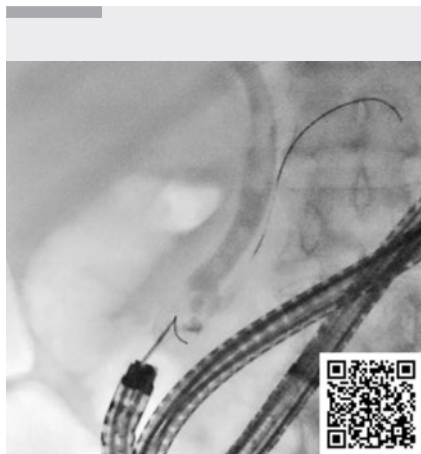
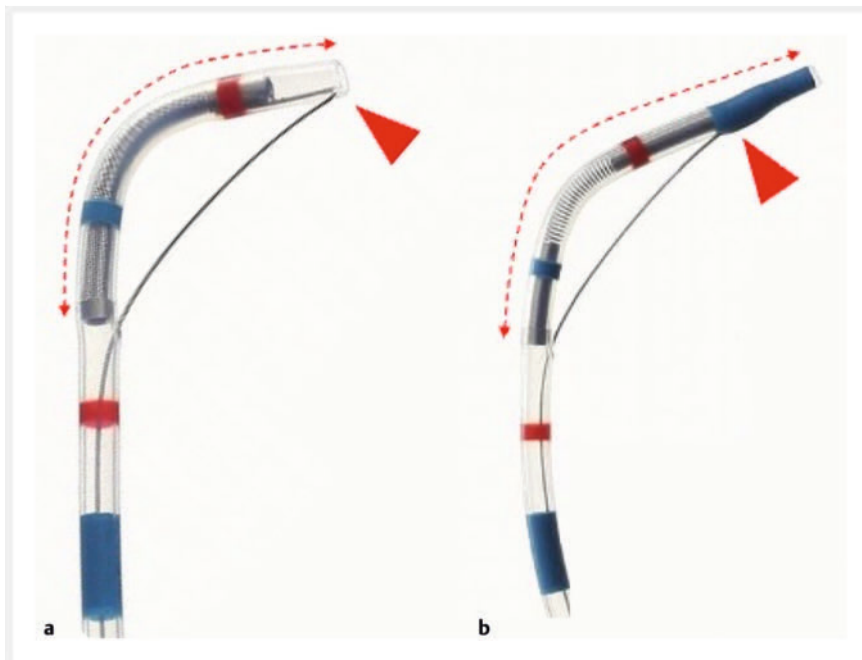


## Non-tip and rotatable sphincterotome for biliary cannulation in patients with Roux-en-Y gastrectomy

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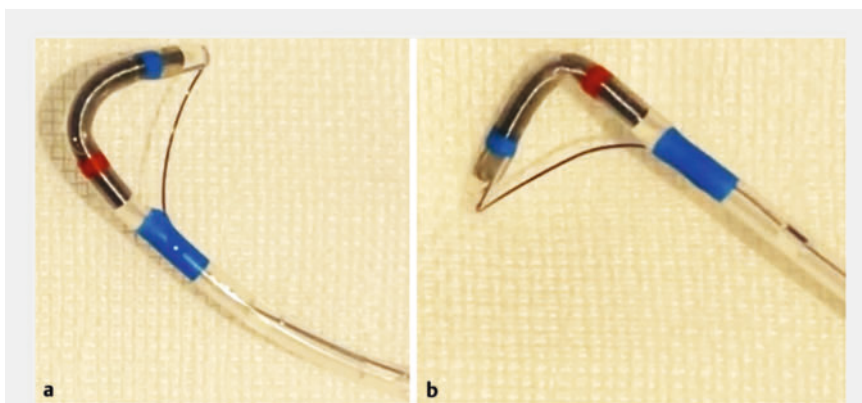
**▶ Video 1** A non-tip sphincterotome facilitated changing the angle along a short distance and its rotatability allowed adjustment to the direction of the bile duct.



**▶ Fig. 1** Seeking Tome Zero (MTW Endoskopie Manufaktur, Wesel, Germany) has no tip and a short angled part (a) compared with a normal endoscopic retrograde cholangiopancreatography catheter (b). Source: Abis Inc, Hyogo, Japan.

