

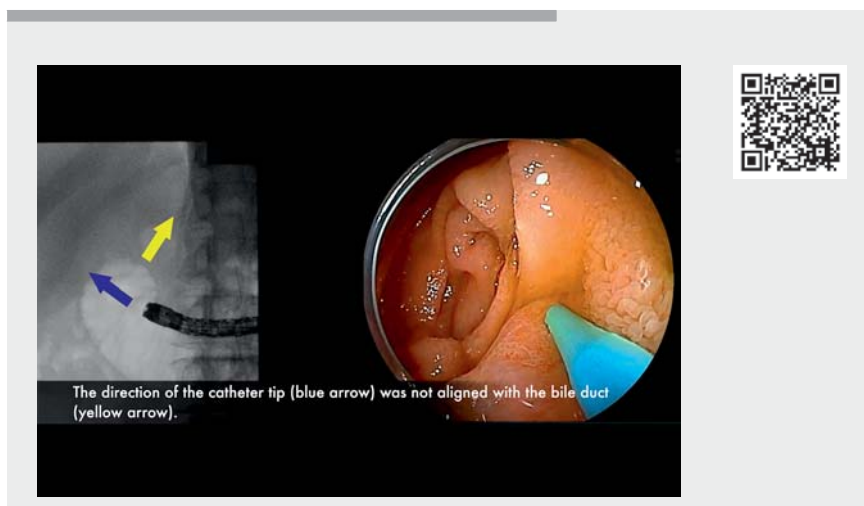
Efficacy of short-bending sphincterotome for difficult biliary cannulation in double-balloon enteroscopy-assisted ERCP

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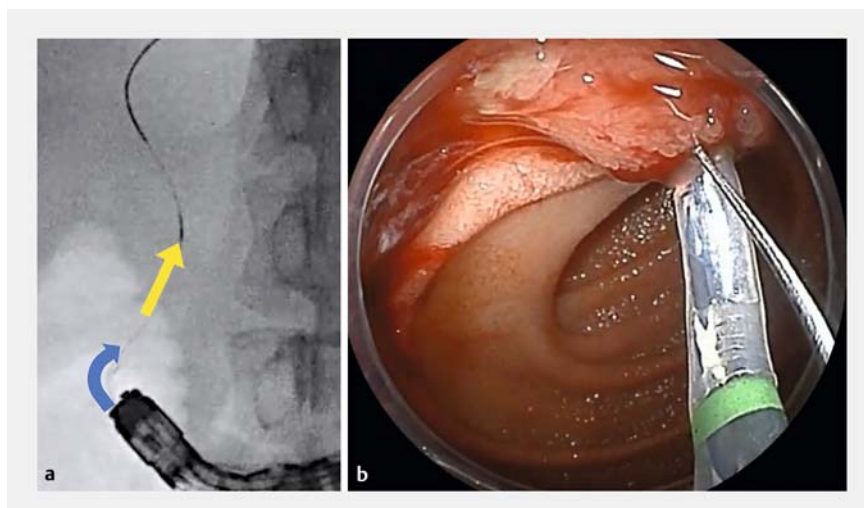
Double-balloon enteroscopy-assisted endoscopic retrograde cholangiopancreatography (DBE-ERCP) has recently proven useful for patients with surgically altered anatomy [1,2]. However, selective bile duct cannulation (SBC) via the native papilla is difficult to perform if the scope is positioned tangentially to the papilla [3]. SBC is difficult in DBE-ERCP because a forward-viewing scope is used without a forceps elevator rather than a duodenoscope, which is utilized in normal ERCP [4]. Thus, we present a novel technique using a short-bending sphincterotome in DBE-ERCP for difficult bile duct cannulation.

A 60-year-old man was admitted to our hospital with acute cholangitis due to choledocholithiasis. He had previously undergone Roux-en-Y gastrectomy. We performed DBE-ERCP (► **Video 1**). The enteroscope tip was orientated tangentially to the papilla regardless of scope manipulation, making SBC difficult using a conventional catheter. However, use of a short-bending and short-tip sphincterotome (CleverCut3V, KD-VC412Q-0215; Olympus, Tokyo, Japan) allowed easy insertion of the guidewire into the bile duct (► **Fig. 1**) [5].

This unique sphincterotome has two advantages (► **Fig. 2**). First, it is a short-bending type with a 15-mm knife length. The shortening of the knife's bending radius makes it easier to control, thereby allowing the knife to bend without projecting too far from the working channel of the enteroscope. Second, the sphincterotome tip is 2 mm. Therefore, the sphincterotome tip can be identified on the endoscopy screen despite the sharp bend. The feature of being short in both front-back and vertical directions is advantageous. Hence, the sphincterotome is easier to manipulate even during SBC in DBE-ERCP. This short-bending function may replace the forceps elevator role of the standard duodenoscope.



► **Video 1** Biliary cannulation using a conventional catheter was difficult; however, use of a short-bending sphincterotome allowed easy insertion of the guidewire into the bile duct.



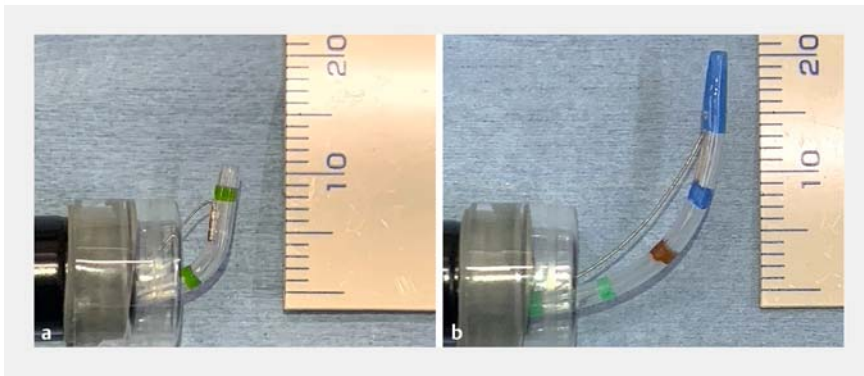
► **Fig. 1** Selective bile duct cannulation using the short-bending sphincterotome. **a** Fluoroscopic view. The direction of the sphincterotome tip (blue arrow) and the bile duct (yellow arrow) could be aligned thanks to the short-bending function of the sphincterotome. The guidewire could be inserted into the bile duct. **b** Endoscopic view.

This novel biliary cannulation method using a unique sphincterotome may improve the SBC success rate in DBE-ERCP.

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Competing interests

The authors declare that they have no conflict of interest.



► **Fig. 2** Images showing the tips of the two different sphincterotomes inserted into the enteroscope (EI-580 BT – working length 1550 mm, working channel diameter 3.2 mm; Fuji-film Co., Tokyo, Japan). A transparent hood is attached to the tip of the enteroscope to improve the scope insertion into the intestinal tract. **a** Short-bending sphincterotome (Clever-Cut3V, KD-VC412Q-0215 – working length 1950 mm; Olympus, Tokyo, Japan:). This sphincterotome is used with the 3.2-mm working channel of the enteroscope. **b** Conventional sphincterotome.

Gastrointestinal Endoscopy (ESGE) Clinical Guideline. *Endoscopy* 2016; 48: 657–683
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