Salvage endoscopic ultrasound–radiologic rendezvous to re-establish biliary flow following duodenectomy with ablation of papilla

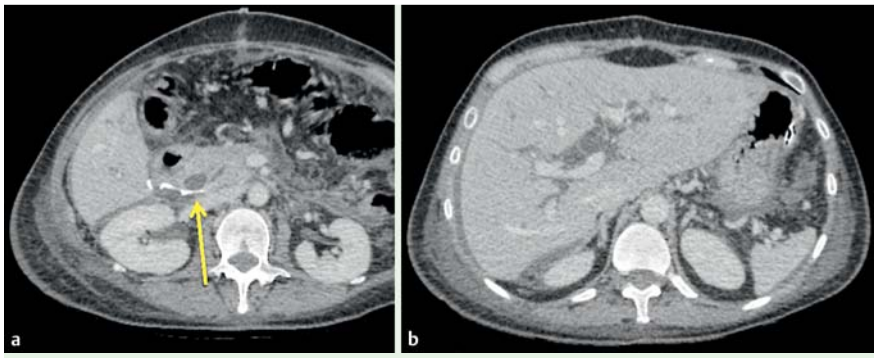

Fig. 1 **a, b** Staple line on the common bile duct (arrow) with dilation of the biliary tree and a normal pancreatic duct in a 54-year-old patient after curative duodenectomy with duodenojejunal anastomosis for adenocarcinoma.

Video 1

Endoscopic ultrasound (EUS)-guided cholangiography showing dilatation of the common bile duct with no passage into the duodenum because of complete transection of the papilla after duodenectomy with duodenojejunal anastomosis.

Video 2

Fistulotomy on guidewire allowing a communication between the duodenum and the common bile duct (CBD) to be created. The wall of the lower CBD can be seen.

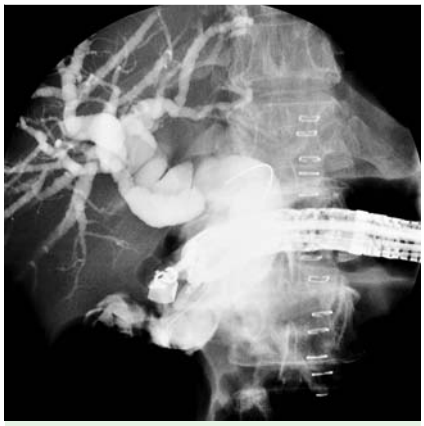

Fig. 2 Looping of the guidewire in the cystic stump.

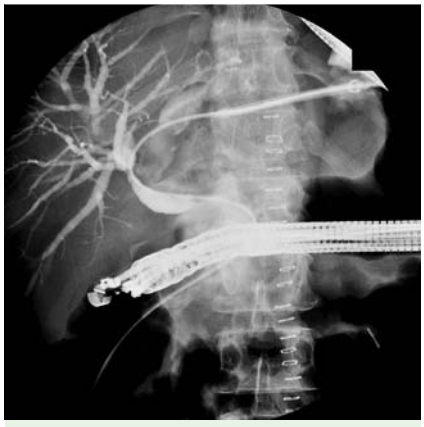

Fig. 3 Passage of the guidewire by percutaneous transhepatic cholangiography, through the common bile duct and into the duodenum via the bilioduodenal access previously created under endoscopic ultrasound (EUS).

Fig. 4 Fully covered metal and plastic stents in place, restoring the biliary flow.

A 54-year-old woman underwent curative duodenectomy with duodenojejunal anastomosis for adenocarcinoma. The day after the procedure she developed jaundice. The computed tomography (CT) scan showed a staple line on the lower part of the common bile duct (CBD) with biliary tree dilatation (▶ **Fig. 1**) and a normal pancreatic duct. Under endoscopic ultrasound (EUS) control a transbulbar cholangiography was performed on the lower part of the CDB, confirming biliary dilatation without any leakage of contrast medium into the duodenum (▶ **Video 1**). A fistulotomy (6 Fr) was then performed (▶ **Video 2**). Although different guidewires and catheters were used, selective cannulation of the cystic stump was achieved without reaching the intrahepatic ducts because of the anatomically low cystic duct insertion (▶ **Fig. 2**). A transhepatic cholangiography was performed. Passage of the guidewire into the duodenum was easily done through the bilioduodenal access previously created by EUS fistulotomy (▶ **Fig. 3**). A fully covered self-expanding metal stent (FCSEMS) and a plastic stent were delivered to maintain biliary flow (▶ **Fig. 4**). Follow-up was uneventful with normalization of liver function test results, and endoscopic retrograde cholangiopancreatography (ERCP) was scheduled for stent replacement.

Iatrogenic injury of the biliary tree following surgery on organs of the epigastrium other than the biliary tract is well known [1]. Successful EUS-guided choledocho-

duodenostomy has been described using a lumen-apposing FCSEMS after failed ERCP [2]. Perez-Miranda et al. reported successful repair, by EUS-guided choledochoduodenostomy and magnets, of a disconnected CBD following orthotopic liver transplantation [3].

In this particular case we did not use a lumen-apposing SEMS; this was to avoid sump syndrome and malfunction once the CBD was empty. We decided to perform a EUS–radiologic rendezvous [4,5] in order to deliver the FCSEMS in a position that more nearly replicated the normal anatomy to prevent possible later adverse events. In conclusion, interventional EUS is the key technique with which to access the biliary tree in cases of altered anatomy and EUS–radiologic rendezvous helps in difficult situations, sparing the need for major surgery with its related morbidity and mortality.

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Competing interests: None

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