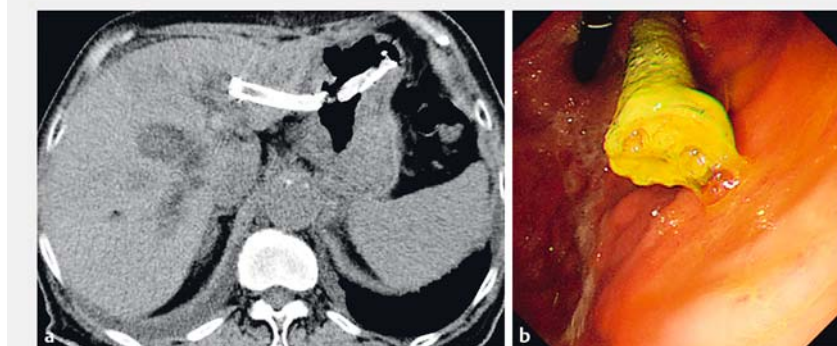


## Reintervention for stent occlusion after endoscopic ultrasound-guided hepaticogastrostomy with novel use of a precut needle-knife

Endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) has gained popularity as an alternative biliary drainage method [1, 2]; however, reintervention after EUS-HGS remains to be elucidated. In EUS-HGS, use of a biliary stent that is longer than 100 mm is recommended in order to prevent stent migration [2, 3]. However, such stent placement occasionally makes reintervention challenging owing to the long length of the stent in the gastric lumen. A few reports have described technical efforts involved in reintervention after EUS-HGS [4, 5]. We describe a patient who underwent successful reintervention via a novel use of a precut needle-knife.

A 74-year-old woman with recurrent pancreatic cancer after pancreaticoduodenectomy presented with recurrent cholangitis. An 8 × 100 mm covered metal stent (Niti-S biliary covered stent; Taevoong Medical, Seoul, South Korea) had been previously deployed during EUS-HGS for biliary obstruction at the hepatic hilum. Stent occlusion occurred 4 months after EUS-HGS. Abdominal computed tomography showed a dilated intrahepatic bile duct, and stent occlusion was confirmed on endoscopy (► Fig. 1). Revisionary stent placement was attempted.

First, the advancement of an endoscopic retrograde cholangiopancreatography (ERCP) catheter was attempted via the proximal end of the HGS stent; however, the long stent length in the gastric lumen rendered catheter insertion impossible. Therefore, reintervention through the stent mesh was attempted. A 0.035-inch guidewire (Jagwire; Boston Scientific, Marlborough, Massachusetts, USA) was successfully passed through the stent mesh (► Fig. 2); however, an ERCP catheter could not be passed. Subsequently, a diathermic dilator was utilized, but it failed to break the stent mesh. Next, the use of a precut needle-knife (NeedleCut3V; Olympus, Tokyo, Japan) was



► Fig. 1 Stent occlusion after endoscopic ultrasound-guided hepaticogastrostomy. **a** Abdominal computed tomography showed a dilated intrahepatic bile duct. **b** Gastroscopy showed an occluded hepaticogastrostomy stent.



► Fig. 2 A 0.035-inch guidewire (Jagwire; Boston Scientific, Marlborough, Massachusetts, USA) was passed successfully through the mesh of the previously deployed hepaticogastrostomy stent (Niti-S biliary covered stent, 8 × 100 mm; Taevoong Medical, Seoul, South Korea).

considered. Using this knife, the stent mesh was broken easily (► Fig. 3), and a 7-Fr plastic stent (Flexima; Boston Scientific) was successfully deployed via the stent mesh into the left intrahepatic bile duct (► Fig. 4, ► Video 1). Cholangitis resolved in a few days.

The use of a precut needle-knife is simple and may be considered as a useful treatment option for reintervention after EUS-HGS.

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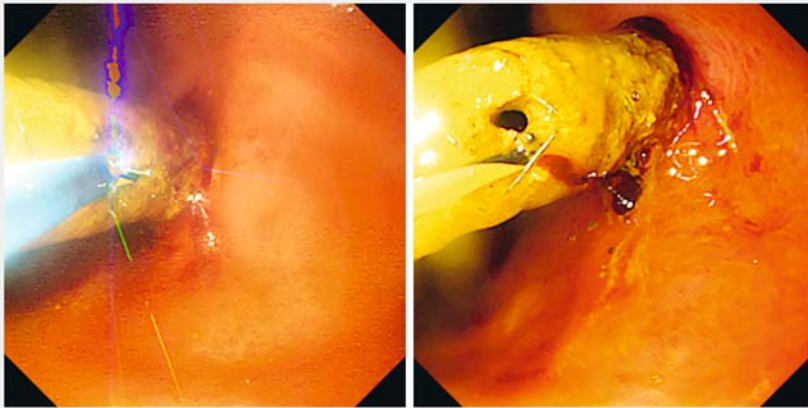
### Competing interests

None

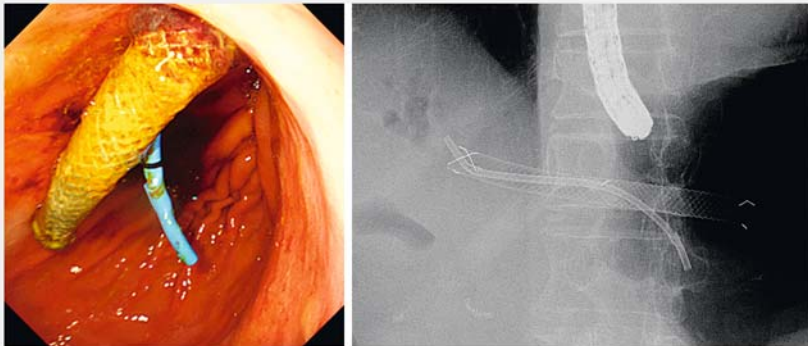
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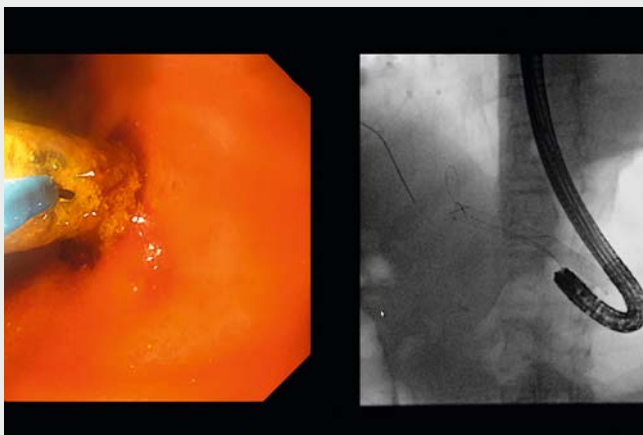
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► **Fig. 3** A precut needle-knife (NeedleCut3V; Olympus, Tokyo, Japan) was inserted over the guidewire and could break the stent mesh easily.



► **Fig. 4** A 7-Fr biliary plastic stent (70 mm long, Flexima; Boston Scientific, Marlborough, Massachusetts, USA) was deployed successfully via the stent mesh into the left intrahepatic bile duct.



► **Video 1** Using a precut needle-knife, the mesh of the previously deployed hepaticogastrostomy stent was broken easily. Thereafter, a 7-Fr biliary plastic stent was deployed successfully via the stent mesh into the left intrahepatic bile duct.



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