Modified percutaneous assisted transprosthetic endoscopic therapy for transgastric ERCP in a gastric bypass patient

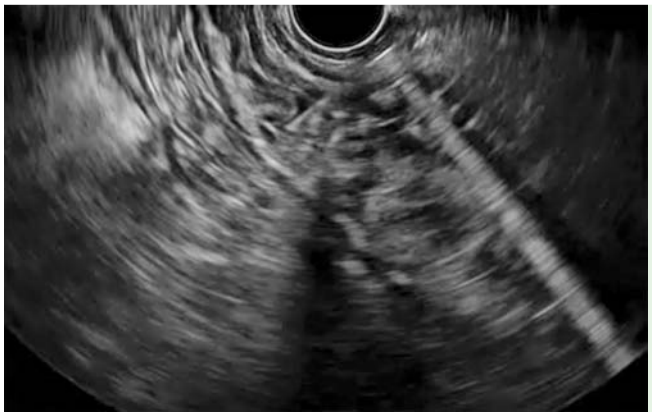

Fig. 1 Endoscopic ultrasound (EUS) image showing the puncture of the excluded stomach using a 19G fine needle aspiration (FNA) needle.

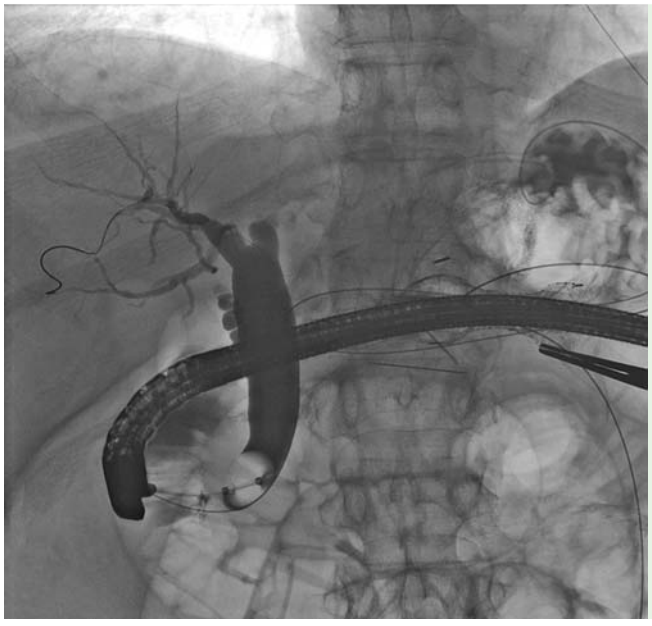

Fig. 2 Cholangiogram obtained via transgastric endoscopic retrograde cholangiopancreatography (ERCP) showing dilatation of the extrahepatic bile duct.

Video 1

Transgastric endoscopic retrograde cholangiopancreatography (ERCP) being performed in a patient with a Roux-en-Y gastric bypass by combining the percutaneous assisted transprosthetic endoscopic therapy (PATENT) and endoscopic ultrasound-guided sutured gastropexy for transgastric ERCP (ESTER) techniques.

A 67-year-old woman with history of Roux-en-Y gastric bypass presented for management of acute cholangitis. Magnetic resonance cholangiopancreatography (MRCP) demonstrated extrahepatic bile duct dilatation. The results of her liver chemistry tests were aspartate aminotransferase (AST) 156 IU/L, alanine aminotransferase (ALT) 182 IU/L, total bilirubin 2.6 mg/dL, and alkaline phosphatase 319 IU/L. The patient underwent transgastric endoscopic retrograde cholangiopancreatography (ERCP) using a modified technique merging percutaneous assisted transprosthetic endoscopic therapy (PATENT) [1] and endoscopic ultrasound (EUS)-guided sutured gastropexy for transgastric ERCP (ESTER) [2] (**Video 1**). An oblique-viewing, linear array echoendoscope was passed into the gastric pouch to identify the excluded gastric remnant. The gastric remnant was punctured with a 19G fine needle aspiration (FNA) needle (**Fig. 1**). Contrast injection confirmed entry of the needle into the excluded stomach. Air (500 mL) was infused through the FNA needle to distend the gastric remnant.

After the remnant was adequately distended, a 19G percutaneous access needle was used to create a gastrostomy. A 450-cm, 0.035-inch biliary guidewire was passed into the excluded stomach and subsequently into the duodenum. The percutaneous access needle was removed leaving the guidewire in place. Three T-fasteners were secured around the guidewire. Graduated dilation of the gastrostomy tract up to 18 Fr was performed. A fully covered esophageal self-expandable metal stent (SEMS; 20 mm × 6 cm) was deployed within the gastrostomy tract. The SEMS was dilated to 18 mm using a high burst pressure balloon dilator. A standard therapeutic duodenoscope was then passed through the SEMS. The bile duct was selectively accessed and cholangiography was performed (**Fig. 2**). Sphincterotomy was followed by sludge removal with an extraction balloon. Following ERCP, a 20-Fr replacement gastrostomy tube was placed. The SEMS was sectioned and removed.

No adverse events occurred. The total procedure time was 80 minutes. The patient was pain-free and was discharged home 2 days later. Repeat laboratory tests 4 days later revealed AST 62 IU/L, ALT 146 IU/L, total bilirubin of 1.2 mg/dL, and alkaline phosphatase 304 IU/L. Removal of the gastrostomy tube was planned for at least 6 weeks after the procedure.

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Competing interests: Todd H. Baron: W.L. Gore, Boston Scientific, Olympus, and Cook Endoscopy.

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References

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Bibliography
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