Endoscopic ultrasound-guided choledochojejunostomy using a forward-viewing echoendoscopic saddle-cross technique

We reported good results for endoscopic treatment of benign hepaticojejunostomy anastomotic stricture (HJAS) using two fully covered self-expandable metallic stents (FCSEMSs) with the saddle-cross technique [1]. A completely occluded HJAS requires drainage by percutaneous transhepatic biliary drainage (PTBD) or endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) [2]; PTBD and EUS-HGS cannot be stent-free, which may decrease patients’ activities of daily living. We present a modified saddle-cross technique for a completely occluded HJAS using a forward-viewing echoendoscope and two FCSEMSs. A 30-year-old man underwent duodenal gastrointestinal stromal tumor surgery. Liver dysfunction occurred 1 year postoperatively; computed tomography showed bile duct dilatation (▶Fig. 1). The transgastrointestinal approach and breakthrough in anastomosis under PTBD failed. The patient was referred to our hospital for internal fistulization (▶Fig. 2). Endoscopic ultrasound (EUS)-guided choledochojejunostomy using a forward-viewing endoscope (TGF-UC260; Olympus Medical Systems, Tokyo, Japan) with the saddle-cross technique was performed for internal fistulization (▶Video 1). A forward-viewing endoscope was inserted up to the HJAS; anastomosis was confirmed using endoscopy and ultrasound (▶Fig. 3). The bile duct was punctured through the anastomosis using a 19-gauge needle (EZ shot 3 plus; Olympus Medical Systems), and a 0.025-inch guidewire (M-through; Medico’s Hirata, Osaka, Japan) was advanced into the bile duct. The fistula was dilated using an electrocautery dilator (Fine025; Medico’s Hirata) and an 8-mm dilation balloon (REN; Kaneka, Tokyo, Japan). Two guidewires were placed in the right and left bile ducts and two FCSEMSs (BONASTENT M-Intraductal, 8 mm, 3 cm; Medico’s Hirata) were placed (▶Fig. 4).

After PTBD removal, the two FCSEMSs were endoscopically removed 2 months postoperatively. Sufficient dilation of the fistula was observed (▶Fig. 5). The patient experienced no restenosis 6 months postoperatively. Although there are reports on EUS-guided choledochojejunostomy [3, 4], this is the first on treatment using a modified saddle-cross technique, which may be an option for primary endoscopic treatment of a completely occluded HJAS.

Competing interests

The authors declare that they have no conflict of interest.
The authors

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References

[1] Kawasaki Y, Hijioka S, Nagashio Y et al. A novel endoscopic technique using fully covered self-expandable metallic stents for benign strictures after hepaticojejunostomy: The saddle-cross technique (with Fig. 3 Trans-gastrointestinal endoscopic approach for hepaticojejunostomy anastomotic stenosis using a forward-viewing echoendoscope. a Endoscopic image of hepaticojejunostomy anastomotic stenosis. b Endoscopic ultrasound image of hepaticojejunostomy anastomotic stenosis (yellow arrow). c Radiograph of hepaticojejunostomy anastomotic stenosis.

Fig. 4 Endoscopic ultrasound (EUS)-guided choledochojejunostomy. a Puncture of the bile duct under EUS guidance using a 19-gauge needle. b Contrast enhancement confirms the bile duct. c Fistula dilation with an energized dilator. d Fistula dilation with a balloon dilator. e Endoscopic image of the fistula after dilation. f Two guidewires are placed in the right and left bile ducts. g Two fully covered self-expanding metal stents (FCSEMSs) are placed. h Endoscopic image after placement of the FCSEMSs.
Fig. 5 Endoscopic removal of two FC-SEMSs 2 months after the procedure. a Radiograph of the two FCSEMSs. b Endoscopic image of the two FCSEMSs. c Endoscopic image after FCSEMS removal. d Radiograph shows good contrast spillage.

Video 1 Internal fistulization of completely occluded hepaticojejunostomy anastomotic stricture is difficult. We performed endoscopic ultrasound-guided choledochojejunostomy using a forward-viewing echoendoscope and two metallic stents with a modified saddle-cross technique.

Bibliography


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