflicts of interest Martin Bürger obtained consulting fees from Janssen and travel support from Pfizer. All other authors declare that they have no conflict of interests regarding this manuscript.

eP767V Endoscopic papillectomy of neuroendocrine neoplasm resulting in complete fibrotic closure of the biliary and pancreatic ducts

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DOI 10.1055/s-0043-1766044

Abstract Text Neuroendocrine neoplasms of Vater ampulla (ampullary NEN) are extremely rare, and there are no guidelines on their treatment. We report a case of an ampullary NEN treated with en-bloc hot snare endoscopic papillectomy, resulting in a pT2, G2 NEN. A post-procedural bleeding occurred, treated with endoscopic clipping after insertion of a protective biliary plastic stent. After two months the patient developed jaundice, the stents were not in place anymore and a fibrotic retraction of the papillectomy site was found, causing closure of both bile duct and Wirsung with upstream dilation. A precut fistulotomy on the bile duct bulging was performed resolving the jaundice.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP768 The role of EUS-hepaticogastrostomy in benign diseases: a case-series

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DOI 10.1055/s-0043-1766045

Aims Current guidelines recommend endoscopic ultrasound guided hepaticogastrostomy (EUS-HGS) as a choice in malignant biliary obstruction [1]. We present a series of 3 patients who underwent HGS for benign disease

Methods A retrospective search in our databases was conducted until October 2022. The primary endpoint was to assess the technical success of EUS-HGS, followed by clinical success (the ability to provide complete treatment), and adverse events related to the procedure.

Results Three cases were reviewed. A 60 years old man, with non-traversable duodenal stricture, biliary stones and failed attempts for ERCP. EUS-HGS was performed successfully with a fully covered self-expanding metal stent (fcSEMS), without complications, providing access for trans-HGS cholangioscopy with lithotripsy after tract maturation. The second patient was a 39 years old female with a background of a hepaticojejunostomy, due to biliary reconstruction in infancy, and complex left hepatic duct stone disease. EUS-HGS was successful with a fcSEMS, though complicated with cholangitis and slight stent migration towards the liver. Trans-HGS cholangioscopy with lithotripsy achieved complete duct clearance. Finally, a 38 years old woman, with a history of Roux-en-Y anastomosis, presented with afferent loop syndrome and secondary biliary obstruction. EUS-HGS with a dedicated stent decompressed biliary tree to the efferent loop without adverse events [1].

Conclusions EUS-HGS could be an alternative in selected cases with benign biliary diseases. Further studies with prolonged follow up are required to assess its feasibility and any future impact on patients with long life expectancy.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] van der Merwe SW, van Wanrooij RLJ, Bronswijk M et al. Therapeutic endoscopic ultrasound: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2022; 54: 185–205. doi:10.1055/a-1717-1391

eP769 Efficacy and safety of Hybrid Argon Plasma Coagulation for Barrett's esophagus-related dysplasia: A systematic review with pooled analysis

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DOI 10.1055/s-0043-1766046

Aims The Hybrid-APC (H-APC) is a new technique which combines argon plasma coagulation (APC) with a previous saline injection for ablation therapy of neoplastic Barrett's esophagus (BE). We aimed at systematically reviewing the current knowledge to evaluate the treatment success and safety of H-APC.

Methods Medline and Embase were searched (from inception to November 2022) to identify the studies recruiting patients with BE who underwent to H-APC alone or in conjunction with endoscopic resection. Prospero registration code: CRD 42020156238. Of 126 citations, 4 studies and 3 abstracts were eligible, with a total of 324 enrolled patients. 300/324 patients were finally treated. The pooled rates of patients achieving initial and sustained CE-IM and complications was extracted and 95% confidence intervals (C.I.) calculated.

Results 149/300 patients underwent endoresection prior to hybrid-APC ablation and 151/300 patients underwent only hybrid APC. 82/300 were short segment and 164/300 long segment BE. 258/300 patients with 89,9% pooled rate (83,7%-96,2% C.I.) reached initial CEIM. Of these patients 165/300 (55%) underwent extended follow up. 112/153 patients reached sustained CEIM at 24 months with a pooled rate of 79,9%(64,3% – 95,5% C.I.). 12/300 patients experienced major complications, 3,6% pooled rate (1,5%-5,7% C.I.). There were: 1 bleeding, 1 perforation and 10 patients required dilation after new stricture development.

Conclusions This systematic review emphasizes the potential role of H-APC as a new reliable ablative technique with a high efficacy and safety profile.

Conflicts of interest Endosurgery consultant 3D Matrix consultant Apollo endosurgery consultant Medtronic consultant Terbe consultant Fujifilm consultant

eP770 The significance and risk of biliary sphincterotomy in pancreatic endotherapy: a case report

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DOI 10.1055/s-0043-1766047

Aims In patients with chronic pancreatitis (CP) who have an indication for endoscopic retrograde pancreatography (ERP), biliary sphincterotomy is not routinely recommended. The aim of this report is to present a case where biliary sphincterotomy could prevent post ERP cholangitis.

Methods A case of CP submitted to ERP was reviewed.

Results A 28-years-old male patient with CP and recurrent episodes of pancreatic-type pain, pancreatic duct (PD) stricture, stones and upstream dilatation, was offered ERP. Intra-procedural fluoroscopy indicated a localized stenosis at the neck of the pancreas. To remodel the stricture, after initial dilation with balloon sized 4mm, a 6mm fully covered self-expandable metal stent (fc-SEMS) was introduced. The patient developed post-procedural abdominal pain, fever, increased liver function tests, with predominance of obstructive enzymes, including bilirubin. Due to the established cholangitis, and thus the indication for endoscopic retrograde cholangiopancreatography (ERCP), the patient was submitted to biliary sphincterotomy. Nevertheless, it resulted to oozing haemorrhage, resistant to adrenaline injection, warranting biliary fc-SEMS insertion to achieve haemostasis. Following the ERCP, the patient was dramatically improved, and discharged with a plan to repeat ERP.

Conclusions This case report reflects that the optional nature of biliary sphincterotomy in patients submitted to ERP, could predispose to biliary complications. In the same time, the post-sphincterotomy bleeding underlines the existence of ERCP associated risks. The absence of strong evidence in this field increases the necessity for further studies to evaluate the benefit-risk equilibrium of biliary sphincterotomy in pancreatic endotherapy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP771 Can artificial intelligence (AI) aid in the sizing of colorectal polyps in real-time?

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DOI 10.1055/s-0043-1766048

Aims “Resect and discard” strategy for colorectal polyps is based on the negligible risk of cancer in diminutive (<5mm) polyps and thus, accurately sizing the polyp during endoscopy is an important decision-making process. We aim to develop and validate an AI system using a deep convolutional neural network to classify the polyps into non-diminutive and diminutive polyps.

Methods Using VGG-16 architecture, 63,063 images of 512 polyps were used to train AI system for sizing. In phase 1 of the study, the system was tested on pre-recorded white light images of the polyps. In phase 2, the system was tested on prospective real-time colonoscopies done by expert endoscopist. Ground truth in both phases was based on the consensus of 3 expert endoscopists (> 1000 lifetime colonoscopies).

Results 292 polyps (106 non-diminutive and 186 diminutive) were included in Phase 1 study. Sensitivity, specificity, and accuracy of AI system classifying into non-diminutive polyps were 93.40%, 79.03% and 84.25% respectively. In Phase 2, 135 polyps (75 non-diminutive (median size of 10mm) and 60 diminutive (median size of 4mm)) from 38 colonoscopies were included. The sensitivity, specificity, and accuracy of AI system sizing into non-diminutive polyps were 82.67%, 88.33% and 85.19% respectively.

	Phase 1: Image-based (n= 292)	Phase 2: Real-time (n=135)
Sensitivity	93.40%	82.67%
Specificity	79.03%	88.33%
Accuracy	84.25%	85.19%

► **Table 1** Performance of sizing AI in image based and real-time study.

