Usefulness of the rendezvous technique for deep scope insertion during endoscopic retrograde cholangiography in a patient with a Roux-en-Y hepaticojejunostomy

Fig. 1 Deep scope insertion during endoscopic retrograde cholangiography in a patient with a Roux-en-Y hepaticojejunostomy and bilioenteric stricture. Endoscopic and fluoroscopic views obtained during use of the rendezvous technique with a short double-balloon enteroscope (DBE). **a** The bilioenteric anastomotic stricture, multiple intrahepatic bile duct stones (arrowheads), and sharply angled limb make it difficult to approach the anastomosis with the DBE. **b** A guidewire is

inserted percutaneously to the limb through the anastomosis and advanced toward the DBE. **c** The wire, which appears on the endoscopic view, is firmly grasped with a snare through the DBE. **d** After the successful approach, the balloon is used to dilate the anastomotic stricture endoscopically, with the wire kept tight. **e** Stone removal with a retrieval balloon. **f** Stone extraction under direct vision.

Difficulty with deep scope insertion can cause failure of endoscopic retrograde cholangiopancreatography (ERCP), which is an effective, safe treatment of biliary complications in patients with a Roux-en-Y hepaticojejunostomy, even when a balloon enteroscope is used [1]. Herein, we describe the recipient of a liver transplant, in whom the well-established rendezvous technique was demonstrated to be useful for scope insertion into the bilioenteric anastomosis during therapeutic ERCP (▶ **Video 1**).

A 24-year-old man, who had received a liver transplant for primary sclerosing cholangitis 15 years earlier, was admitted because of cholangitis. Magnetic resonance imaging revealed a bilioenteric anastomotic stricture and hepatolithiasis. ERCP with a short double-balloon enteroscope (DBE) (EI-530B; Fujifilm, Tokyo, Japan) was attempted, but scope insertion to the anastomosis failed because of the sharply angled limb (▶ **Fig. 1a**). Therefore, we used the rendezvous technique instead. Following percutaneous trans-hepatic biliary drainage, a guidewire was inserted percutaneously to the limb through the anastomosis (▶ **Fig. 1b**) while the DBE was advanced as deeply as possible. Next, the wire appeared on the endoscopic view, was firmly grasped with a snare (Captivator II; Boston Scientific, Natick, Massachusetts, USA) through the DBE (▶ **Fig. 1c**), and withdrawn through the trans-hepatic access. Subsequently, the DBE was led along the limb to reach the anastomosis. The wire was kept tight, and an endoscopic balloon dilator (Quantum TTC; Cook Medical, Winston-Salem, North Carolina, USA) was used to dilate the anastomotic stricture over the wire (▶ **Fig. 1d**). Additionally, after release, but with the wire allowed to remain in the

Video 1

The rendezvous technique together with double-balloon endoscopy for deep scope insertion to a bilioenteric anastomosis during endoscopic retrograde cholangiopancreatography. Because of the failure of double-balloon enteroscope (DBE) insertion to the anastomosis, as a result of the sharply angled limb, a guidewire is inserted percutaneously to the limb through the anastomosis while the DBE is advanced as deeply as possible. The wire is firmly grasped with a snare through the DBE and withdrawn through the trans-hepatic access, allowing the DBE to be led along the limb and reach the anastomosis. Endoscopic balloon dilation of an anastomotic stricture and extraction of multiple bile duct stones can be done safely under direct vision.

limb, multiple bile duct stones were extracted endoscopically with a retrieval balloon and basket catheter (► Fig. 1 e, f). The procedure was completed safely under direct vision, and no complications occurred.

In a patient with a surgically altered anatomy, the rendezvous technique together with DBE facilitates balloon dilation, stone extraction, and prosthesis [2–5] and may also be applied to achieve deep scope insertion to the bilioenteric anastomosis.

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