Balloon enteroscopy-assisted endoscopic retrograde cholangiopancreatography (BE-ERCP) has become widely used for patients with Roux-en-Y gastrectomy; however, selective biliary cannulation is still challenging [1, 2]. A non-tip or rotatable sphincterotome has been reported to be beneficial in difficult cases [3–5]. A novel sphincterotome, Seeking Tome Zero (MTW Endoskopie Manufaktur, Wesel, Germany) (▶ Fig. 1, ▶ Fig. 2), combines these features. Herein, we describe two successful cases with Roux-en-Y gastrectomy (▶ Video 1).

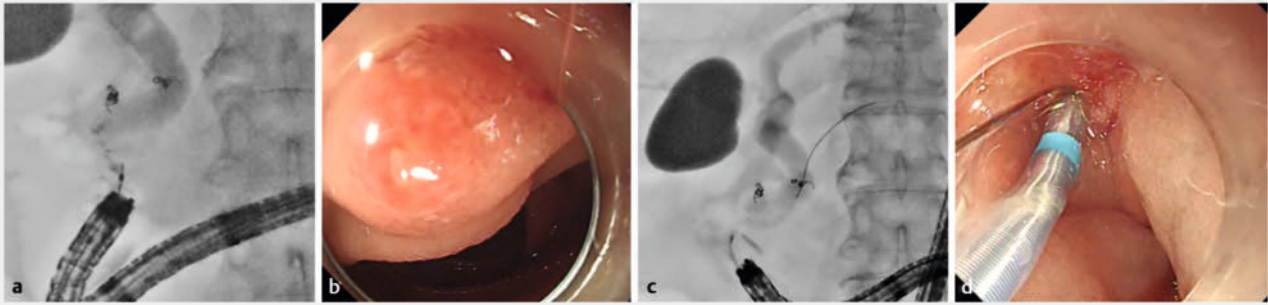
**Case 1.** An 87-year-old woman who had undergone Roux-en-Y gastrectomy was admitted to our hospital because of symptomatic choledocholithiasis. We attempted BE-ERCP using short-type single-balloon enteroscopy (SIF-H290S; Olympus Medical Systems, Tokyo, Japan). As biliary cannulation using a standard ERCP catheter was difficult due to a long and bent narrow distal segment, the catheter was substituted with Seeking Tome Zero (▶ Fig. 3). Following guidewire insertion into the pancreatic duct, a



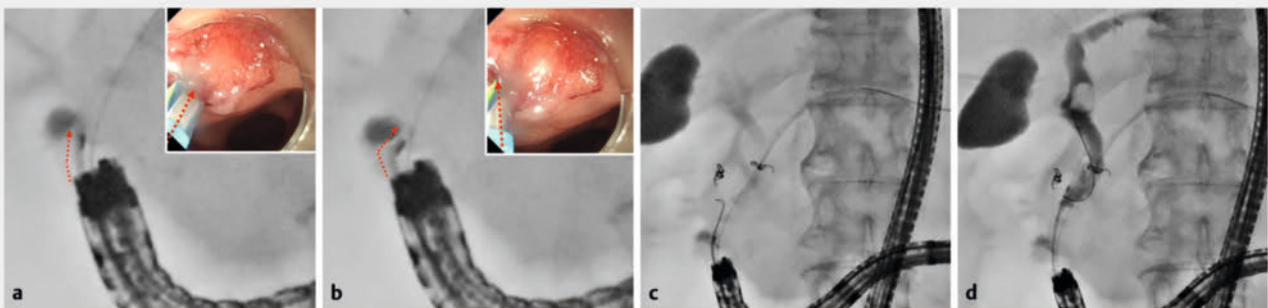
**▶ Fig. 2** Seeking Tome Zero is easily rotated from one side (a) to the opposite side (b).

double guidewire technique was adopted. The sphincterotome was bendable at a short distance from the papilla, and a guidewire was successfully advanced into the bile duct (▶ Fig. 4).

**Case 2.** A 64-year-old man who had undergone Roux-en-Y gastrectomy was admitted to our hospital because of asymptomatic choledocholithiasis. Despite the guidewire being advanced into the main pancreatic duct utilizing Seek-



► **Fig. 3** Case 1. **a** Cholangiography showed a long and bent narrow distal segment. **b** Biliary cannulation was started close to the papilla. **c, d** A guidewire was inserted into the main pancreatic duct.