Conclusions Our data from both phases of the study demonstrates that AI-based sizing is effective in differentiating non-diminutive from diminutive polyps. This can facilitate the introduction of “resect and discard” strategy (► **Table 1**).

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP772 OTS-clip for bleeding colon diverticulum

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DOI 10.1055/s-0043-1766049

Aims Colonic diverticular bleeding is frequent cause of lower GI bleeding in adults. Majority of bleeding resolves with spontaneous hemostasis. Our aim is to present OTS-clip as a safe and effective endoscopic therapy of achieving hemostasis.

Methods For many years endoscopic hemostasis for colonic diverticular bleeding mostly included TTS (through the scope clips) and EBL (endoscopic band ligation). During past years OTS-clip is emerging as a first line therapy for GI bleeding in upper GI tract. Despite that there is low number of case reports and studies for use of OTS-clip in lower GI bleeding [1–4].

Results We present a case report of 65-year old woman who initially presented with hematochesia. During hospitalization index colonoscopy was performed and two diverticulum in ascending colon near hepatic flexure were noticed without active bleeding or SRH (stigmata of recent hemorrhage). Patient underwent radiological and scintigraphy with inconclusive results. She had no further bleeding and was discharged 4 days later. After 7 days patient presented again with hematochesia. We performed urgent colonoscopy and in one of the previously noted diverticulum was noticed a non bleeding vessel. After marking the spot of diverticulum OTS-clip (14/6t) was mounted and successfully deployed. Patient had an uneventful recovery and was discharged 3 days later. At 3 month follow-up she had no recurrent GI bleeding.

Conclusions Even though there is small number of case reports for use of OTS-clip for lower GI bleeding, in all published data OTS-clip showed as safe and effective therapy for bleeding diverticular disease and should be considered in such cases.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP773V Endoscopic electroporation in the treatment of a locally advanced colorectal cancer

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DOI 10.1055/s-0043-1766050

Abstract Text Endoscopic electroporation is a novel technique used in the management of inoperable colorectal and oesophageal cancers. This technique involves the delivery of short electrical pulses to tumour tissues, which transiently increases cell membrane permeability, allowing the passage of calcium ions through the open pores to give a high local cytotoxic effect with minimal adverse systemic effect. In this video we show how this technique is used to treat an inoperable locally advanced obstructing sigmoid adenocarcinoma. Clinical result of this technique has shown excellent safety profile, tumour regression, and marked reduction or cessation of tumour bleeding [1–4].

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP774 Artificial Intelligence-assisted real-time colorectal polyp assessment for Leaving-In-Situ strategy implementation: systematic review with diagnostic test accuracy meta-analysis

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DOI 10.1055/s-0043-1766051

Aims Computer aided diagnosis (CADx) based on artificial intelligence (AI) were developed to support endoscopist optical diagnosis. AI has been claimed to be accurate in characterization of colorectal polyp. However, AI clinical impact is still unclear. The aim of our study is to assess the impact of AI on leave-in-situ strategy for diminutive rectosigmoid polyps.

Methods Core databases (PubMed/Medline, Scopus, EMBASE) were searched until November 2022 for studies assessing CADx diagnostic performance in real-time for diminutive (<5 mm) rectosigmoid polyp. Diagnostic performance (Negative Predictive Value - NPV-, Sensibility, Specificity, and Accuracy) were assessed for two possible scenarios: Endoscopist-alone, and AI-assisted polyp assessment. Only high-confidence diagnosis was considered for the analysis. A diagnostic test accuracy meta-analysis was performed.

Results Eight test-accuracy studies were included (1976 patients, 2627 rectosigmoid diminutive polyps) were included in the final analysis. The pooled NPV, sensitivity, specificity, and accuracy of Endoscopist-alone were 92,5% (95% CI 88,0%-97,0%), 87,5% (95% CI 81,3%-91,8%), 90,5% (95% CI 83,2%-94,8%), and 90,4% (95% CI 86,5%-94,3%), respectively. Pooled NPVs for AI-assisted strategy were 95,3% (95% CI 92,9%-97,7%), corresponding to a sensitivity of 89,1% (95% CI 85,7%-91,8%), a specificity of 92,5% (95% CI 88,0%-97,0%), and an accuracy of 91,7% (95% CI 84,7%-95,7%), respectively.

Conclusions CADx systems exceeded the benchmarks required for the implementation of leave-in-situ strategy in colonoscopy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP775 Combination of endoluminal and external vacuum-assisted closure system in management of complicated anastomotic leak after esophageal resection – a case report

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DOI 10.1055/s-0043-1766052

Aims Esophageal leakage of postoperative esophagogastronomy is considered a life-threatening condition due to the possible development of mediastinitis. The technique of vacuum-assisted closure (VAC) is an established method in treatment of infected surgical wounds, but also has been used endoscopically to heal intraluminal leaks. In this case report, we present a successful use of combined rendezvous external and endoluminal VAC therapy of a large postoperative anastomotic leak with mediastinitis after esophageal resection.

Methods Case report

Results In April 2020, a 57-year-old man underwent esophageal resection for T1b adenocarcinoma related to Barrett's esophagus. On postoperative day 6, the patient developed posterior mediastinitis with severe sepsis due to the dehiscence of the esophago-gastroanastomosis (EGA) which was diagnosed on CT scan. Surgical revision with drainage was performed immediately and external VAC therapy was initiated together with Danish Seal stent inserted into the esophagus to prevent leakage. Three weeks later, the stent was extracted but the fistula persisted. Therefore, the esophageal VAC therapy (E-VAC) was introduced into the EGA defect. During the following 43 days, a total of 12 E-VAC exchanges (every 3-4 days) were performed concurrently with the ongoing external VAC therapy. The patient recovered clinically, the fistula was obliterated and mediastinitis healed. A follow-up upper GI endoscopy 2 months and one year later showed a completely healed EGA.

Conclusions Combination of endoluminal and external VAC system can be an effective method in complex treatment of a large postoperative leak. Supported by the project MO1012 and Cooperatio.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP776 Endoscopic submucosal dissection for gastric superficial neoplastic lesions: a single center experience

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DOI 10.1055/s-0043-1766053

Aims To evaluate outcome of endoscopic submucosal dissection (ESD) for Tis/T1 gastric superficial neoplastic lesions

Methods We retrospectively collected data of consecutive patients undergoing ESD for Tis/T1 gastric superficial neoplastic lesions from May 2018 to June 2022

Results 63 lesions in 53 patients (32 M, median age 72 yrs) were included. Median lesions diameter was 20 mm (IQ). 40% were located in the antrum, 16% in the angulus, 25% in the corpus, 14% in the cardia, 2% in the fundus and 3% on the gastrojejunal anastomosis. The most frequent morphologies of the lesions were Ila-c (51%) and Ila (27%) according to Paris classification. 24% of the lesions were ulcerated. ESD specimen showed high grade dysplasia in 13/63 (21%) lesions and adenocarcinoma in 50/63 (79%) lesions. In 12/63 (19%) ESD was not curative due to submucosal invasion > 500 micron (11/12) and to angioinvasive signet ring cells carcinoma (1/12). Surgical specimen showed no residual disease or lymph nodes involvement in 5/12 (42%) patients, whereas in 7/12 (58%) patients residual tumor or lymph nodes involvement was demonstrated. Mean follow-up time was 22 months. Only in one patient was observed recurrence, treated with ESD and subsequent surgery for invasive carcinoma.

Conclusions We showed that ESD is a curative treatment in almost 80% of Tis/T1 gastric superficial neoplastic lesions. Among patients referred to surgery, almost 60% had no residual tumor or lymph nodes involvement in the surgical specimen.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP777 Strongyloides Hyperinfection & Syndrome of inappropriate anti-diuretic hormone syndrome in a patient with Idiopathic CD4 lymphocytopenia

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DOI 10.1055/s-0043-1766054

Aims Strongyloides is a soil transmitted auto-infective intestinal roundworm which penetrates the intact skin of human host to migrate into the lungs, finally reaching the small bowel. Immune suppressed individuals may develop hyperinfection syndrome which can be potentially fatal.

