Endoscopic treatment of complicated bile duct stricture after surgery for traumatic bile duct injury

Hepatic lesions are common in abdominal traumas [1] and generally involve liver parenchyma. Nevertheless, bile duct lesions are rare and challenging to treat [2, 3]. Biliodigestive anastomoses are the most frequently performed surgeries [3], but the risk of long-term adverse events is high, especially for biliary anastomotic strictures [4].

Here we present a case of traumatic biliary disconnection previously treated by biliodigestive latero-lateral anastomosis on Roux-en-Y-loop, complicated by anastomotic stricture.

A 42-year-old man without relevant comorbidities was unseated from his horse and reported a severe bile leak due to intrapancreatic biliary tract disconnection. For this reason, he underwent hepatojejunal latero-lateral anastomosis on Roux-en-Y-loop, with previous ligation of the distal choledocus. After six months, a biliary anastomotic stricture developed and percutaneous transhepatic biliary drainage was performed as the primary treatment.

Because of the very low quality of life due to poor tolerance/compliance with percutaneous transhepatic biliary drainage, the patient was referred to our endoscopy center. At first, a standard approach to the major duodenal papilla was attempted with a duodenoscope (ED-127; Pentax Medical), but it failed because the intrapancreatic biliary tract was completely disconnected.

At this point, an occlusive cholangiography was performed (using a Fogarty balloon pushed into the bile duct through the percutaneous access) (▶Fig. 1) in order to make the common bile duct visible under endoscopic ultrasound. The Hot AXIOS electrocautery-enhanced delivery system (Boston Scientific) was chosen to change the approach, and a fully covered, 8 × 8-mm lumen-apposing metal stent (LAMS) was released between the duodenum and the choledocal stump (▶Fig. 2).

Then a fully covered, 16-mm × 2-cm biflanged metal stent (Nagi Stent; EuroMedical Corp.) was placed through the hepaticojejunostomy using the percutaneous access to achieve stable dilation of the anastomotic stricture (▶Fig. 3).

▶Fig. 1 Occlusive percutaneous cholangiography using a 12-mm Fogarty balloon to dilate the common bile duct and make it visible under endoscopic ultrasound.

▶Fig. 2 To safely open the lumen-apposing metal stent in a small-caliber common bile duct, the stent was placed as deep as possible in the biliary tract through a guidewire.

▶Fig. 3 Biflanged stent and lumen-apposing metal stent at 1-month follow-up.

▶Fig. 4 “Hand-tailored,” fully covered, self-expandable metal stents placed through the choledochoduodenostomy crosswise to avoid excessive tension of the anastomotic area.

▶Fig. 5 Final outcome on the hepaticojejunostomy.
At the six-month follow-up, both stents were removed, and two “hand-tailored,” fully covered, 6-mm × 3-cm self-expandable metal stents (WallFlex; Boston Scientific) were placed through the new choledocoduodenostomy to consolidate the anastomosis (Video 1). The stents were positioned crosswise in order to avoid excessive tightening on the walls of the biliary ducts (Fig. 4). These stents were removed after six months and, at the cholangiography, the choledocoduodenostomy was patent (Fig. 5). The patient remained asymptomatic and no recurrence of symptoms was reported.

References


Bibliography

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