A 3-Fr microcatheter is suitable for a 0.018-inch guidewire during endoscopic ultrasound-guided biliary drainage

A combination of a 22-gauge needle and a 0.018-inch guidewire has become popular for patients with an insufficiently dilated bile duct during endoscopic ultrasound-guided biliary drainage (EUS-BD) [1–3]. However, this combination has several disadvantages, including an insufficient contrast-filled image and limited ability to manipulate the guidewire because of the slimness [1]. Although the catheter must be inserted into the bile duct across the fistula in a challenging situation of this kind, advancing a conventional catheter over a 0.018-inch guidewire can sometimes be difficult because of the gap between the guidewire and the catheter. Here, we report the first use of a new 3-Fr microcatheter that we produced previously [4], which has the following advantages for use with a 0.018-inch guidewire during EUS-BD: (i) it allows easy insertion because of its slimness and flexibility, (ii) it provides a sufficient contrast-filled image, (iii) it assists in manipulating the guidewire to advance into the target space, (iv) it avoids unnecessary dilation until needed, and (v) it allows exchange of the guidewire from 0.018-inch to 0.025-inch to provide support for device insertion (▶Fig. 1).

Case 1: A 68-year-old woman, who previously underwent right hepatectomy for hilar cholangiocarcinoma, developed obstructive cholangitis requiring EUS-guided hepaticogastrostomy. The advancement of a conventional catheter over the 0.018-inch guidewire failed, whereas the 3-Fr microcatheter was advanced (▶Fig. 2) and a partially covered metal stent successfully deployed.

Case 2: A 53-year-old man with obstructive jaundice after subtotal gastrectomy for gastric cancer underwent EUS-guided hepaticojejunostomy. The 0.018-inch guidewire with the 3-Fr microcatheter successfully passed the malignant biliary obstruction (▶Video 1).

▶Fig. 1 Photograph of the 3-Fr microcatheter (Daimon ERCP-catheter; Hanaco Medical, Saitama, Japan) along a 0.018-inch guidewire (Fielder 18; Olympus Medical Systems, Tokyo, Japan). This microcatheter features a radiopaque tip (red arrowhead) for better visibility under fluoroscopy. Guidewire with a diameter of less than 0.025 inch is adapted to this microcatheter.

▶Fig. 2 Fluoroscopic cholangiogram showing EUS-guided hepaticogastrostomy (Case 1). The red arrowhead indicates the radiopaque marker of the 3-Fr microcatheter, which enabled the injection of contrast medium with a Y-connector attachment.

▶Fig. 3 Imaging findings in Case 2. a Magnetic resonance cholangiopancreatography demonstrated a biliary stricture (green arrowheads) and an insufficiently dilated intrahepatic bile duct (yellow arrow). b Contrast-enhanced computed tomography showed that the elevated jejunum after subtotal gastrectomy was adjacent to the left hepatic lobe. c Fluoroscopic cholangiogram obtained during EUS-guided hepaticojejunostomy. The 0.018-inch guidewire with the 3-Fr microcatheter (red arrowhead) successfully passed the malignant biliary obstruction.
Competing interests

The authors declare that they have no conflict of interest.

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