Methods We present a case of a 41-year-old farmer lady, who presented with diffuse abdominal pain, bilious vomiting and dry cough from one month. There was no significant past history or any history of steroids intake. Laboratory examination revealed elevated white cell count of 11,800/ μ l, with eosinophilia (8%). The serum sodium was 115 meq/l, serum osmolarity 251 mOsmol/Kg, urine osmolarity 491 mOsmol/Kg, urine sodium 122 mEq/L. Other significant laboratory abnormalities were a total protein level of 6.5 g/dl and albumin level of 3.1 g/dl. Computed tomography revealed ground glass opacities with consolidation and centrilobular nodules both lungs. Patient tested negative for HIV but the CD4 count was low (137/cubic mm). An esophagogastroduodenoscopy was performed for intractable vomiting, which showed erythema in the stomach and duodenum. Histopathology showed active duodenitis with marked blunting of villi and presence of parasites consistent with *S. stercoralis* [1–3].

Results The patient was treated with ivermectin 12 mg/day for ten days following which her abdominal pain and vomiting subsided. The cough also subsided with marked improvement in lung opacities. Serum sodium improved to 137 meq/l after starting patient on tolvaptan.

Conclusions *S. stercoralis* infection should be suspected in patients from endemic regions especially farmers presenting with gastrointestinal symptoms.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Seet RC, Gong LL, Tambyath PA. Image of the month. Strongyloides stercoralis hyperinfection and syndrome of inappropriate secretion of antidiuretic hormone. *Gastroenterology* 2005; 128 (8): 252

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eP778V A mini-invasive approach for endoscopic resection of rectal lesion involving the dentate line

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DOI 10.1055/s-0043-1766055

Abstract Text A 50-year-old patient underwent screening colonoscopy, which showed a 30-mm-large granular LST(Kudo III, JNET 2A) extending from the distal rectum to the dentate line and involving an internal hemorrhoid. To reduce the risk of bleeding, we opted for percutaneous embolization of the superior rectal arteries followed by EMR. Histology revealed a high-grade intraepithelial squamous lesion (HSIL/AIN2-3) associated with HPV infection. Follow-up colonoscopy showed no recurrence. To our knowledge this is the first case of a combined minimally invasive treatment of an anal squamous high-grade intraepithelial lesion involving the distal rectum.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP779 Maintaining plastic stent after LAMS removal is associated with reduction in recurrence rate of peripancreatic collections

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DOI 10.1055/s-0043-1766056

Aims Peripancreatic collections (WOPN, Pseudocyst) represent a potentially severe complication of acute pancreatitis. Transmural endoscopic drainage using a luminal apposing metal stent (LAMS) is a fundamental pillar in the step up approach. The role of maintaining transmural double pigtail plastic stent (DPPS) to prevent recurrence remains unclear.

AIM: To identify the factors related with recurrence of pancreatic/peripancreatic collections.

Methods Descriptive, retrospective and single-center study, based on the prospective registry of all pancreatic/peripancreatic collections drained with LAMS in a tertiary hospital between 2016 and 2022.

Results 66 patients underwent LAMS drainage (Table 1). In more than 50% of the patients, a DPPS was left after LAMS removal. In the univariate analysis, recurrence rate was significantly lower in patients who maintained a DPPS at term (14% vs 85%, $p < 0.05$) and in patients who underwent combined drainage (endoscopic and percutaneous) ($p < 0.05$). 5 of the patients who recurred during follow-up required reintervention (35.7%) (► Table 1).

Conclusions Maintaining a DPPS after LAMS removal prevented recurrence of pancreatic/peripancreatic collections in this cohort. The clinical impact of this practice remains uncertain, and so, prospective multicenter studies are needed in this regard.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Age (mean, years)	57 (24, 82)
Male	54 (82%)
Etiology	
Biliary	35 (53,03%)
Alcohol	10 (15,15%)
Other	20 (30,3%)
Drain indication	
WOPN	44 (66,67%)
Pseudocyst	20 (30,3%)
Other	2 (4,59%)
Location	
Proximal (head/neck)	22 (33,3%)
Distal (body/tail)	43 (66,67%)
Coaxial DPPS at the beginning	57 (86,36%)
DPPS after LAMS removal	34 (59,6%)
Number of necrosectomies (mean)	1,54
Associated percutaneous drainage	15 (22,7%)
Collection recurrence in follow-up	
With DPPS	2 (14,3 %)
Without DPPS	12 (85,7%)
Mean follow-up (months)	15,68
Death in follow-up	9 (13,6%)

► Table 1

eP780V Laparoscopy assisted recanalization for complete resection of the common bile duct

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DOI 10.1055/s-0043-1766057

Abstract Text A 68-year-old female with no known history of chronic disease was referred to our clinic due to elevated bilirubin and transaminase levels after cholecystectomy for acute cholecystitis. On physical examination, she had a surgically placed abdominal drain but no incoming fluid. MRCP showed a complete resection of the common bile duct with four clips each on proximal and distal parts. Due to the clips, laparoscopy-assisted combined ERCP was performed and a 10F 10cm plastic stent was placed in the anterior branch of the right intrahepatic duct. Bile started to flow to the drain but stopped one month after the procedure. Three months later the plastic stent was replaced with an 8cm FC-SEMS and the drain was removed [1–3].

Conflicts of interest Authors do not have any conflict of interest to disclose.
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eP781 Contrast Enhanced-EUS and FNB of a rare mediastinal mass: a case report of mediastinal Schwannoma

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DOI 10.1055/s-0043-1766058

Aims Contrast-Enhanced Endoscopic Ultrasonography (CE-EUS)-guided fine needle biopsy (FNB) is an important minimally invasive tool for diagnosis of mediastinal masses.

Methods In this report we present the case of a 20-year-old woman with Horner syndrome.

Results On computed tomography (CT) scan a nodular mass of approximately 7cm in diameter in the left apical pleura was described. We then proceeded with a CE-EUS that revealed a 7 cm hypoechoic mass in close apposition to aortic arch, left subclavian artery and left carotid with diffuse and inhomogeneous hypo-enhancement following contrast injection; a transesophageal EUS-FNB was performed with a 22 G needle. Our pathologists defined the tumor as a benign peripheral nerve sheath tumor, most compatible with Schwannoma, thanks to the features described by the wide range of immunohistochemical stains (positivity for S100, GFAP, SOX10, D2.40, PGP9.5 and negativity for CAM5.2, CD117, MelanA, CD34). Thus, the patient underwent a thoracoscopic mass resection with regular post-operative course. Final diagnosis of Schwannoma on the surgical specimen was confirmed. Progressive neurologic recovery was obtained [1–3].

Conclusions Mediastinal Schwannoma is a rare mediastinal mass and only a single case of EUS-FNA cytological diagnosis has been reported. To the best of our knowledge neither contrast enhancement behavior nor FNB have been described for this rare mediastinal lesion. Nevertheless, EUS-FNB by providing

a histological specimen, allows for a wider range of immunohistochemical stains, increasing the specificity of diagnosis. Furthermore, Contrast Enhanced evaluation offers a real time guidance for EUS-FNB likely increasing sensitivity

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP782 Peroral endoscopic myotomy in paediatric patients: single-center study

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DOI 10.1055/s-0043-1766059

Aims This is a retrospective review of prospectively collected paediatric patients with achalasia that had been treated with peroral endoscopic myotomy (POEM) at our institution.

Methods Patients that were hospitalized at the Paediatric Clinic for POEM procedure from 11/2017 to 11/2022 were included. All patients had achalasia confirmed by high resolution manometry (HRM). We evaluated their symptoms in terms of duration and intensity (Eckardt score) and the integrated relaxation pressure (IRP) obtained by HRM before POEM. 3 months after POEM during the follow-up visit we determined Eckardt score, IRP and the presence of reflux oesophagitis on upper endoscopy. When finalizing the abstract we conducted a brief telephone survey to determine Eckardt score and presence of reflux symptoms.

