Crisscross anchor-stents to prevent metal stent migration during endoscopic ultrasound-guided hepaticogastrostomy

Endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) has become increasingly utilized to palliate malignant biliary obstruction in patients with inaccessible papillae as a result of duodenal tumor invasion [1,2]. Although a covered self-expandable metal stent (SEMS) is preferred to a plastic stent in EUS-HGS because of its lower risk of bile leakage [3], SEMS migration can be a fatal complication [4]. Herein, we present a case in which a SEMS at risk of proximal migration was successfully managed by adding plastic stents to serve as an anchor.

An 82-year-old man, who had undergone transpapillary stenting using a covered SEMS for distal bile duct cancer, presented with duodenal obstruction. The biliary SEMS was removed endoscopically, followed by duodenal SEMS placement, and EUS-HGS was performed in segment 3 using a covered SEMS (modified-GIOBOR, width 10 mm, length 10 cm, 1-cm uncovered portion at the proximal end; Tae-Woong Medical Inc., Gimpo, Korea). The following day, percutaneous transhepatic biliary drainage was performed for cholangitis in segment 2. During this procedure, there was proximal dislocation of the SEMS as a result of interference between the percutaneous transhepatic biliary drainage catheter and the SEMS. A therapeutic duodenoscope (JF-260V, Olympus, Tokyo, Japan) was inserted immediately, and the distal SEMS end was barely observed (● Fig. 1). The SEMS was moved 2 cm into the stomach by grasping its distal end using biopsy forceps. Subsequently, we punctured the covered mesh wall of the SEMS using an endoscopic retrograde cholangiopancreatography (ERCP) cannula and a 0.035-inch guidewire (● Fig. 2), and placed a 5-Fr plastic stent (Geenen, Cook Endoscopy, Winston-Salem, North Carolina, USA). Another plastic stent was placed similarly in a crisscross manner (● Fig. 3). The patient did not develop any further complications, including cholangitis or SEMS migration. The management of SEMS migration in EUS-HGS is technically demanding and potentially requires surgical intervention [5]. Crisscrossing anchor stents can be used as a salvage technique to prevent this complication.

Endoscopy_UCTN_Code_TTT_1AS_2AC

Competing interests: None

Yusuke Shima^{1,2}, Hiroyuki Isayama^{1,2}, Yukiko Ito¹, Tsuyoshi Hamada², Yousuke Nakai², Takeshi Tsujino¹, Ryo Nakata¹, Kazuhiko Koike²

¹ Department of Gastroenterology, Japanese Red Cross Medical Center, Tokyo, Japan

² Department of Gastroenterology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

References

- 1 Park do H, Koo JE, Oh J et al. EUS-guided biliary drainage with one-step placement of a fully covered metal stent for malignant biliary obstruction: a prospective feasibility study. *Am J Gastroenterol* 2009; 104: 2168–2174
- 2 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, DOI: 10.1007/s10620-014-3062-1
- 3 Kawakubo K, Isayama H, Kato H et al. Multi-center retrospective study of endoscopic ultrasound-guided biliary drainage for malignant biliary obstruction in Japan. *J Hepatobiliary Pancreat Sci* 2014; 21: 328–334
- 4 Kim TH, Kim SH, Oh HJ et al. Endoscopic ultrasound-guided biliary drainage with placement of a fully covered metal stent for malignant biliary obstruction. *World J Gastroenterol* 2012; 18: 2526–2532
- 5 Hamada T, Nakai Y, Isayama H et al. Tandem stent placement as a rescue for stent misplacement in endoscopic ultrasonography-guided hepaticogastrostomy. *Dig Endosc* 2013; 25: 340–341

Bibliography

DOI <http://dx.doi.org/10.1055/s-0034-1377945>
Endoscopy 2014; 46: E563
 © Georg Thieme Verlag KG
 Stuttgart · New York
 ISSN 0013-726X

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: +81-3-38140021
isayama-tyky@umin.ac.jp

Fig. 1 A covered self-expandable metal stent (SEMS) used for endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) had nearly migrated into the peritoneal cavity of an 82-year-old man as a result of interference between the percutaneous transhepatic biliary drainage catheter and the SEMS. The distal end of the stent could barely be seen.

Fig. 2 An endoscopic retrograde cholangiopancreatography (ERCP) cannula was used to puncture the mesh wall of the covered self-expandable metal stent (SEMS). A guidewire was then passed through the mesh wall and the opposite wall of the metal stent.

Fig. 3 The crisscrossing anchor stents technique was used to prevent proximal migration of the metal stent. Two crisscrossed 5-Fr plastic stents served as an anchor to prevent stent migration.