Combined ERCP and endoscopic ultrasound-guided antegrade stenting for hilar biliary obstruction in a patient after pancreatoduodenectomy

Biliary drainage of hilar biliary obstruction (HBO) after surgical biliary reconstruction, including pancreatoduodenectomy, is challenging because recurrent tumors hamper access to the hepatojejunostomy anastomosis (HJA) [1]. Although endoscopic ultrasound (EUS)-guided hepaticogastrostomy is an alternative, biliary drainage of both hepatic lobes is still difficult [2–4]. We report a case in which multiple metal stents were placed across an unrecognizable HJA using a partial stent-in-stent technique with EUS-guided antegrade stenting.

A 66-year-old woman with a 2-year history of pancreatoduodenectomy for distal biliary cancer presented with cholangitis. Contrast-enhanced computed tomography revealed a dilated intrahepatic bile duct due to a hepatic mass occupying the anterior segment and involving the hepatic hilum and jejunal limb near the HJA (Video 1). Biliary drainage via the HJA by endoscopic retrograde cholangiopancreatography using a colonoscope failed; tumor invasion prevented HJA detection (Video 1). Therefore, we planned to place a metal stent from
the right posterior bile duct to the HJA by EUS-guided antegrade stenting from the jejunum, followed by additional stenting through the metal stent from the HJA to the left hepatic duct.

A forward-viewing echoendoscope was advanced into the afferent limb, the dilated posterior bile duct was punctured using a 19-gauge needle, and the hilar biliary obstruction was confirmed by cholangiogram. A 0.025-inch hydrophilic guidewire was inserted beyond the obstruction site, toward the jejunal limb (Fig. 2). After exchanging this for a 0.035-inch extra-stiff guidewire (Revowave ultra hard; Piolax Medical Devices, Kanagawa, Japan), an uncovered metal stent (diameter 10 mm, length 10 cm; Zilver, Cook Medical, Bloomington, Indiana, USA) was deployed across the HJA in an antegrade manner (Fig. 3). Thereafter, the echoendoscope was retrieved, leaving the guidewire in place. Subsequently, the colonoscope was advanced into the jejunum along the guidewire; this was a landmark for reaching another guidewire in the left hepatic duct. Another metal stent was deployed using the stent-in-stent technique (Fig. 4). No adverse events occurred. The patient was discharged 5 days postoperatively.

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Competing interests

The authors declare that they have no conflict of interest.

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