

A safe needle-knife precut papillotomy technique in a patient with a naïve papilla and surgically altered anatomy

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Cannulation of the biliary duct during endoscopic retrograde cholangiopancreatography (ERCP) in patients with a naïve papilla who have surgically altered anatomy, such as a Roux-en-Y anastomosis, remains difficult. The ERCP technique known as needle-knife precut papillotomy [1] is difficult to perform in patients with surgically altered anatomy because of the abnormal axis of the bile duct and a risk of intestinal perforation. Here, we present a safe freehand needle-knife precut papillotomy technique in a patient with surgically altered anatomy.

A 76-year-old man who underwent total gastrectomy and Roux-en-Y reconstruction for gastric cancer was referred for bile duct stone extraction. ERCP was attempted using a single-balloon enteroscope (SIF-H190; Olympus Medical Systems, Tokyo, Japan; working length 200 cm, channel diameter 3.2 mm). However, attempts at bile duct cannulation at the papilla of Vater were unsuccessful for several minutes, even with the scope in the retroflexed position (► Fig. 1) [2]. Therefore, we performed a freehand needle-knife precut papillotomy using a long-length needle knife (HF-needle;

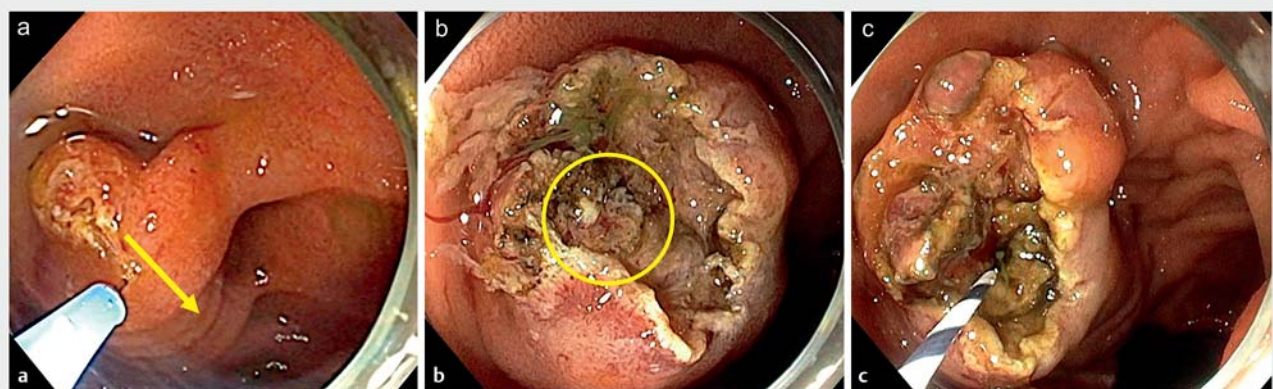


► Fig. 1 Endoscopic views of the ampulla of Vater, with accompanying fluoroscopy images (inset), showing: **a** that, when the endoscope reached the papilla, the bile duct axis was tangential; **b** an unsuccessful attempt at bile duct cannulation, even though the scope was in the retroflexed position.

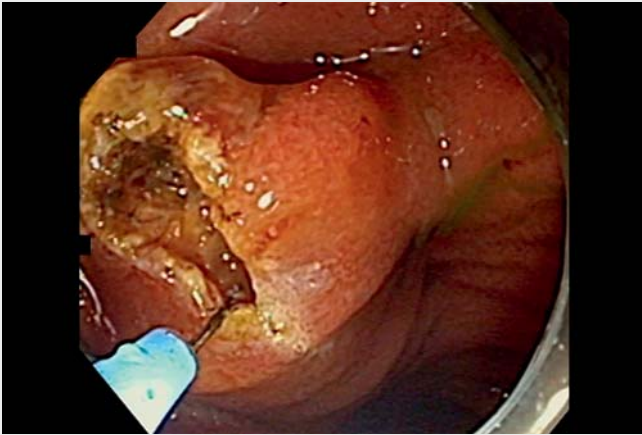
MTW, Düsseldorf, Germany) (► Fig. 2a; ► Video 1). The needle was inserted into the papillary orifice and lifted up to incise the mucosa. An incision was made in the direction that was assumed to be the bile duct axis in normal anatomy. To reduce the risk of perforation, the needle was moved towards the center of intestinal lumen. Cutting in an inward direction

reduces the risk of making a deep incision on the outside of the intestine. The mucosal and submucosal layers were cut to expose the distal end of the bile duct (a slightly raised, dark red tubular structure) (► Fig. 2b), which allowed successful cannulation of the bile duct (► Fig. 2c).

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► Fig. 2 Endoscopic images of the precut technique being performed showing: **a** the needle knife cutting in the 11 o'clock direction, which would be the bile duct axis (arrow) in a patient with normal anatomy; **b** the exposed distal end of the bile duct, which appeared as a slightly raised, dark red tubular structure (yellow circle); **c** a guidewire in position following successful bile duct cannulation.



Video 1 Needle-knife precut papillotomy is performed in a patient with a naïve papilla who has surgically altered anatomy allowing successful biliary cannulation.

Competing interests

The authors declare that they have no conflict of interest.

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