

Safe removal of an impacted stone retrieval basket during ERCP using a single-balloon enteroscope in a patient with a Roux-en-Y gastrectomy

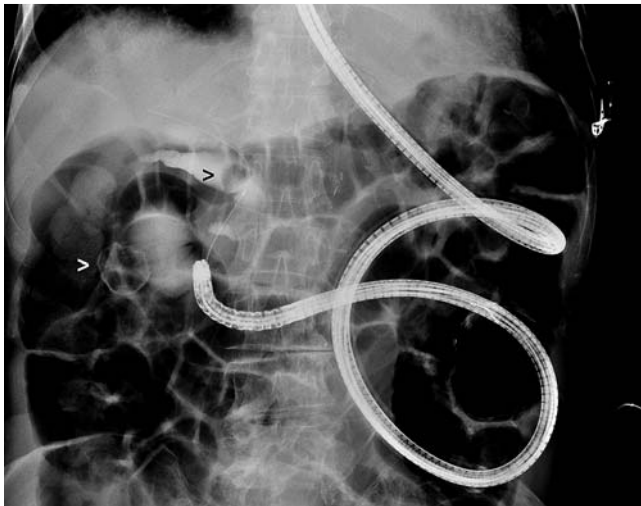


Fig. 1 Cholangiography during single-balloon enteroscopy via an esophagojejunostomy and Roux-en-Y anastomosis showing a large solitary common bile duct stone (black arrowhead) and a large calcified stone in the gallbladder (white arrowhead).



Fig. 2 Endoscopic image of the papilla after sphincterotomy and sphincteroplasty showing the spontaneous evacuation of bile.

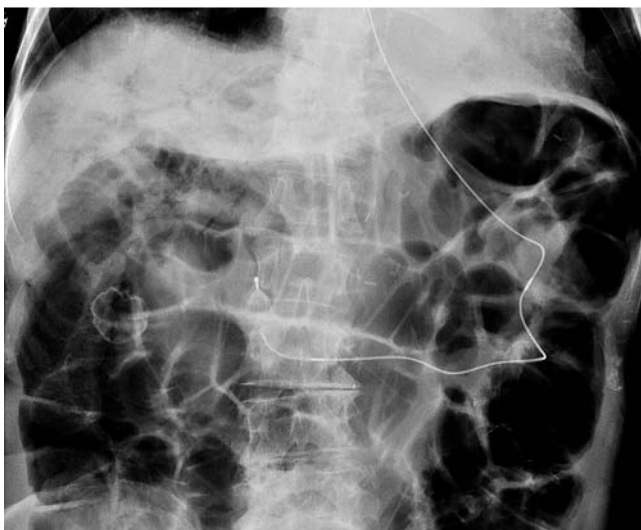


Fig. 3 Radiological view of the impacted common bile duct stone in the retrieval basket.

Endoscopic retrograde cholangiopancreatography (ERCP) in patients with altered small-bowel anatomy is challenging, often needing device-assisted enteroscopy [1]. We report on a complicated ERCP procedure using a single-balloon enteroscope (SIF Q180, Olympus) in a 90-year-old patient who had undergone Roux-en-Y total gastrectomy in 1992 for gastric carcinoma. The indication for the ERCP was *Acinetobacter pittii* cholangitis and sepsis due to a large common bile duct stone. The procedure was performed with the patient under general anesthesia. The enteroscope was introduced through the esophagojejunostomy to reach the side-to-side Roux-en-Y anastomosis. From there, the afferent limb was intubated and the intact major papilla was cannulated. A cholangiogram confirmed the presence of a large common bile duct stone (◀ Fig. 1).

A sphincterotomy and 8-mm balloon sphincteroplasty were performed (▶ Fig. 2). After an unsuccessful attempt at balloon extraction, a capsule retrieval basket was tried. The stone having been captured in the basket could not be removed through the sphincterotomy however and could not be crushed [2]. To deal with this complication, the handle of the basket was cut, leaving it in the common bile duct. Meanwhile, the enteroscope was removed and reintroduced into the gastrointestinal tract, passing through the esophagojejunostomy and the Roux-en-Y anastomosis alongside the basket catheter (▶ Fig. 3 and ▶ Fig. 4). The papilla was then cannulated with the basket catheter in place and a 15-mm balloon sphincteroplasty was performed. Because of the long and tortuous position of the basket catheter in the intestinal loops, mere traction on the catheter would have caused trauma to the intestine. Therefore, we used the enteroscope as a safeguard by applying traction on both the enteroscope and the adjacent basket catheter, as we have previously described [3] (▶ Fig. 5a). In this way it was possible to remove the basket from the common bile duct and to retrieve the stone.

