Endoscopic ultrasound-guided pancreaticogastrostomy using a lumen-apposing metal stent plus a double-pigtail plastic stent



Fig. 1 Endoscopic ultrasound (EUS)-guided access to the pancreatic duct. **a** Transgastric puncture of the dilated pancreatic duct using a 19-gauge needle (Expect Flex; Boston Scientific, Marlborough, Massachusetts, USA). **b** EUS-guided pancreatography revealed a dilated, tortuous main pancreatic duct, and severe stricture in the cephalic pancreatic area. A 0.035-inch guidewire was advanced through the pancreatic duct. **c** Fluoroscopic view of the 6 Fr cystotome over the guidewire.



Endoscopic ultrasound (EUS)-guided pancreatic duct drainage remains one of the most technically challenging endosonography interventions. There is a lack of specific devices for the technique, and the question of which kind of stent should be used remains controversial: plastic (straight, single or double pigtail) or selfexpanding metal [1-4].

The lumen-apposing metal stent (LAMS) has been used in different scenarios (transmural drainage of collections and



Endoscopic ultrasound-guided transluminal pancreatic duct drainage (pancreaticogastrostomy) using a lumen-apposing stent plus a double-pigtail plastic stent.

EUS-guided anastomosis). There are various sizes of LAMS available, and some of them, specifically designed to be used in the bile duct, are small $(e.g. 6 \times 8 mm)$ [5]. To our knowledge, this is the first report to date of successful EUS-guided pancreatic duct drainage using a LAMS plus a pigtail stent. A 44-year-old man, with chronic pancreatitis and pancreatic duct stricture causing abdominal pain, was referred to our unit. Endoscopic retrograde cholangiopancreatography was attempted, but cannulation was unsuccessful. After a failed rendezvous, EUS-guided transluminal pancreatic duct drainage (pancreaticogastrostomy) was successfully performed using a biliary LAMS (6×8mm, HotAXIOS; Boston Scientific, Marlborough, Massachusetts, USA) plus a double-



Fig. 3 Endoscopic view of a double-pigtail plastic stent (7 Fr×5 cm, Advanix; Boston Scientific, Marlborough, Massachusetts, USA) through the lumen-apposing metal stent in the gastric cavity.

pigtail stent, with the purpose of avoiding self-occlusion, food impaction, dislodgement, and migration (**> Video 1**).

First, the dilated pancreatic duct (up to 5.6 mm) was punctured directly from the gastric wall, using a 19G needle, and tract dilation was carried out using a 6Fr cystotome over a 0.035-inch guidewire (**•** Fig. 1). Second, a LAMS was inserted and deployed using the HotAXIOS system. All four steps of the delivery system were

performed under EUS, endoscopic, and fluoroscopic guidance (**•** Fig. 2). Finally, a double-pigtail plastic stent (7 Fr×5 cm, Advanix; Boston Scientific) was advanced through the LAMS under endoscopic vision (**•** Fig. 3). The total procedure duration was 48 minutes. The patient's condition evolved satisfactorily without any adverse events.

The use of a LAMS plus a double-pigtail stent in EUS-guided pancreatic duct drainage was technically feasible and safe, and reduced the potential risk of pancreatic fluid leak or stent migration. For these reasons, it should be considered as a new option in this scenario.

Endoscopy_UCTN_Code_TTT_1AS_2AD

Competing interests: None

Joan B. Gornals¹, Claudia Consiglieri¹, Francesc Vida², Carme Loras³

- ¹ Endoscopy Unit, Department of Digestive Diseases, Hospital Universitari de Bellvitge-IDIBELL, Barcelona, Spain
- ² Endoscopy Unit, Department of Digestive Diseases, Althaia Xarxa Hospitalaria de Manresa, Manresa, Spain
- ³ Endoscopy Unit, Department of Digestive Diseases, Hospital Universitari Mutua de Terrassa, CIBERehd, Spain

References

- 1 *Chen YI, Saxena P, Ngamruengphong S* et al. Endoscopic ultrasound-guided pancreatic duct drainage: technical approaches to a challenging procedure. Endoscopy 2016; 48: 192–193
- 2 Chapman CG, Waxman I, Siddiqui UD. Endoscopic ultrasound (EUS)-guided pancreatic duct drainage: the basics of when and how to perform EUS-guided pancreatic duct interventions. Clin Endosc 2016; 49: 161–167
- 3 *Fujii-Lau LL, Levy MJ.* Endoscopic ultrasound-guided pancreatic duct drainage. J Hepatobiliary Pancreat Sci 2015; 22: 51–57
- 4 *Will U, Reichel A, Fueldner F* et al. Endoscopic ultrasonography-guided drainage for patients with symptomatic obstruction and enlargement of the pancreatic duct. World J Gastroenterol 2015; 21: 13140–13151
- 5 *Gornals JB, Consiglieri C, Gallarreta V* et al. Single-session fluoroless endoscopic ultrasound-guided fine-needle aspiration and choledochoduodenostomy with a biliary lumen-apposing stent. Endoscopy 2015; 47: 418–419

Bibliography

DOI http://dx.doi.org/ 10.1055/s-0042-113186 Endoscopy 2016; 48: E276–E277 © Georg Thieme Verlag KG Stuttgart - New York ISSN 0013-726X

Corresponding author

Joan B. Cornals, MD, PhD Endoscopy Unit Department of Digestive Diseases Hospital Universitari de Bellvitge-IDIBELL (Bellvitge Biomedical Research Institute) Feixa Llarga s/n 08907 L'Hospitalet de Llobregat Barcelona Catalonia Spain Fax: +34-93-2607681 jgornals@bellvitgehospital.cat