Novel and safe plastic stent exchange method after endoscopic ultrasound-guided hepaticogastrostomy with incomplete fistula (side hole method)

Stent exchange for stent obstruction after endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) can be safely performed after the fistula is complete [1, 2]. However, reintervention after EUS-HGS before fistula completion (less than 2 weeks) is dangerous due to the risks of missing the fistula after removal of the stent, peritonitis, bile leak, etc. Moreover, a safe stent exchange technique for reintervention of EUS-HGS before fistula completion has not yet been established for plastic stents. Here, we present a novel and safe stent replacement technique (termed “side hole method”) for the HGS route with incomplete fistula (▶ Video 1).

A 56-year-old man with locally advanced pancreatic cancer presented with obstructive jaundice due to stent dysfunction of an indwelling transpapillary plastic stent. He had duodenal stenosis, and transpapillary stent exchange was difficult; thus, EUS-HGS using a 7 Fr plastic stent [3] was performed (▶ Fig. 1). Two days later, he developed cholangitis, and reintervention was attempted. As the fistula was incomplete, guidewire insertion from the fistula in parallel to the plastic stent was avoided due to the risk of fistula damage. We first tried to insert a 0.025-inch guidewire through the side hole of the plastic stent, but this was difficult. Therefore, we cut through half of the plastic stent near the fistula using a loop cutter to make a new side hole (▶ Fig. 3). After the guidewire was sufficiently retained in the bile duct, the plastic stent was removed using alligator forceps. A fully covered metal stent (8 mm × 8 cm) was then placed along the guidewire (▶ Fig. 4). During the procedure, there was no change in vital signs, although there was slight evidence of free air.

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Fig. 2 Endoscopic images. a Two days later, cholangitis occurred due to stent dysfunction. We attempted stent exchange. b, c We cut through half of the plastic stent near the fistula using a loop cutter to make a new side hole in the plastic stent.

Fig. 3 The guidewire was inserted through the new side hole (a–c).

Fig. 4 Replacement of the stent. a The plastic stent was removed with alligator forceps. b–d A fully covered metal stent (8 mm × 8 cm) was then placed along the guidewire.