Results 10 patients (6 boys, 4 girls), mean age 11.5 (5–18) years were included. Median of the duration of symptoms was 8.5 (1–36) months. Eckardt score decreased significantly 3 months after POEM (7.38 ± 1.68 vs. 0.63 ± 1.06 before and after POEM, resp., $p < 0.0001$) and sustained unchanged (0.4 ± 0.66) during the median follow-up of 21.5 months (range 1–60 months). IRP significantly decreased after the intervention (46.5 ± 11.1 mmHg vs. 3.8 ± 5.68 mmHg; before and after POEM, resp., $p = 0.0001$). Follow-up endoscopy performed off PPI therapy revealed mild esophagitis (LA A) in 2 patients that also reported mild heartburn.

Conclusions POEM significantly improves symptoms and provides effective decrease of the IRP in mid-term follow-up. More data with longer follow up are needed to prove either long-term safety with regard to the reflux issue and the need for long term PPI therapy in paediatric patients. Supported by the Ministry of Health of the Slovak republic: 2019/43-UKMT-6.3

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP783 Does a pre- colonoscopy stool visual aid correlate with boston bowel preparation scale (BBPS)?

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DOI 10.1055/s-0043-1766060

Aims To assess usefulness of a pre-endoscopy visual aid in predicting adequacy of bowel visualization based on BBPS

Methods We prospectively collected data from 60 patients in November 2022. The quality of bowel preparation was assessed using a pre-endoscopy visual aid which is based on the colour of the patient's last bowel movement an hour before the procedure. After the colonoscopy was completed we collected data re: the adequacy of bowel visualization using the BBPS (▶ Table 1).

Results Out of the 60 patients, 46(76.7%) had yellow and clear stools like urine (YCSU), 10(16.7%) had light orange and almost clear stools (LOAC), 1(1.6%) had dark orange and semi-clear stools, 3(5%) had brown and murky stools and 0(0%) had dark and murky stools. With regards to the BBPS, 11(18.3%) had a score of 9, 5(8.3%) had a score of 8, 3(5%) had a score of 7, 27(45%) had a score of 6, 6(10%) had a score of 5, 1(1.7%) had a score of 4, 4(6.6%) had a score of 3, 1(1.7%) had a score of 2, 0(0%) had a score of 1 and 1(1.7%) had a score of 0. Putting those patients who had a YCSU like urine and those LOAC to one category, we have 56 patients (93.4%). Out of these, the number of patients who had a BBPS score of 6 or more is 45(74.9%). Out of these 45 patients, the number of patients with BBPS-R of 1 is 0(0%), those with BBPS-R of 2 is 32(71.1%) and those with BBPS-R of 3 is 11(24.4%). see table for BBPS less than 6

Conclusions Our study is still ongoing, and our preliminary data shows a positive correlation of the pre- endoscopy visual aid in predicting the adequacy in bowel cleansing. This can be used to complement immediate pre procedural assessment.

Conflicts of interest Authors do not have any conflict of interest to disclose.

Category	Number of Patients	Percentage
Yellow and clear like urine	8	17.4%
Light orange and almost clear	3	30%
Dark orange and Semi-clear	0	0
Brown and Murky	0	0
Dark and Murky	2	66.7%
Total	13	100%

▶ Table 1

eP784 The impact of a multidisciplinary team evaluation on the diagnosis and management of acute and chronic pancreatitis in a tertiary referral center

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DOI 10.1055/s-0043-1766061

Aims Describe the experience of a Multidisciplinary team meetings (MTM) tertiary referral center for pancreatic diseases for the management of acute and chronic pancreatitis (AP/CP).

Methods This is a retrospective monocentric observational studies derived from a prospectively maintained database of patients with AP/CP discussed at a MTM by gastroenterologists/endoscopists, immunologists, surgeons, pathologists and radiologists with an expertise in pancreatic disorders from 10/2020 to 06/2022.

Results 87 consecutive patients were discussed from 10/2020 to 06/2022, 53 AP and 34 CP (median/IQR age 57/47.9-69 years; males 55.2%). Patients with AP, discussion was held on etiology in 34 patients and on possible therapy for

19. After the MTM for patients referred for etiology, 30 of them had a focal lesion suspicious for autoimmune pancreatitis (AIP). EUS was required in 10 patients, finding PDAC in 2 of them. Among the 19 patients referred for therapy, in 7 cases the discussion was on treatment of pseudocysts, which underwent endoscopic treatment (71%) or surgery (14%) or still in follow up (14%). 7 patients were referred for common bile duct strictures or altered anatomy of the wirsung which underwent endoscopic in 50% or surgery in the other 50%. Patients with CP were referred for etiology in 8, of which 3 were obstructive and 1 IPMN after EUS, while the other are still in follow up. In 11 people referred for suspected PDAC, 9 of them were operated, finding 4 PDAC, 1 high grade dysplasia, 1 low grade dysplasia and 2 inflammation conditions.

Conclusions MTM is important not only for patients with pancreatic cancers, but also for patients with pancreatic benign diseases, as AP or CP.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP785 Analysis of gene mutation in early sporadic diffuse-type gastric cancer based on *Helicobacter pylori* infection status through whole-exome sequencing

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DOI 10.1055/s-0043-1766062

Aims Previous reports have suggested that *Helicobacter pylori* (HP)-infected diffuse-type gastric cancer (DGC) shows more aggressive features, compared with HP-uninfected DGC. However, the genomic feature of early DGCs based on HP status has been largely unknown. We aimed to discover genomic differences between HP-uninfected and HP-infected early DGC.

Methods We conducted whole-exome sequencing analysis of 27 HP-uninfected and 36 HP-infected early DGC samples. [1–2]

Results HP-infected DGCs exhibited an increased single nucleotide variant burden (HP-exposed DGCs; 1.97 and HP-naïve DGCs; 1.09 per megabase; $p = 0.0003$). *CDH1* was most highly recurrent mutation in both groups (HP-uninfected:65.4%, HP-infected:69.7%). RHOA-ARHGAP pathway was exclusively misregulated in HP-infected DGCs ($p = 0.0167$). HP-infected DGCs significantly frequent chromosomal aberration of gain at 8p ($p < 0.0001$) and 8q ($p < 0.0001$).

Conclusions This study reveals that HP-uninfected and HP-infected DGCs develop along different molecular pathways, which provide an explanation for indolent features of HP-uninfected DGCs.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP786 ERCP with the disposable duodenoscope aScopeDuodeno in routine clinical practice

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DOI 10.1055/s-0043-1766063

Aims Bacterial colonisation of reusable duodenoscopes has been linked to healthcare-associated infections and was extensively discussed in the recent years as a potential risk for patients after ERCP. Therefore, disposable duodenoscopes were developed to eliminate the risk of cross-contamination. We evaluated the safety and efficacy of the single-use duodenoscope aScopeDuodeno (Ambu A/S, Denmark) in routine clinical practice.

Methods A total of 51 patients with indication for ERCP were examined with the aScopeDuodeno. The time to the papilla duodeni, cannulation rate of the

intended duct, ASGE grade of complexity of the ERCP and the outcome of the procedure was documented. A 30-days-follow-up with a standardized questionnaire regarding infections or other complications is introduced.

Results 30 women and 21 men, age 69 (32-97) years were examined. In 39,2% there was a native papilla, 60% of cases had prior EST. Successful intubation rate was 100% and time to papilla was 02:45min, intubation of the intended duct 07:25min and overall procedure time was 31:11min. Complexity of the ERCP was high with 47% ASGE-grade 3, 39% ASGE grade 2, 14% ASGE grade 1, mainly stenosis and interventions including PDT, SEMs and mother-baby cholangioscopy. The conversion rate was 21%. There were no major complications, minor complications were seen in 2 out of 51 patients. All were treated endoscopically.

