

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.

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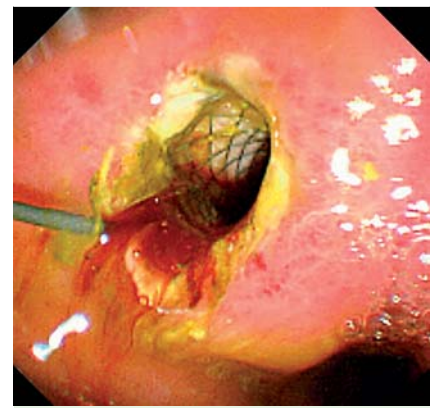


Fig. 1 A covered self-expandable metal stent (SEMS) used for endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) had nearly migrated into the peritoneal cavity of an 82-year-old man as a result of interference between the percutaneous transhepatic biliary drainage catheter and the SEMS. The distal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

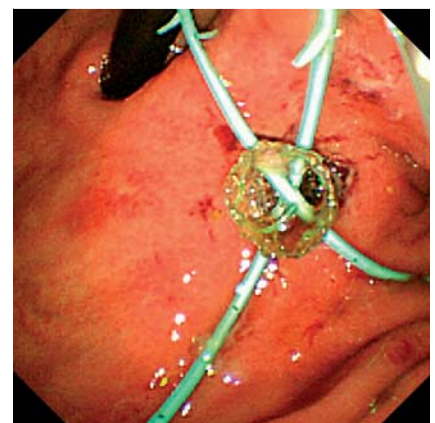


Fig. 3 The crisscrossing anchor stents technique was used to prevent proximal migration of the metal stent. Two crisscrossed 5-Fr plastic stents served as an anchor to prevent stent migration.