Rendezvous biliary recanalization combining percutaneous and endoscopic techniques using a diathermic dilator for bile duct obstruction

Fig. 1 Radiographic images showing a left hepatic bile duct obstruction after right hepatic trisectomy. **a** Percutaneous transhepatic cholangiography. **b** Endoscopic retrograde cholangiography.

Fig. 3 Radiographic image showing the diathermic dilator being advanced over the guidewire to the level of the bile duct obstruction (inset: endoscopic view of the diathermic dilator being advanced over the guidewire into the bile duct).

Fig. 2 Radiographic image showing the hydrophilic 0.025-inch guidewire that was successfully advanced across the left hepatic bile duct obstruction.

Germany) with a blended cut mode (▶ **Fig. 3**; ▶ **Video 1**) was used, and the stricture was successfully dilated (▶ **Fig. 4**; ▶ **Video 1**). Subsequently, the guidewire was grasped using the Amplatz GooseNeck Snare (10-mm; Covidien Japan, Tokyo, Japan) inserted via the PTBD route and pulled through (▶ **Fig. 5**; ▶ **Video 1**). Communication between the left hepatic duct and common bile duct was established, and a new PTBD catheter was inserted over the guidewire without any complications (▶ **Fig. 6**).

Endoscopic-radiologic rendezvous techniques for postoperative bile duct injury have been reported [1]. We recently reported the usefulness of a diathermic dilator for severe biliary strictures [2–5]. As described above, a diathermic dilator is useful for severe postoperative biliary strictures that cannot be dilated with various conventional techniques and for facilitating a rendezvous procedure.

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Video 1

Rendezvous biliary recanalization with combination of percutaneous and endoscopic techniques using a diathermic dilator for the left hepatic bile duct obstruction following right hepatic trisectomy.

Severe biliary injuries and strictures are intractable complications of hepatectomy. Endoscopic-radiologic biliary recanalization is a minimally invasive technique in patients undergoing hepatectomy. Here, we present a case of successful percutaneous transhepatic and endoscopic biliary rendezvous recanalization using a diathermic dilator for a benign severe postoperative biliary stricture.

A 64-year-old man with biloma and bile duct obstruction after right hepatic trisectomy for liver alveolar echinococcosis, was referred to our department. He had undergone percutaneous transhepatic biloma drainage and percutaneous trans-

hepatic biliary drainage (PTBD) to the left dorsal branch 10 days previously. During PTBD, although the guidewire repeatedly entered the biloma, it could not be introduced into the left hepatic bile duct.

Percutaneous transhepatic cholangiography and endoscopic retrograde cholangiopancreatography (ERCP) revealed left hepatic bile duct obstruction (▶ **Fig. 1**). A 0.025-inch guidewire was successfully advanced across the stricture; however, a tapered ERCP catheter or dilator could not be advanced, and this made guidewire manipulation difficult (▶ **Fig. 2**). A 6-Fr wire-guided diathermic dilator (Cysto-Gastro-Set; Endo-Flex GmbH, Voerde,

Fig. 4 Radiographic image showing the diathermic dilator being advanced across the biliary obstruction.

Fig. 6 Radiographic image showing a percutaneous transhepatic biliary drainage catheter being advanced across the biliary obstruction (inset: endoscopic view of a percutaneous transhepatic biliary drainage catheter being advanced over the guidewire through the ampulla of Vater to the duodenum).

Fig. 5 Radiographic image confirming the communication between the left hepatic duct and common bile duct following the endoscopic and percutaneous rendezvous technique.

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