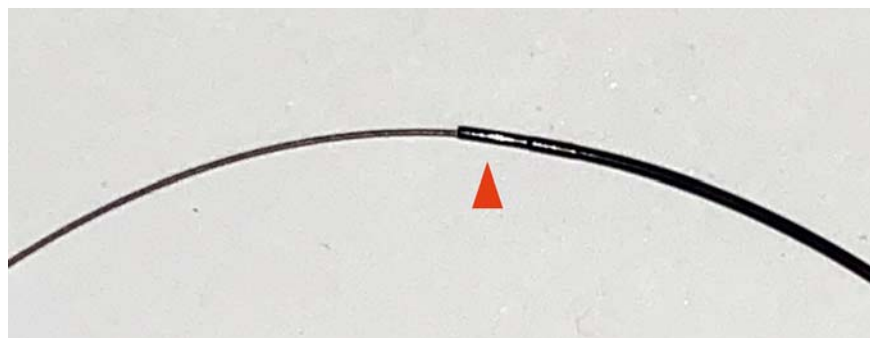


## A 3-Fr microcatheter is suitable for a 0.018-inch guidewire during endoscopic ultrasound-guided biliary drainage

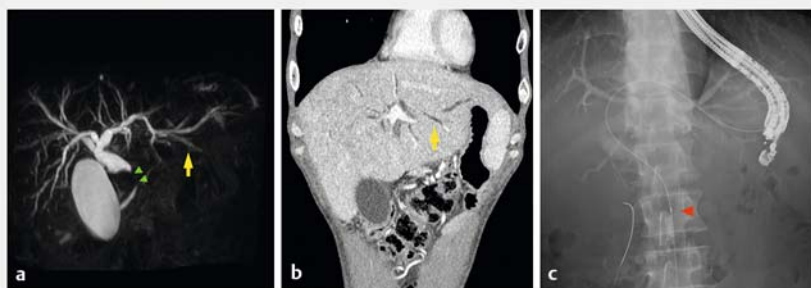
OPEN  
ACCESS



► **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.

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 challen-

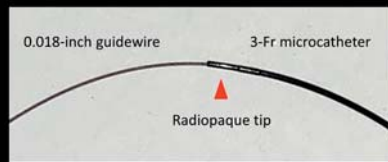
ging situation of this kind, advancing a conventional catheter over a 0.018-inch guidewire can sometimes be difficult because of the gap between the guidewire and the catheter. Here, we report the first use of a new 3-Fr microcatheter that we produced previously [4], which has the following advantages 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 as-

sists 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 (► **Fig. 3**); an uncovered metal stent (8×60 mm) and a plastic stent (7Fr; 14 cm) were deployed in an antegrade fashion (► **Video 1**).

### 3-Fr microcatheter



It has the following advantages:

- allows easy insertion because of its slimness and flexibility
- provides a sufficient contrast-filled image
- assists in manipulating the guidewire to advance into the target space
- avoids unnecessary dilation until needed
- allows exchange of the guidewire from 0.018-inch to 0.025-inch.



**Video 1** A new 3-Fr microcatheter employed as a catheter for a 0.018-inch guidewire during endoscopic ultrasound-guided biliary drainage.

Endoscopy\_UCTN\_Code\_TTT\_1AS\_2AD

### Competing interests

The authors declare that they have no conflict of interest.

### The authors

**Akihisa Kato**, **Michihiro Yoshida**, **Kenta Kachi**, **Yasuki Hori**, **Itaru Naitoh**, **Kazuki Hayashi**, **Hiromi Kataoka**

Department of Gastroenterology and Metabolism, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan

### Corresponding author

**Michihiro Yoshida, MD, PhD**

Department of Gastroenterology and Metabolism, Nagoya City University Graduate School of Medical Sciences, 1 Kawasumi, Mizuho-cho, Mizuho-ku, Nagoya 467-8601, Japan  
mitoyoshi@med.nagoya-cu.ac.jp

### References

- Ogura T, Ueno S, Okuda A et al. Expanding indications for endoscopic ultrasound-guided hepaticogastrostomy for patients with insufficient dilatation of the intrahepatic bile duct using a 22G needle combined with a novel 0.018-inch guidewire (with video). *Dig Endosc* 2022; 34: 222–227
- Minaga K, Takenaka M, Kudo M. Endoscopic ultrasound-guided biliary drainage with a 22-gauge needle and a 0.018-inch guidewire: can it be the new standard? *Dig Endosc* 2022; 34: 79–81
- Martínez B, Martínez J, Casellas JA et al. Endoscopic ultrasound-guided rendezvous in benign biliary or pancreatic disorders with a 22-gauge needle and a 0.018-inch guidewire. *Endosc Int Open* 2019; 7: E1038–E1043
- Yoshida M, Naitoh I, Hayashi K et al. Various innovative roles for 3-Fr microcatheters in pancreaticobiliary endoscopy. *Dig Endosc* 2022; 34: 632–640

### Bibliography

Endoscopy 2022; 54: E882–E883

DOI 10.1055/a-1860-1981

ISSN 0013-726X

published online 24.6.2022

© 2022. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany



### ENDOSCOPY E-VIDEOS

<https://eref.thieme.de/e-videos>



Endoscopy E-Videos is an open access online section, reporting on interesting cases and new techniques in gastroenterological endoscopy. All papers include a high quality video and all contributions are freely accessible online. Processing charges apply (currently EUR 375), discounts and waivers acc. to HINARI are available.

This section has its own submission website at <https://mc.manuscriptcentral.com/e-videos>