Magnetic compression anastomosis for biliary obstruction after partial hepatectomy

Magnetic compression anastomosis (MCA) is a revolutionary method of performing choledochocholedochostomy without surgery in patients with biliary obstruction [1–5]. Herein, we report the successful treatment, using MCA, of a case of complete biliary obstruction after partial hepatectomy.

A 64-year-old man who had undergone right partial hepatectomy for a metastatic liver tumor from rectal cancer was admitted to another hospital with bile leakage. Although the bile leakage was treated by endoscopic nasobiliary drainage, there was prolonged liver dysfunction, and computed tomography showed dilatation of the right-posterior intrahepatic bile duct (► Fig. 1). Endoscopic retrograde cholangiopancreatography and percutaneous transhepatic biliary drainage (PTBD) were attempted but recanalization was not possible (► Fig. 2). Therefore, the patient was referred to our hospital.

Initially, an 18-Fr PTBD catheter was placed. A cylindrical neodymium magnet, 5 mm in diameter, was pushed to the tip of the PTBD catheter and inserted in the intrahepatic bile duct using biopsy forceps (► Video 1). Next, another magnet, 3 mm in diameter, was inserted up to the tip of the inner part of the outer sheath of the guidewire (VisiGlide 2; Olympus, Tokyo, Japan) for delivery (► Fig. 3). Then, the outer sheath with the magnet was inserted via the papilla and the magnet was pushed out using biopsy forceps. The magnets were advanced to sites immediately before and after the obstruction. Then, the two magnets were positioned so that they attracted each other (► Fig. 4, ► Video 1). A plas-
A magnet was inserted up to the tip of the lumen of the outer sheath of the guidewire for delivery.

The two magnets attracted each other.

Recanalization was achieved (main figure) and the magnets were endoscopically removed (inset).

Competing interests

None

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