► **Fig. 4** Case 1. **a, b** Seeking Tome Zero (MTW Endoskopie Manufaktur, Wesel, Germany) was bendable at a short distance from the papilla. **c, d** Biliary cannulation was achieved by gentle guidewire manipulation.

ing Tome Zero in BE-ERCP, the bile duct was oriented in the opposite direction. By rotating the handle, the sphincterotome was smoothly reversed in the direction of the bile duct. Following slight upward manipulation, the bile duct was aligned with the direction of the sphincterotome. Finally, biliary cannulation was achieved with gentle guidewire manipulation (► **Fig. 5**).

To the best of our knowledge, this is the first report of biliary cannulation using Seeking Tome Zero for patients with altered anatomy. A non-tip sphincterotome facilitated changing the angle along a short distance and its smooth rotatability allowed adjustment to the axis of the bile duct.

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### Conflict of Interest

The authors declare that they have no conflict of interest.

### The authors

Haruo Miwa<sup>1</sup>, Kazuya Sugimori<sup>1</sup>, Kazuki Endo<sup>1</sup>, Ritsuko Oishi<sup>1</sup>, Hiromi Tsuchiya<sup>1</sup>, Takashi Kaneko<sup>1</sup>, Shin Maeda<sup>2</sup>

- 1 Gastroenterological Center, Yokohama City University Medical Center, Yokohama, Japan
- 2 Department of Gastroenterology, Yokohama City University Graduate School of Medicine, Yokohama, Japan

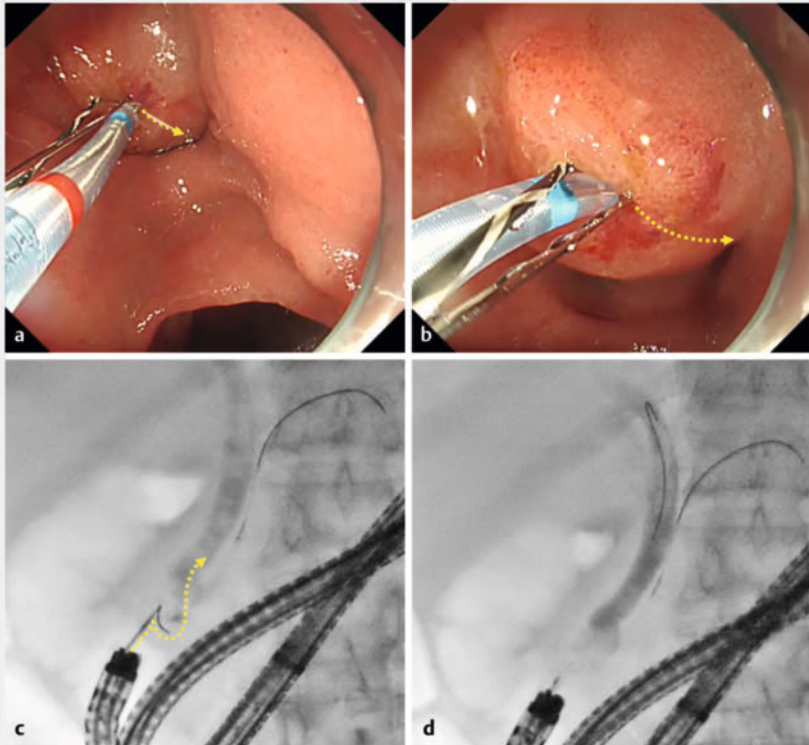
### Corresponding author

Haruo Miwa, MD

Gastroenterological Center, Yokohama City University Medical Center, 4-57 Urafunecho, Minami-ku, Yokohama, Kanagawa 232-0024, Japan  
miwa@yokohama-cu.ac.jp

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► **Fig. 5** Case 2. The double-guidewire technique was performed with Seeking Tome Zero (MTW Endoskopie Manufaktur, Wesel, Germany). **a** The bile duct was oriented in the opposite direction to the sphincterotome. **b** Seeking Tome Zero was smoothly rotated in the direction of the bile duct. **c** Cholangiography showed a long and tortuous narrow distal segment. **d** Biliary cannulation was achieved.

## Bibliography

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