Conclusions ERCP with the disposable duodenoscope aScopeDuodeno is feasible and safe in routine clinical practice. It might be more challenging in more complex interventional procedures and when used by non-experienced low-case load endoscopists.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP787 Technical failure during Colorectal Endoscopic Full Thickness Resection (EFTR): The “through thick and thin” Study

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DOI 10.1055/s-0043-1766064

Aims Endoscopic full-thickness resection (EFTR) is emerging as an effective and safe technique for non-lifting colorectal lesions. Technical failures with full-thickness resection device (FTRD) system are reported but there are no data about their details or subsequent management. The aim of the study is to assess technical failure rate, unexpected events types and their management.

Methods This is a retrospective study involving 14 high-volume Italian centres with experience in advanced resection techniques. Each centre was invited to analyse all the consecutive failures during colorectal EFTR by using FTRD from 2014 to 2022. The primary outcome was technical failure rate; secondary outcomes included management, clinical success, and complications' assessment in this population [1–10].

Results Among 503 procedures, technical failure rate was 11% (55 cases, 33M, mean age 70 years). Lesions were mainly recurrent or residual (56%), in the right colon (50%) and with mean dimension of 17 mm. Failure was linked to cap-positioning in 12 (22%), over-the-scope-clip (OTS-clip) misdeployment in 21 (38%) and snare dysfunction in 22 (40%) cases. Among 52 lesions completed, EMR was the rescue technique in 37 patients (71%), allowing en-bloc resection rate of 70% and curative margins (R0) in 65% cases. Intraprocedural bleeding and perforation rate were both 13%. Adverse events affected 19% of patients.

Conclusions Our study confirmed that colorectal EFTR is a challenging procedure with unpredictable technical failure and a wide spectrum of consequences. Experience in rescue resection techniques and multidisciplinary management are mandatory in this setting.

Conflicts of interest Authors do not have any conflict of interest to disclose.

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eP788V EUS-guided gastroduodenostomy for malignant gastric outlet obstruction

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DOI 10.1055/s-0043-1766065

Abstract Text 69-year-old patient with a history of right hepatectomy with hepaticojejunostomy for cholangio-carcinoma and PTD for jaundice for cancer recurrence presented at our department with vomiting and epigastric pain. Gastroscopy revealed a tight but passable stricture of the duodenal bulb, presumably due to tumorous infiltration of the surrounding tissue. Pneumatic dilation did not relieve symptoms and the patient was indicated for EUS-guided GE. Contrast visualization of the small bowel showed dislocation of the jejunal loop in the right upper abdominal quadrant, making it inaccessible for anastomosis. For this reason, LAMS has been placed between antrum and the descending part of the duodenum with both technical and clinical success.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP789 Prospective, randomized, single center study to evaluate efficacy of novel red dichromatic imaging (RDI) in achieving hemostasis during peroral endoscopic myotomy (POEM): interim analysis of a pilot study

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DOI 10.1055/s-0043-1766066

Aims To assess the reduction in total procedural time using Red dichromatic imaging (RDI) compared to white light imaging in achieving haemostasis during POEM. The use of RDI in comparison with white light imaging (WLI) in achieving haemostasis, ease of mucosal entry by using RDI when compared to WLI and psychological stress experienced by endoscopists during haemostasis treatment.

Methods An interim analysis of single centre prospective, randomized study to be conducted at tertiary referral centre. Patient with achalasia cardia who are undergoing POEM procedure are randomized into two groups- Group 1- Patient undergoing POEM using novel GF 1500 UGI Scope (RDI) and Group 2- patient undergoing procedure using regular white light endoscope. In group 1, RDI mode 2 was used for mucosal injection and incision and RDI mode 1 was used for identifying and controlling bleeding during the procedure.

Results Total subjects analysed n = 71, with 34 subjects in RDI Group and 37 subjects in WLI group. The mean age in the RDI group was 49.53 ± 13.86 years and in WLI group was 45.81 ± 17.38 years (p = 0.32). The total hemostasis time was significantly better (p = 0.037) in the RDI group (9.76 ± 13.85 sec) compared to WLI group (21.32 ± 28.90 sec). The RDI group had significant advantage in parameters like ease of entry (p = 0.013) and stress encountered by operator (p = 0.0281).

Conclusions The total hemostasis time, ease of submucosal entry & stress of the operator is seen to be significantly better using novel RDI to perform POEM procedure in this analysis of an ongoing study. Hence RDI helps in early identification of bleeding sources & quicker hemostasis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP790V Bouveret syndrome: endoscopic and surgical approach: Electrohydraulic and laser lithotripsy plus enterostomy

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DOI 10.1055/s-0043-1766067

Abstract Text A 90-year-old male, who consulted the emergency room for vomiting. Abdominal CT confirming the diagnosis of S. de Bouveret. We proceed to perform lithotripsy with an electrohydraulic probe. However, awaiting the procedure, the bulbous lithiasis migrates to the jejunum and produces a intestinal occlusion, while a second lithiasis of 3 cm migrated towards the bulb. It is decided to carry out a lithotripsy of the calculus in the bulb and enterotomy + extraction of the first lithiasis. When performing the initial lithotripsy, again the third calculus migrates through the fistula and requires repeating the procedure (a single probe).

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP791 Evaluating endoscopic correlation of abnormal radiological reports

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DOI 10.1055/s-0043-1766068

Aims The aim of this study is to determine the accuracy of radiological findings with endoscopic and histological correlations.

Methods For the year 2021, we retrospectively analyzed colonoscopies performed with the indication of abnormal radiology. This list was compiled using our EndoRaad system. The endoscopists' report and picture evidence were used to correlate radiological findings. We also further analyzed with histopathology results.

Results There were 62 colonoscopies performed with the indication of abnormal radiology. 33 were male and 29 female. 85% of scans were CT Abdomen/Pelvis. There were 73 abnormalities identified. These were categorized into 4 broad groups. Diverticulitis disease and masses recorded the highest positive correlation with 82% and 87.5%. Inflammation/colitis was poorly reported with 28.5% correlation. A broader, nonspecific group of abnormalities yielded a correlation rate of 60%. These included thickening, narrowing or prominent bowel areas. Histopathology was also assessed.

Conclusions Radiological modalities are a vital investigative source. However, they must be used in properly in conjunction with history taking, physical examination, laboratory, and endoscopic investigation. Needless colonoscopies may have been performed due to abnormal radiology reporting. Suspected colitis has produced low-yield results and may have been due to self-limiting or infectious colitis. Masses or lesions picked up on CT must be investigated endoscopically to obtain biopsies. There may be a role in reducing the rate of colonoscopies for diverticular disease if not clinically warranted.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP792 Metal clip as a substrate for choledocholithiasis after cholecystectomy

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DOI 10.1055/s-0043-1766069

Aims Foreign bodies into the common bile duct (CBD) can become a substrate for stones and appears as choledocholithiasis with jaundice or cholangitis. Laparoscopic cholecystectomy is a common operation with low complication rate. Metal clip migration into the biliary system after cholecystectomy is rarely described [1].

Methods We present a case of biliary colic due to migrated metal clip into the biliary system as a substrate for choledocholithiasis post cholecystectomy.

Results The patient underwent a clinical-laboratory and imaging study with computed tomography which revealed the presence of a foreign body within the stump of the cystic duct with no liver biochemistry disorder and no biliary dilation. Upon development of jaundice, she had magnetic resonance imaging which showed displacement of the foreign body into the CBD. ERCP and bile duct cleaning revealed the presence of a metal clip, as a substrate of a large stone. The procedure was uneventful.

Conclusions Careful examination and correct imaging leads to diagnosis of clip displacement within the biliary system. Endoscopy confirms diagnosis and definitive treatment. In most cases, invasive endoscopy leads to confirmation of the diagnosis and definitive treatment.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Ng DY, Petrushnko W, Kelly MD. Clip as Nidus for Choledocholithiasis after Cholecystectomy-Literature Review. JSLS 2020; 24 (1): e2019.00053

eP793 Performance of age-platelet-index in predicting variceal recurrence after eradication

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DOI 10.1055/s-0043-1766070

Aims Acute variceal bleeding (AVB) is a life-threatening complication of cirrhosis. its management is essentially based on endoscopic variceal ligation (EVL). Nevertheless, even after the eradication of esophageal varices (EV), the risk of recurrence persists. Our objective was to evaluate the performance of the age-platelet index (API) in the prediction of variceal recurrence (VR) after EV eradication in cirrhotic patients.

