Clip and snare lifting technique to assist cannulation of a papilla hidden behind a mucosal fold

Endoscopic retrograde cholangiopancreatography (ERCP) is a technically complex endoscopic procedure with significant rates of severe complications (0.8%) and mortality (0.02%) [1]. Complication rates increase in those patients where cannulation is difficult, defined as a situation in which the operator using a standard technique fails to achieve cannulation within 5 minutes, makes five unsuccessful attempts, or two passages of the guidewire into the pancreas [2,3]. Features that are known to be associated with difficult, time-consuming, or impossible cannulations are failure to identify the papilla within the diverticulum, a floppy papilla on the edge of diverticula, and a papilla that is hidden by a mucosal fold (Fig. 1a) [4]. The latter situation can be particularly challenging and has few possible solutions [5].

We hereby describe the first two patients in which we used an endoclip and a snare to lift the mucosal fold and allow access to a hidden papilla. The first patient was a 70-year-old woman with a bile leak after hemihepatectomy. She had a flat papilla, underneath a floppy mucosal fold, that could not be cannulated. The second patient was a 55-year-old woman with a post-cholecystectomy bile leak. She had a papilla that was hidden behind a fold and had undergone two ERCPs and a precut sphincterotomy because of unsuccessful bile duct cannulation.

In both patients an endoclip (Resolution Clip; Boston Scientific Corporation, Natick, Massachusetts, USA) was placed on the fold. The duodenoscope was withdrawn and was then re-introduced with a biopsy forceps inside the working channel that was used to grasp a polypectomy snare (Sensation Short Throw, 13 mm; Boston Scientific) so that this was introduced beside the scope. The snare loop was then tightened slightly around the shaft of the endoclip (Fig. 1b) and the wire was pulled up through the mouth (Fig. 1c), which slightly altered the alignment of the papillary region, so allowing the opening of the papilla to be visualized (Fig. 1d) and successfully cannulated.

These are the first successful cases of clip and snare-assisted cannulation, a way of accessing the bile duct in otherwise apparently impossible conditions, by either pulling or pushing (Fig. 2) a snared clip that had been previously positioned on the mucosal fold that was hiding the papilla.

Endoscopy_UCTN_Code_TTT_1AR_2AB

Fig. 1 Endoscopic views showing: a the mucosal fold with the papilla hidden behind it; b, c the snare being tightened around the previously positioned endoscopic clip, and being pulled back; d the papilla, which is successfully visualized after use of a push-and-pull technique, subsequently allowing the common bile duct to be cannulated.
Competing interests: None

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DOI http://dx.doi.org/10.1055/s-0034-1392923
Endoscopy 2015; 47: E517–E518
© Georg Thieme Verlag KG Stuttgart · New York
ISSN 0013-726X

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Fig. 2  Schematic showing the stages of the clip and snare-assisted cannulation process: a the papilla is not easily visualized as it is hidden behind a mucosal fold; b, c an endoclip is placed on the fold; d the endoscope is withdrawn; e a snare grasped in a biopsy forceps is passed alongside the scope as it is re-inserted; f the snare loop is placed around the shaft of the clip; g the snare is pulled back lifting the fold away from the papilla; h the papilla can then be successfully cannulated.