Finally, the enteroscope was introduced again to inspect the papilla and the enteroscope was introduced through the sphincteroplasty into the common bile duct to perform direct cholangioscopy (▶ Fig. 5b). This revealed no evidence of remaining stones, bleeding, or perforation. The patient subsequently recovered well without complications.

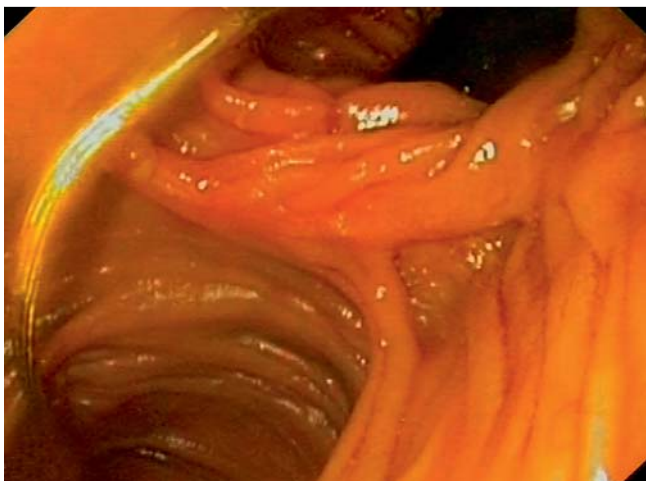


Fig. 4 Endoscopic view of the reintroduction of the single-balloon enteroscope alongside the basket catheter.

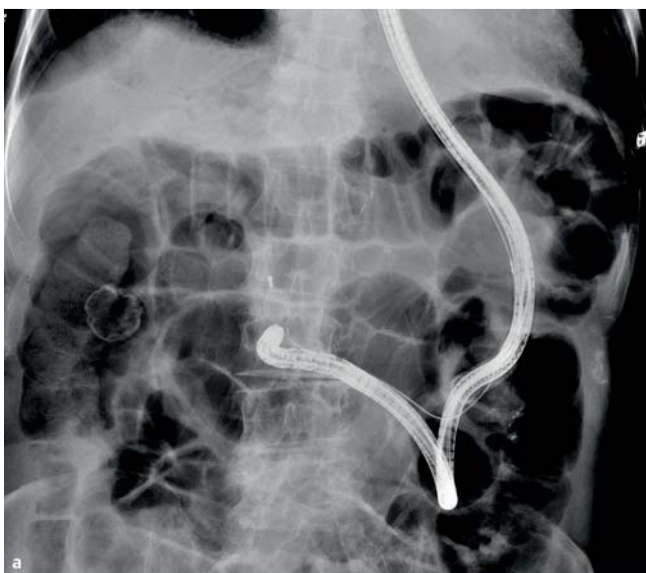


Fig. 5 Radiological views during: **a** the application of simultaneous traction to the enteroscope and the retrieval basket containing the stone, which allowed it to be safely removed from the common bile duct; **b** direct cholangioscopy using the enteroscope after large-diameter balloon sphincteroplasty had been performed.



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Competing interests: None

Olivier Dhollander¹, Hilde De Bruyne¹, Bart Op de Beeck², Paul A. Pelckmans¹, Tom G. Moreels¹

¹ Department of Gastroenterology & Hepatology, Antwerp University Hospital, Antwerp, Belgium

² Department of Radiology, Antwerp University Hospital, Antwerp, Belgium

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Bibliography

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Corresponding author

Tom G. Moreels, MD, PhD
 Antwerp University Hospital
 Dept. Gastroenterology Hepatology
 Wilrijkstraat 10
 B-2650 Antwerp
 Belgium
 tom.moreels@uza.be