# Successful biliary drainage with peroral direct cholangioscopy in a patient with Roux-en-Y hepaticojejunostomy for congenital biliary dilatation

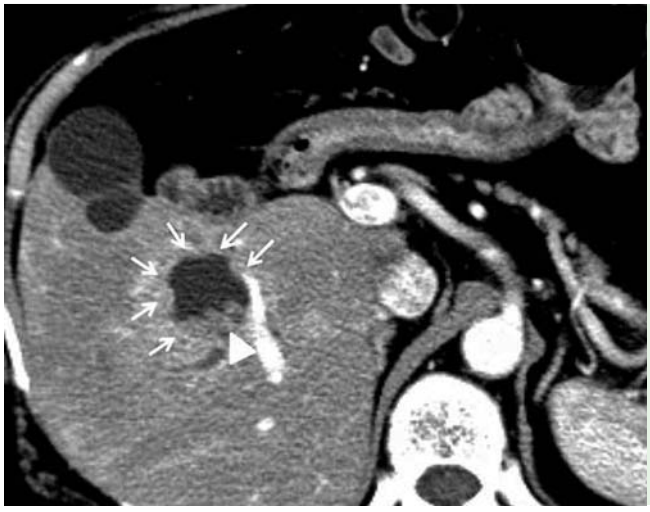

**Fig. 1** Contrast-enhanced computed tomography shows a limited cystic dilatation of the posterior bile duct (arrows) with multiple stones (arrowhead) and peripheral enhancement of the cystic dilatation.

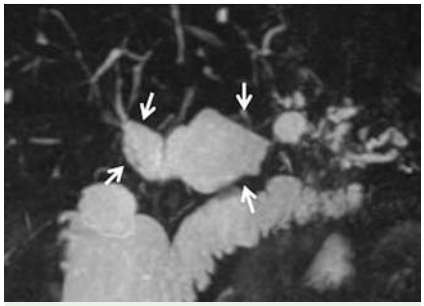

**Fig. 2** Magnetic resonance cholangiopancreatography shows dilatation of both the right and left intrahepatic bile ducts (arrows) that is congenital biliary dilatation (Todani type IV-A).

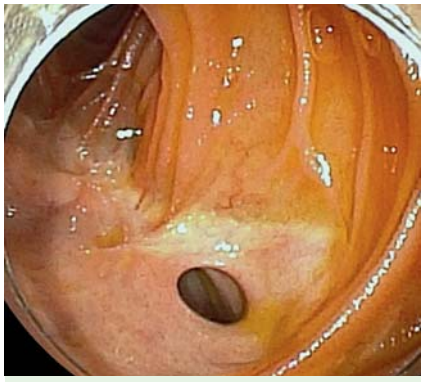

**Fig. 3** Endoscopic imaging of the hepaticojejunostomy anastomosis shows it to be widely patent.

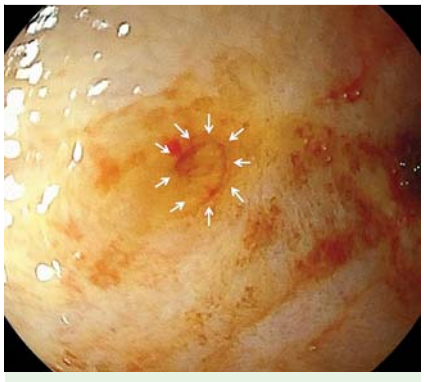

**Fig. 4** Endoscopic imaging with an ultraslim endoscope shows a membranous stricture of the posterior branch (arrows).

The diagnostic and therapeutic effectiveness of combined double-balloon endoscopy with a short endoscope and peroral direct cholangioscopy with an ultraslim endoscope in patients who have altered gastrointestinal anatomy has been demonstrated [1–5]. We describe successful biliary drainage with a short double-balloon endoscope and peroral direct cholangioscopy in a patient who had cholangitis after surgery for congenital biliary dilatation.

A 61-year-old woman with a surgical history of hepaticojejunostomy and Roux-en-Y reconstruction for congenital biliary dilatation (Todani type IV-A) was admitted because of high fever associated with leukocytosis (white cell count 14 100/µL [normal 3500–8500]) and elevated C-reactive protein (21.1 mg/dL [normal 0.0–0.3]). Contrast-enhanced computed tomography showed a limited cystic dilatation of the posterior bile duct with multiple stones and peripheral enhancement of the cystic dilatation (**Fig. 1**). Magnetic resonance cholangiopancreatography (MRCP) showed dilatation of both intrahepatic bile ducts that was congenital biliary dilatation (**Fig. 2**).