Methods This was a retrospective study including, between 2010 and 2019, consecutive cirrhotic patients who benefited from EV eradication and a follow-up of more than 6 months. VR was defined as the development of AVB or an increase in EVs size to \geq grade 1. The following scores were calculated at the first EVL: API, APRI, FIB-4, albumin-bilirubin grade (ALBI), platelet-albumin-bilirubin grade (PALBI), king's score, AAR, Lok-index, Cirrhosis-Discriminant Score (CDS), Goteborg-University-Cirrhosis Index (Guci) and age to platelet index.

Results A total of 219 patients were included. Seventy-nine patients benefited from EV eradication (36%). The sex ratio was 1.63 and the mean age was 62.3 ± 13.4 . The main etiology of cirrhosis was a viral infection (53,9%). VR occurred in 15.2% of cases. The API was correlated with VR (8.71 ± 0.99 vs 7.58 ± 1.98 ; $p = 0.002$). The following scores were also statistically correlated with VR: FIB-4 ($p = 0,01$) and king's score ($p = 0,04$). The king's score had the best area under the ROC curve (0.912 [95%CI; 0,846-0,978]) followed by FIB-4 (0.697 [95%CI; 0,557-0,83]) and API (0.663 [95%CI; 0,536-0,789]).

Conclusions These scores would be useful to identify vulnerable patients who would require close monitoring after the EV eradication.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP794 Percutaneous Endoscopic Necrosectomy of Walled-Off Necrosis in Post-ERCP Pancreatitis

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DOI 10.1055/s-0043-1766071

Aims We describe a case report of post-ERCP acute necrotizing pancreatitis with walled-off necrosis (WON) treated with percutaneous endoscopic necrosectomy (PEN).

Methods A 60-year-old man with obstructive jaundice and common bile duct stones at abdominal CT scan underwent ERCP to clear the biliary tract.

Results In the following days, due to the onset of severe acute pancreatitis and sepsis, he repeated the abdominal CT scan where multiple necrotic collections were found around the pancreas with extension to the pelvic paracolic gutters. Following a step-up approach, targeted antibiotic therapy was started. After four weeks, it was not possible to perform Endoscopic Ultrasound-Guided drainage because of the distance from the stomach or the duodenum to the WON. Then percutaneous drainage was radiologically inserted into the collections through the left side of the abdomen of the patient to flush with hydrogen peroxide every day. Due to the persistent infection and necrosis in the collections, an esophageal fully covered self-expanding metal stent was temporarily inserted through the percutaneous fistula in order to increase the caliber of the fistula and to perform PEN.

Conclusions The step-up approach suggests endoscopic or percutaneous drainage of infected WON as the first interventional method, depending on the location of the WON and the local expertise [1]. PEN is a safe and effective alternative to surgical treatment with a technical success rate of 47-93% and a complication rate of no more than 20%. [2] PEN is an advanced endoscopic technique that is showing promising results but still needs randomized controlled trials to establish safety and efficacy.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Feng Linlin, Guo Jintao, Wang Sheng et al. Endoscopic Transmural Drainage and Necrosectomy in Acute Necrotizing Pancreatitis: A Review. J Transl Int Med 9 (3): 168–176 2021

[2] Dumonceau Jean-Marc, Kapral Christine, Aabakken Lars et al. ERCP-related adverse events: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. Endoscopy 2020; 52 (2): 127–149

eP795 Predictors of successful discharge in upper gastrointestinal bleeding

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DOI 10.1055/s-0043-1766072

Aims To identify the predictors of successful discharge (SD) in upper gastrointestinal bleeding.

Methods We included all visits to the emergency room due to upper gastrointestinal hemorrhage that required urgent endoscopy during 1 year. We registered demographic data, comorbidities, presentation, transfusion requirement, second examination (endoscopic/radiological/surgical), readmission, and mortality for each episode. SD was defined as the absence of rebleeding (transfusion later than 24h after endoscopy or need for a second endoscopic, radiological, or surgical treatment), readmission or mortality. Values expressed in median and interquartile range.

Results 176 patients were identified, age 71 years (61-79), age-adjusted Charlson Comorbidity Index (ACCI) 6 (4-8), ASA 3 (2-4), 86 (48,9%) received anticoagulant and/or antiplatelet drugs and presented with hemodynamic instability (HDI). The main presentation was melena (62,5%) and the main etiology was peptic ulcer (29%). 112 (63,6%) met SD criteria: 56 (31,8%) rebled, 9 (5,1%) were readmitted and 11 (6,3%) died. Only empty stomach and ACCI < 6 were independently associated with SD (adjusted OR 3,926; 95% CI 1,698-9,075 and OR 2,793; 95% CI 1,324-5,892), but not sedation nor other classically described risk factors such as HDI, altered level of consciousness, hematemesis or treatment with anticoagulant/antiplatelet drugs.

Conclusions Nearly two thirds of patients with upper gastrointestinal bleeding show good prognosis and could be successfully discharged, especially those with ACCI < 6 and an empty stomach at the time of examination.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP796V Diffuse large B-cell pancreatic lymphoma diagnosed with EUS-FNA in a patient with Roux-en-Y gastric bypass anatomy

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DOI 10.1055/s-0043-1766073

Abstract Text A 29-year-old woman with a surgical history of Roux-en-Y gastric bypass (RYGB) for morbid obesity presented with obstructive jaundice and pancreatitis. All etiologies were excluded. Ca19.9 was 82.8 U/mL. CT-scan and EUS from the stomach showed a diffusely enlargement of pancreas with inhomogeneous echogenicity, without focal lesion, and splenomegaly. FNAB of the body was then performed with a 22G needle. Cytomorphology was suggestive of a lymphoproliferative disorder. Immunohistochemistry on cytology cell block showed atypical lymphoid cells positive for LCA, CD20, BCL6, and MUM1, and negative for CD10, with Ki67 positive tumor cells up to 90%. This pattern was consistent with a non-Hodgkin's lymphoma.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP797 Pancreatic Cancer Stem Cells Expression on Endoscopic Ultrasound Fine Needle Biopsy Pancreatic Ductal Adenocarcinoma Samples

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DOI 10.1055/s-0043-1766074

Aims The aim of this study is to assess the expression of pancreatic cancer stem cells, on pancreatic endoscopic ultrasound-guided fine-needle biopsy (EUS-FNB) specimens.

Methods A total of 21 patients diagnosed with PDAC after EUS-FNB within the Research Center of Gastroenterology and Hepatology of Craiova, were included in the study, and the samples were sent for immunohistochemical assessment. Anti-Human CD 24 (polyclonal, Abcam, ab 199140) and EpCAM (Epr 20532-225, Rb monoclonal, Abcam, ab 223582) were used.

Results All cases were positive for CD24 and EpCAM. In NOS ductal adenocarcinomas, CD24 immunomarking was heterogeneous, with variable intensity and a variable number of positive cells within the same case. Well and moderately differentiated adenocarcinomas that formed tubular or papillary structures showed a higher intensity CD24 expression compared to poorly differentiated or undifferentiated adenocarcinomas. EpCam showed a stronger immunolabeling intensity in the analyzed samples. PDAC EpCam expression was of moderate and high intensity and with a heterogeneous appearance in NOS G1 adenocarcinomas, but the intensity of the immunomarking tended to decrease with increasing histological grade.

