

Simultaneous duodenal stenting and endoscopic ultrasound-guided hepaticogastrostomy using a forward-oblique view echoendoscope

A 65-year old man with advanced pancreatic cancer with a combination of malignant biliary obstruction and gastric outlet obstruction was referred to our hospital. Given the presence of periampullary cancerous lesions, the endoscopic placement of a duodenal stent and endoscopic ultrasound (EUS)-guided hepaticogastrostomy (HGS) were performed simultaneously, using a single convex-array echoendoscope with a forward-oblique view (EG-580T; Fujifilm, Tokyo, Japan; ► **Fig. 1**). A partially covered metal duodenal stent (Niti-S COM-VI; Taewoong Medical, Gimpo, Korea) was placed under fluoroscopic and endoscopic guidance (► **Fig. 2**, ► **Video 1**). This was followed, without scope ex-

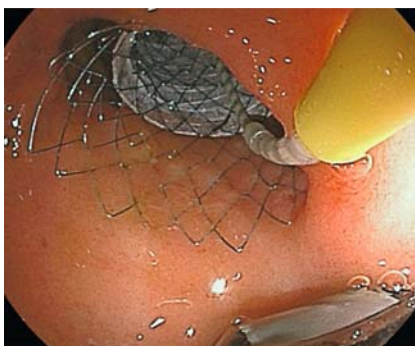
change, by EUS-HGS: a long partially covered metal stent (modified GIOBOR, Taewoong Medical) was successfully placed [1] from the B3 intrahepatic duct to the stomach under EUS, endoscopic, and fluoroscopic guidance

(► **Fig. 3**, ► **Video 2**). The total procedure time was 38 minutes.

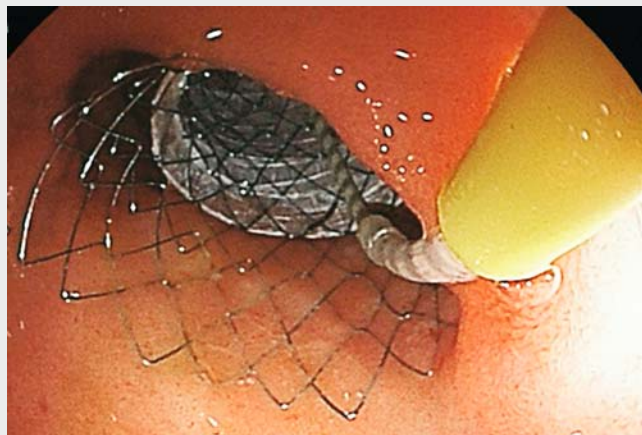
Combined malignant biliary obstruction and gastric outlet obstruction are not rare in advanced pancreatic cancer and EUS-guided biliary drainage, especially



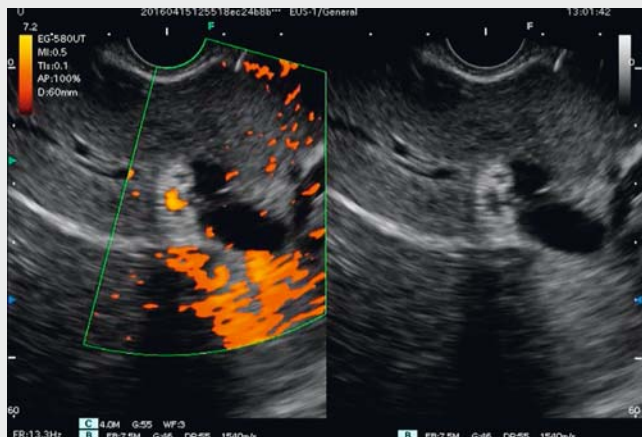
► **Fig. 1** The new forward-oblique view convex-array echoendoscope, with 40° forward viewing direction.



► **Fig. 2** Duodenal stent placement, using the new forward-oblique view echoendoscope, in a patient with advanced pancreatic cancer and a combination of malignant biliary obstruction and gastric outlet obstruction.



► **Video 1** Part 1. Simultaneous duodenal stenting and endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) using a forward-oblique view echoendoscope. A partially covered metal duodenal stent is placed under fluoroscopic and endoscopic guidance.