Because cholangitis of the posterior bile duct was suspected, the patient underwent double-balloon endoscopy for endoscopic retrograde cholangiography with a short enteroscope (EI-530B; Fujifilm, Tokyo, Japan). The hepaticojejunostomy anastomosis was widely patent (**Fig. 3**). We sought the posterior branch with the guidewire but were unsuccessful because the intrahepatic bile ducts were widely dilated. Therefore, we exchanged the double-balloon endoscope for an ultraslim endoscope (EG-L580NW, outer diameter 5.8 mm, working channel 2.4 mm; Fujifilm), leaving the overtube in place with balloon inflation.

The ultraslim endoscope was advanced to the hepaticojejunostomy anastomosis and directly inserted into the intrahepatic bile ducts. We identified a membranous stricture of the posterior branch (**Fig. 4**) and cannulated it successfully. Cholangiography revealed multiple stones in the dilated posterior bile duct (**Fig. 5**). We performed biliary drainage with a 6-Fr double-pigtail plastic stent (**Fig. 6**).

Bacterial culture of the bile juice revealed *Escherichia coli* overgrowth, and cytologic analysis showed no malignancy. A definitive diagnosis of cholangitis was obtained. Thereafter, the patient's general condition and the results of clinical analyses rapidly improved.

Endoscopy_UCTN_Code_TTT_1AS_2AD

**Competing interests:** None

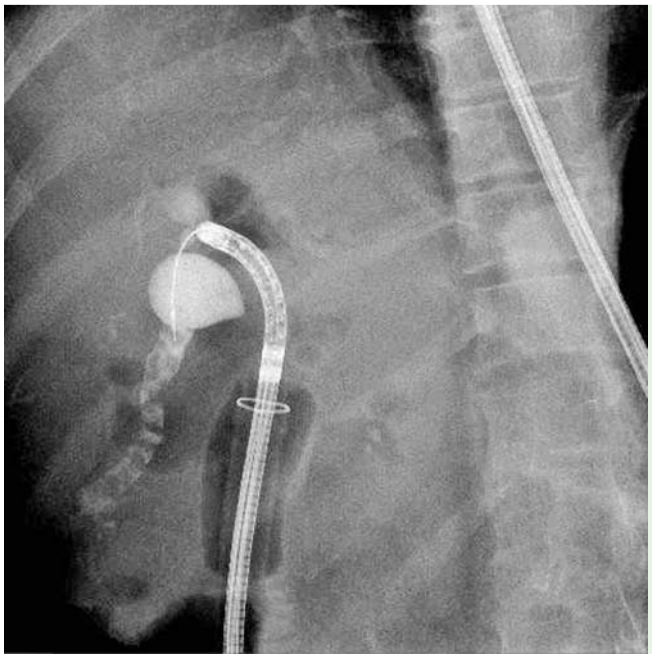

**Fig. 5** Cholangiography with an ultraslim endoscope through the overtube reveals multiple stones in the dilated posterior bile duct.

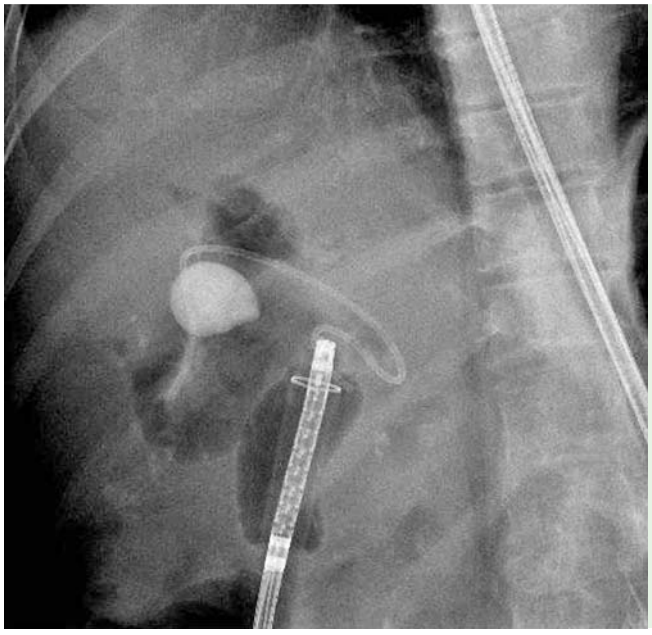

**Fig. 6** Biliary drainage is performed with a 6-Fr double-pigtail plastic stent via an ultraslim endoscope.

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## Bibliography

**DOI** http://dx.doi.org/10.1055/s-0034-1393138
Endoscopy 2015; 47: E497–E498

ISSN 0013-726X

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