Conclusions EUS-FNB PCSC immunohistochemistry is feasible. At the subcellular level, the basolateral membranous and cytoplasmic staining of EpCam in PDAC could be correlated with tumor invasion and possibly with the unfavorable evolution of this type of carcinoma, while CD24 frequently presents an apical immunostaining pattern and could suggest the presence of an epithelial-type phenotype of tumor cells, with a lower potential for invasiveness and metastasis.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP798 Potential need for single-use duodenoscopes: infection risk in a large cohort of academic and non-academic ERCP procedures

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DOI 10.1055/s-0043-1766075

Aims Risk factors for ERCP-related infections include patients' susceptibility for infection, multidrug resistant infections, COVID, and interventional procedures. To overcome this issue single-use duodenoscopes (SUD) have been developed, but the need for their use has not yet been fully estimated. We reviewed potential SUD indications in a large cohort of patients.

Methods Retrospective analysis of all ERCPs performed from July 1st 2021 till June 30th 2022, in an academic centre and a large community hospital. Clinical, technical, adverse events including infections were retrieved, as well as risk factors for ERCP related infection.

Results Out of 846 ERCPs performed in the 2 centres (128 community, 718 academic), 756 used Olympus or Pentax detachable cap reusable duodenoscopes (excluding 90 entero-ERCP). Median age was 64 (4-100y), 56% men, 56% having at least one risk factor (135 liver transplant, 27 Klatskin, 39 benign IH stricture, 44 previous incomplete drainage, 195 HBP cancer, 49 chemotherapy). 237 pts were infected prior to ERCP (31.4%), mainly angiocholitis (18.5%),

MRSA, VRE, and Covid infected pts (19/756). AE were observed in 15% of pts (10.7% infections, 2.1% PEP, 1.4% bleedings). Very few outcome differences were observed between the 2 centres, significantly more transplant patients in the academic setting.

Conclusions The ratio for SUD need depends on the algorithm choice: a wide one including all risk factors and a restrictive one including only high risk patients (Covid, VRE, MRSA, liver transplant, intrahepatic strictures, or severely immunocompromised patients) will involve 56% and 24% of patients, respectively.

Conflicts of interest Consultancy for Boston Scientific, Olympus Medical, Erbe

eP799 Same session Endoscopic Ultrasound and ERCP experience at a Tertiary Hospital in Ireland

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DOI 10.1055/s-0043-1766076

Aims Same session EUS and ERCP has the potential to streamline patient investigation and therapy, and to avoid the risk associated with ERCP if biliary pathology is not seen at EUS. We assessed the utility of same session EUS and ERCP in patients referred to our hospital.

Methods We performed a retrospective analysis of endoscopy records from July 2021 to November 2022. Patients with suspected biliary pathology on other imaging studies were referred for same session EUS +/- ERCP were included. Procedural outcomes, sedation usage, and safety were assessed.

Results 91 patients had EUS +/- ERCP. 53% of the patients were female (median age 67 years). 51 patients (56%) required ERCP following EUS. 17/50 (34%) of patients with suspected biliary stones on other imaging did not require an ERCP due to a negative EUS. Patients who underwent EUS only received median doses of 3mg of Midazolam and 50mcg of Fentanyl, with 7 patients (18%) requiring additional pethidine. Patients who underwent combined procedures received median doses of 5mg of Midazolam and 100mcg of Fentanyl, with 21 patients (41%) receiving additional pethidine. There were no sedation related adverse events. 2 patients that required ERCP did not receive one on the same session due to bleeding post FNA (1), and suspected duodenal injury with EUS scope (1). Of the patients who underwent combined EUS/ERCP 7/51 (13%) patients had a failed biliary cannulation, mostly related to malignancy causing ampullary distortion.

Conclusions Same session EUS +/- ERCP is safe, can efficiently combine both diagnosis and treatment, and importantly reduce potential patient morbidity by avoiding unnecessary ERCP.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP800 VALIDITY OF THE ESGE CRITERIA FOR HIGH RISK OF CHOLEDOCOLITHIASIS: HOW MANY UNNECESSARY ERCPs COULD BE AVOIDED?

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DOI 10.1055/s-0043-1766077

Aims Patients with clinical symptoms of biliary colic are at risk of presenting choledocholithiasis. The European Society of Gastrointestinal Endoscopy (ESGE) elaborated some criteria, regarding the probability of presenting choledocholithiasis based on the analytical alteration and the dilation of the bile duct in abdominal ultrasound. In patients with a high probability, ERCP or cholecystectomy with an exploration of the bile duct is recommended [1-2].

We tried to determine the validity of these criteria and calculate the rate of unnecessary ERCP in patients with high-risk criteria for choledocholithiasis

Methods We carried out a retrospective observational study of patients admitted to our hospital between January 2021 and March 2022 due to symptoms compatible with biliary colic. A total of 232 patients were recruited. Patients were classified as low, intermediate, and high-risk, based on the ESGE criteria. We selected all patients with high-risk criteria and an evaluative test of the bile duct, echoendoscopy (USE) or magnetic resonance imaging (MRI). The gold standard for choledocholithiasis was defined as extraction of lithiasis by ERCP or the absence of new episodes in the subsequent 6 months in patients with a negative test.

Results Only 1 patient had a low probability of choledocholithiasis. Of the 131 with intermediate probability, 68 (51.9%) did not have a stone in the bile duct. Of the 100 patients with a high probability, choledocholithiasis was ruled out in 33 (33%) after performing an USE or MRI.

Conclusions In our population with a high probability of choledocholithiasis after abdominal ultrasound according to the ESGE criteria, ERCP was avoided in one-third of the patients, reducing the possibility of complications and iatrogenicity of the technique.

Conflicts of interest Authors do not have any conflict of interest to disclose.

- [1] Qiu Y, Yang Z, Li Z et al. Is preoperative MRCP necessary for patients with gallstones? An analysis of the factors related to missed diagnosis of choledocholithiasis by preoperative ultrasound. *BMC Gastroenterol.* 2015; 15: 158
[2] Manes G, Paspatis G, Aabakken L et al. Endoscopic management of common bile duct stones: European Society of Gastrointestinal Endoscopy (ESGE) guideline. *Endoscopy* 2019; 51: 472–491

eP801 Safety Profile of Device Assisted Enteroscopy: A Retrospective Analysis of Interventions and Complication Rates

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DOI 10.1055/s-0043-1766078

Aims Therapeutic interventions during device-assisted enteroscopy (DAE) are technically demanding due to a number of factors including, length of scope, stability in the small bowel, and thin diameter of the small bowel wall. Our aim was to retrospectively assess complication rates in device-assisted enteroscopy in our center.

Methods A retrospective review was performed of consecutive DAE procedures performed over a period of 24 months to July 2022. Data including procedure indication, patient demographics as well as procedural details including interventions and complications were recorded.

Results 292 procedures were identified over the period of analysis. Of these 228 (78%) were double balloon vs 64 (22%) single balloon. The mean age of patients was 61.6 years with a slight male predominance of 54.9%. 124 (43%) procedures involved a therapeutic intervention. Of these, 106 (85%) involved the treatment of vascular lesions, 95 used argon plasma coagulation (APC) alone, a further 8 used a combination of APC and endoscopic clips and clips alone in 3 cases. 11 (4%) cases involved polypectomy, while 7 (6%) involved cases of stricture dilatation (including 2 capsule retrievals).

Complications were rare, with only 3 (1%) recorded. One patient was admitted with post-procedural hypotension and metabolic acidosis. 2 others were admitted for monitoring post-treatment of bleeding lesions, neither required reintervention.

Conclusions DAE includes a high rate of therapeutic intervention. Given this it is a safe procedure with a few complications.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP802 Abdominal computed tomography predictors of technical success of endoscopic ultrasound-guided gallbladder drainage

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DOI 10.1055/s-0043-1766079

Aims Endoscopic ultrasound-guided gallbladder drainage (EUS-GBD) was not always technically feasible. Our study aim was to evaluate abdomen computed tomography (CT) predictors of EUS-GBD technical success (TS).

Methods The CT images of all consecutive patients that underwent EUS-GBD from January 2020 to December 2022 in our hospital were retrospectively evaluated. CT data collected were: artifacts presence, days between CT and EUS-GBD, slice thickness, region of interest (ROI) density, GB morphology, GB long and short axis, sludge, stones presence, size, location and density, distance between GB and antrum or duodenal bulb, GB wall thickness and peri-GB fluid presence. EUS-GBD data evaluated were: type and size of stent, TS and clinical success.

