Rendezvous biliary recanalization with combined percutaneous transhepatic cholangioscopy and double-balloon endoscopy

Despite advances in biliary stenting in patients with altered gastrointestinal anatomy, it is still a challenging procedure [1]. We present a case where percutaneous transhepatic cholangioscopy (PTCS) was combined with double-balloon endoscopy (DBE) for biliary stenting in a patient with complete obstruction of a choledochojejunal anastomosis.

A 71-year-old woman, who had a history of distal cholangiocarcinoma and had undergone pancreaticoduodenectomy 7 years previously, experienced recurrent cholangitis. DBE-assisted balloon dilation had been performed 7 months previously for stricture of the choledochojejunal anastomosis. However, she developed complete obstruction of the anastomosis (Fig. 1). A 7.2-Fr percutaneous transhepatic biliary drainage (PTBD) catheter was initially placed, and the fistula tract was dilated up to 12 Fr within 4 weeks. DBE-assisted endoscopic retrograde cholangiopancreatography was then attempted. First, the double-balloon endoscope (EI-580BT; Fujifilm, Tokyo, Japan) was advanced to the afferent limb, and a percutaneous transhepatic cholangiogram revealed complete obstruction of the anastomosis. Next, a PTCS scope (BF type P260F; Olympus, Tokyo, Japan) was inserted via the PTBD route. However, a guidewire (0.018-inch, Pathfinder Exchange; Boston Scientific Japan, Tokyo, Japan) through the PTCS scope could not pass the anastomosis (Video 1). Therefore, we attempted direct precutting (KD-V451M; Olympus) at the anastomosis, using the double-balloon endoscope and guided by transillumination from the percutaneous transhepatic cholangioscope (Fig. 2). A small incision was carefully made in order to create a fistula (Fig. 3). This was followed by successful passage of the guidewire (0.032-inch, Radifocus Guidewire M; Terumo, Tokyo, Japan).

Fig. 1 Percutaneous transhepatic cholangiogram showing complete obstruction of the choledochojejunal anastomosis in a patient who had undergone pancreaticoduodenectomy 7 years previously.

Fig. 2 Left panel: The choledochojejunal anastomosis has an appearance similar to an ulcer scar. Right panel: Transillumination from the percutaneous transhepatic cholangioscope guides direct precutting using the double-balloon endoscope.

Video 1 Biliary recanalization, using a rendezvous technique with combined percutaneous transhepatic cholangioscopy and double-balloon endoscopy, for a completely obstructed choledochojejunal anastomosis.
completely through the anastomotic obstruction (▶ Fig. 4, ▶ Video 1). We then grasped the guidewire with an ultraslim basket catheter (Zero Tip Retrieval Basket; Boston Scientific) using the cholangioscope (▶ Fig. 5, ▶ Video 1). Finally, a 12-Fr PTBD catheter was placed across the obstruction without any complications (▶ Fig. 6, ▶ Video 1).

The rendezvous technique in combination with PTCS and DBE facilitates biliary recanalization of complete biliary obstruction [1, 2]. However, blind incision has the risk of gastrointestinal tract perforation or bile leakage. Although caution should be exercised, incision guided by transillumination from the peroral transhepatic cholangioscope is a safe and less invasive technique compared with surgery.

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Competing interests

None

The authors

Hiroshi Kawakami1,2, Tesshin Ban1,2, Yoshimasa Kubota1,2, Shinya Ashizuka2, Ichiro Sannomiya2, Naoya Imamura2,3, Takeomi Hamada2,3

1 Department of Gastroenterology and Hepatology, Faculty of Medicine, University of Miyazaki, Miyazaki, Japan
2 Department of Gastroenterology and Hepatology, Center for Digestive Disease and Division of Endoscopy, University of Miyazaki Hospital, Miyazaki, Japan
3 Division of Hepato-Biliary-Pancreas Surgery, Department of Surgery, Faculty of Medicine, University of Miyazaki, Miyazaki, Japan

▶ Fig. 3 Radiograph showing direct precutting at the choledochojejunal anastomosis, under fluoroscopic guidance and transillumination from the percutaneous transhepatic cholangioscope. Left inset: enteroscopy view. Right inset: percutaneous transhepatic cholangioscopy view.

▶ Fig. 4 Radiograph showing the guidewire passing through the obstruction. Inset: percutaneous transhepatic cholangioscopy view.

▶ Fig. 5 The guidewire is grasped by means of a snare under fluoroscopic and percutaneous transhepatic cholangioscopic guidance.

▶ Fig. 6 Insertion of the percutaneous transhepatic biliary drainage catheter, using a rendezvous technique, across the previously obstructed choledochojejunal anastomosis. Inset: percutaneous transhepatic cholangioscopic view.
Corresponding author

Hiroshi Kawakami, MD, PhD
Department of Gastroenterology and Hepatology, Center for Digestive Disease and Division of Endoscopy, University of Miyazaki Hospital, 5200, Kiyotake, Kihara, Miyazaki 889-1692, Japan
Fax: +81-985-859802
hirop@med.miyazaki-u.ac.jp

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