

Exchange of self-expandable metal stent in endoscopic ultrasound-guided hepaticogastrostomy

Endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) using a self-expandable metal stent (SEMS) has been reported to be feasible for failed biliary drainage [1,2]. However, how to exchange a SEMS after EUS-HGS remains to be established.

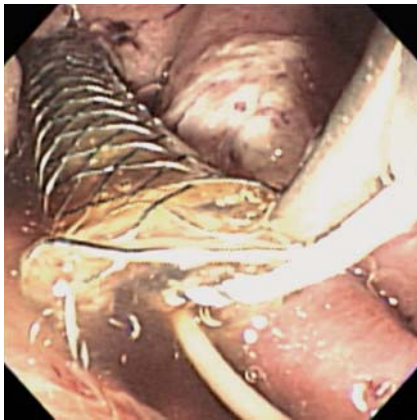


Fig. 1 Endoscopic view showing the retrieval ring of the metal stent grasped by the biopsy forceps beside the guide wire and the endoscopic nasobiliary drainage tube.



Fig. 2 Fluoroscopic view showing the second metal stent (arrowhead) retrieved together with the duodenoscope. The guide wire and endoscopic nasobiliary drainage tube were kept inside the bile duct through the first metal stent (arrow).

An 80-year-old man with acute cholangitis was referred to our institution. He had a previously placed transpapillary SEMS for ampullary carcinoma. Endoscopic drainage failed because of duodenal obstruction. The patient then underwent EUS-HGS using an 8-cm-long SEMS (fully covered Wallflex; Boston Scientific, Tokyo, Japan). Nine days later, endoscopy revealed that the SEMS had become buried in the gastric wall, so a 6-cm-long SEMS (partially covered Wallflex; Boston Scientific) was additionally placed to prevent complete migration. Seven days after the addition of the second SEMS, an X-ray revealed the SEMS to be distally dislocated toward the stomach.

We planned a SEMS exchange. First, two guide wires were inserted through the SEMS and the papilla into the duodenum, followed by insertion of an endoscopic nasobiliary drainage (ENBD) tube over one of the guide wires using a therapeutic duodenoscope. Next, the retrieval ring of the second-placed SEMS was grasped using a biopsy forceps (● **Fig. 1**) and the SEMS retrieved along the guide wire together with the duodenoscope, keeping the guide wire and ENBD tube in place (● **Fig. 2**). As a third step, the duodenoscope was advanced again over the guide wire and the first-placed SEMS was removed in a similar way (● **Fig. 3**). Finally, a 12-cm-long, partially covered SEMS with an uncovered proximal end and a flared distal end, specially designed for use in EUS-HGS (Supremo; Taewoong Medical, Seoul, Korea), was placed (● **Fig. 4**, ● **Video 1**).

Simple SEMS exchange after EUS-HGS, like transpapillary SEMS [3], is not recom-



Fig. 3 Fluoroscopic view showing the guide wire and endoscopic nasobiliary drainage tube kept in place through the hepaticogastrostic fistula.

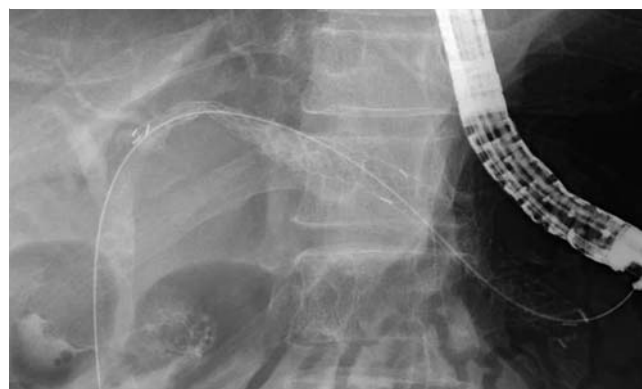


Fig. 4 Fluoroscopic view showing the metal stent placed from the left hepatic duct to the stomach.

mended because it is difficult to regain access through the hepaticogastric fistula after stent removal. The snare-over-the-wire technique has been reported to be useful in plastic stent exchange [4], but is not applicable to SEMS exchange. Although one guide wire is theoretically enough, we used two guide wires with one ENBD tube to ensure against the guide wire slipping out.

Video 1

First, after the therapeutic duodenoscope was advanced into the stomach, the end of the second Wallflex was grasped by the biopsy forceps and the Wallflex was retrieved along the guide wire together with the duodenoscope. Second, the duodenoscope was advanced over the guide wire and the first Wallflex was retrieved in a similar way. Finally, the duodenoscope was advanced over the guide wire and the new covered metal stent (Supremo) was placed along the guide wire between the left hepatic duct and the stomach.

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Competing interests: None

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