Results We evaluated 45 abdomen CTs of patients that underwent EUS-GBD (male 27 60%, mean age 81.3 ± 10.5 years old). The mean time between CT and EUS-GBD was 4 ± 4 days. EUS-GBD was performed via duodenal bulb in 29 (64.4%) cases. Mean GB short and long axis length were 42.1 ± 11.4 and 103.4 ± 28.7 mm, respectively. Mean CT distance between GB and stomach or duodenal bulb were 14.8 ± 12.9 and 10.8 ± 10.6 mm, respectively. Stones were found in 22 (48.9%) GB with mean size of 14.9 ± 4.5 mm. Sludge was described in 23 (51.1%) cases. On univariate analysis, CT GB long axis length and GB wall thickness were significantly related to EUS-GB TS, but only GB wall thickness was an independent predictor (p:0.027, OR 0.28[0.09-0.86]) of EUS-GBD TS at multivariate analysis.

Conclusions Pre-EUS-GBD CT may be a useful tool to predict EUS-GBD TS, especially the TC measurement of GB wall thickness.

Conflicts of interest Authors do not have any conflict of interest to disclose.

eP803 Echoendoscopy-ERCP tandem strategy for suspected choledocholithiasis compared to MRI in hospitalized patients

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DOI 10.1055/s-0043-1766080

Aims The objective of our study is to determine the differences between performing EUS-ERCP in tandem or MRI to rule out choledocholithiasis in hospitalized patients who are at risk.

Methods We conducted a retrospective, observational study of patients admitted to our center between January 2021 and March 2022 for suspected choledocholithiasis after an abdominal ultrasound. All of them had an additional exploration (EUS or MRI). ERCP was performed in the same session after a positive EUS (tandem strategy). The "gold standard" of lithiasis was the extraction of stones by ERCP, or in negative studies, the absence of new episodes in the subsequent 6 months. We compared the differences between EUS and MRI. Some patients with stones on MRI, but with low clinical probability, underwent EUS just before ERCP. The sensitivity, specificity, positive and negative predictive values of each test, as well as differences in days of hospitalization were calculated [1].

Results A tandem EUS-ERCP strategy was performed on 45 patients, compared to 97 with MRI. A total of 106 MRIs and 87 echoendoscopies were performed. The presence of choledocholithiasis was ruled out in 19 (32.8%) patients with lithiasis on MRI, compared to 2 (5%) on EUS. The EUS had values of S = 95.7%, E = 95%, PPV = 95.7%, NPV = 95% for choledocholithiasis, compared to S = 95.8%, E = 67.2%, PPV = 70.8%, NPV = 95.1% of the MRI. Patients with the EUS

strategy remained hospitalized until ERCP was performed for 7.6 ± 5.2 days compared to 11.2 ± 9.3 days for MRI ($p = 0.007$).

Conclusions In our population, the strategy of performing EUS-ERCP in tandem was associated with a lower rate of unnecessary ERCP compared to MRI and a shorter hospital stay.

Conflicts of interest Authors do not have any conflict of interest to disclose. [1] Manes G, Paspatis G, Aabakken L et al. Endoscopic management of common bile duct stones: European Society of Gastrointestinal Endoscopy (ESGE) guideline. *Endoscopy* 2019; 51: 472–491

eP804 A comparison of colorectal polyp detection in average-risk FIT +ve screening and age-controlled symptomatic cohorts

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DOI 10.1055/s-0043-1766081

Aims Colonoscopy is a finite resource. There are two main pathways of referral in Ireland; a population based screening programme (60-69y) and symptomatic patients. The aim of this study was to evaluate the findings of advanced colorectal polyps and cancer in this age group.

Methods A single centre age-controlled retrospective observational study from January 2015 to December 2021 was performed. All index colonoscopies performed on patients aged 60-70 years old were included. FIT cut off was 45ugHb/gF. Diagnostic yield was reported as the adenoma detection rate (ADR), SSL detection rate (SSLDR), detection of an advanced adenoma/serrated lesion, high-grade dysplasia, or adenocarcinoma. Quality measures including adequacy of bowel preparation and use of hyoscine butylbromide were recorded. [1–3]

Results 5941 colonoscopies were included; 2619 (44.1%) were FIT +ve. The median age was 65 years [IQR 62-68], with females predominant in both groups (52.8% and 57.9%). There were significant differences in ADR (57.5% vs 25.4%, $p < 0.01$), SSLDR (10.7% vs. 6.2%, $p < 0.01$), advanced polyps (22.1% vs. 5.9%,

$p < 0.01$), HGD (4.9% vs. 0.8%, $p < 0.01$) and cancer detection (4.8% vs. 0.9%). Better bowel preparation (83.5% vs. 71.3%, $p < 0.01$) and increased use of hyoscine butylbromide (19.2% vs. 3.9%, $p < 0.01$) was noted in the screening group (► **Table 1**).

Variable	Screening	Symptomatic	<i>p</i> value
Total	2619 (44.1%)	3322 (55.9%)	
Age (median)	65 [IQR 62-68]	65 [62-67]	
Female (%)	52.8	57.9	
ADR (%)	57.5	25.4	<0.01
SSLDR (%)	10.7	6.2	<0.01
HPDR (%)	22.5	12.8	<0.01
Polyp >1cm	22.1	5.9	<0.01
Polyp >2cm	7.5	0.7	<0.01
HGD	4.9	0.8	<0.01
Carcinoma	4.8	0.9	<0.01

► **Table 1**

Conclusions The screening programme yields significantly more pathology than the symptomatic group. Better triage of symptomatic patients to a FIT-based pathway may increase the utility of this scarce resource in this age group.

Conflicts of interest Authors do not have any conflict of interest to disclose.

[1] Cha JM, Kozarek R, La Selva D et al. Findings of diagnostic colonoscopy in young adults versus findings of screening colonoscopy in patients aged 50 to 54 years: a comparative study stratified by symptom category. *Gastrointestinal Endoscopy* 2015; 82: 138–145

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[3] Ismail MS, Aoko O, Sihag S et al. Lower gastrointestinal symptoms and symptoms-based triaging systems are poor predictors of clinical significant disease on colonoscopy. *BMJ Open Gastroenterology* 2020; 7: e000221

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Endoscopy

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Georg Thieme Verlag KG,
Rüdigerstraße 14, 70469 Stuttgart, Germany
Volume 55

Endoscopy is published in 12 issues per year.
ISSN (Print): 0013-726X
eISSN: 1438-8812

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Publishers

Georg Thieme Verlag KG
Rüdigerstraße 14, 70469 Stuttgart or
P.O.Box 301120, 70451 Stuttgart
phone +49 711 8931-0, fax +49 711 8931-298
www.thieme.de/fz/endoscopy

Web-App: www.thieme.de/eref-app
Editorial staff at the Georg Thieme Verlag is available via:
endoscopy.impressum@thieme.de, V.i.S.d.P.:
Sabine Görlich-Gündüz, Rüdigerstraße 14,
70469 Stuttgart

Advertising

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Pharmmedia Anzeigen- und Verlagsservice GmbH
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P.O.Box 300880, 70448 Stuttgart
phone +49 711 8931-603, fax +49 711 8931-470
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phone +49 711 8931-883, fax +49 711 8931-393
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Subscription information

Subscribers are asked to inform the publisher immediately in case of address changes in order to ensure correct delivery of the journal.

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Airfreight and mailing in the USA by Sheridan Press, 450 Fame Avenue, Hanover, PA 17331. Periodicals postage paid at New York, NY and additional mailing offices. Postmaster: Send address changes to European Journal of Pediatric Surgery, Thieme Medical Publishers, Inc., 333 Seventh Avenue, New York, NY 10001.

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Printed in Germany

Typesetting: seitenweise, Tübingen
Printer: Grafisches Centrum Cuno GmbH & Co. KG, Calbe (Saale)

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