Endoscopic ultrasound-guided jejunogastrostomy to perform endoscopic cholangiography in a patient with a modified Roux-en-Y hepaticojejunostomy

A 43-year-old woman had been diagnosed with intrahepatic duct stones and referred in 2007 for cholecystectomy and modified Roux-en-Y hepaticojejunostomy. A jejunal loop had been fixed to the anterior wall of the stomach for future endoscopic access, if necessary (Fig. 1). The patient had remained asymptomatic for 5 years, but then presented with multiple episodes of cholangitis. Magnetic resonance cholangiography in 2012 showed intrahepatic duct stones. Conventional endoscopic retrograde cholangiopancreatography (ERCP) failed. Thus a decision was taken to perform endoscopic extraction of the biliary stones by accessing the jejunal loop, guided by endoscopic ultrasound (EUS).

The procedure was performed using a linear echoendoscope (Pentax Corporation, Japan). The jejunal loop adjacent to the anterior stomach wall was identified (Fig. 2). A 19-G needle (EchoTipUltra; Wilson-Cook, Winston-Salem, North Carolina, USA) was inserted transgastrically into the loop under EUS guidance. Iodine contrast was injected confirming adequate positioning of the needle inside the loop (Fig. 3). A 0.035-inch guidewire (Jagwire; Boston Scientific, Massachusetts, USA) was advanced through the needle into the loop. A jejunogastrostomy was then created using a 10-Fr cystotome (Cystotome; Wilson-Cook, North Carolina, USA), and the tract was enlarged using a 10mm×4cm biliary balloon dilation catheter (Hurricane RX; Boston Scientific, Boston, USA). A 9.8-mm gastroscope was then introduced through the jejunogastrostomy and into the jejunal loop. It was possible to reach the hepaticojejunostomy (Fig. 4) and to perform direct cholangioscopy and endoscopic cholangiography. Using a 8.5/12/15-mm extraction balloon (Fusion; Wilson-Cook) it was possible to remove sludge and small stones from the bile ducts (Fig. 5). In order to maintain patency of the jejunogastrostomy for further endoscopic access into the biliary ducts, we opted to place three 10-Fr double-pigtail plastic stents (Biliary Stent Set; Wilson-Cook) (Fig. 6). The patient recovered well, and at 1-year follow-up she has remained asymptomatic without further episodes of cholangitis. Currently the plastic stents are still in place, and a further magnetic resonance cholangiography will be done.

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Competing interests: None
Rogério Colaiacovo, Augusto P. C. Carbonari, Lucio G. Rossini, Andre de Moricz, Erwin Santo, Marc Giovannini

1 Department of Endoscopy and French-Brazilian Centre of Endoscopic Ultrasound (CFBEUS), Santa Casa de São Paulo Hospital, São Paulo, Brazil
2 Department of Surgery, Santa Casa de São Paulo Hospital, São Paulo, Brazil
3 Department of Gastroenterology and Liver Diseases, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel
4 Department of Gastroenterology and Endoscopy, Paoli Calmettes Institute, Marseille, France

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Corresponding author
Augusto Carbonari, MD
Department of Endoscopy and French-Brazilian Centre of Endoscopic Ultrasound (CFBEUS) Santa Casa de São Paulo Hospital Rua Manuel Figueiredo Landim 600 ap. 52A São Paulo 04693-130 Brazil
Fax: +55-19-996040645
augustocarbonari@gmail.com

Fig. 4 Endoscopic view of the hepatico-jejunostomy.

Fig. 5 Iodine contrast and extraction balloon inside intrahepatic ducts. Sludge and small stones were removed.

Fig. 6 Endoscopic view of the fistula between the stomach and the loop jejuno-gastrostomy, with three double-pigtail plastic stents.