► **Video 2** Part 2. Simultaneous duodenal stenting and endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS). In the subsequent (EUS-HGS), done without scope exchange, a long partially covered metal stent is deployed from the B3 intrahepatic duct to the stomach under EUS, endoscopic, and fluoroscopic guidance.



► **Fig. 3** Endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) performed, without scope exchange, immediately after the duodenal stent placement shown in ► **Fig. 2**. The tip of the echoendoscope and the puncture site were seen endoscopically, enabling stent insertion and deployment under direct visualization.

EUS-HGS [2], is increasingly reported because of its better patency than transpapillary biliary drainage [3]. Conventionally, enteric stents are placed using a forward-viewing endoscope and EUS-guided biliary drainage by an oblique-viewing echoendoscope. A single-session dual-stent placement using two endoscopes has been described [4].

This new echoendoscope with a forward-oblique view has a 3.8-mm operating channel, and has a 40° forward viewing direction with 140° field of view compared to the 55° viewing direction and 100° field of view in the conventional oblique-viewing echoendoscope [5]. This enables the direct visualization of both the enteric stricture and the enteric stent deployment, and also helps hepaticogastrostomy with EUS-guided biliary drainage stent deployment with endoscopic guidance. Thus a single echoendoscope can be used to place a duodenal stent and an EUS-guided biliary drainage stent.

In conclusion, the simultaneous placement of a duodenal stent and EUS-HGS is feasible using the new forward-oblique view echoendoscope, facilitating shorter procedure time without the need for scope exchange.

Endoscopy_UCTN_Code_TTT_1AS_2AD

Competing interests

Hiroyuke Isayama and Yousuke Nakai have financial relationships with Fujifilm Corp. in the form of research support and/or honoraria.

The Authors

Tanyaporn Chantarojanasiri^{1,2}, Hiroyuki Isayama¹, Yousuke Nakai¹, Saburo Matsubara¹, Suguru Mizuno¹, Hirofumi Kogure¹, Kazuhiko Koike¹

- 1 Department of Gastroenterology, the University of Tokyo, Tokyo, Japan
- 2 Department of Internal Medicine, Police General Hospital, Bangkok, Thailand

Corresponding author

Hiroyuki Isayama, MD, PhD

Department of Gastroenterology, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8655, Japan
 Fax: +81-3-3814-0021
 isayama-tky@umin.ac.jp

References

- [1] Nakai Y, Isayama H, Yamamoto N et al. Safety and effectiveness of a long, partially covered metal stent for endoscopic ultrasound-guided hepaticogastrostomy in patients with malignant biliary obstruction.

Endoscopy 2016; 48: 1125–1128. Epub 2016 Oct 7

- [2] Ogura T, Chiba Y, Masuda D et al. Comparison of the clinical impact of endoscopic ultrasound-guided choledochoduodenostomy and hepaticogastrostomy for bile duct obstruction with duodenal obstruction. Endoscopy 2016; 48: 156–163
- [3] Hamada T, Isayama H, Nakai Y et al. Transmural biliary drainage can be an alternative to transpapillary drainage in patients with an indwelling duodenal stent. Dig Dis Sci 2014; 59: 1931–1938
- [4] Kawakubo K, Isayama H, Nakai Y et al. Simultaneous duodenal metal stent placement and EUS-guided choledochoduodenostomy for unresectable pancreatic cancer. Gut Liver 2012; 6: 399–402
- [5] Murad FM, Komanduri S, Abu Dayyeh BK et al. Echoendoscopes. Gastrointest Endosc 2015; 82: 189–202

Bibliography

DOI <https://doi.org/10.1055/s-0043-116379>
 Published online: 2017
 Endoscopy
 © Georg Thieme Verlag KG
 Stuttgart · New York
 ISSN 0013-726X

ENDOSCOPY E-VIDEOS

<https://eref.thieme.de/e-videos>



Endoscopy E-Videos is a free access online section, reporting on interesting cases and new techniques in gastroenterological endoscopy. All papers include a high quality video and all contributions are freely accessible online.

This section has its own submission website at
<https://mc.manuscriptcentral.com/e-videos>