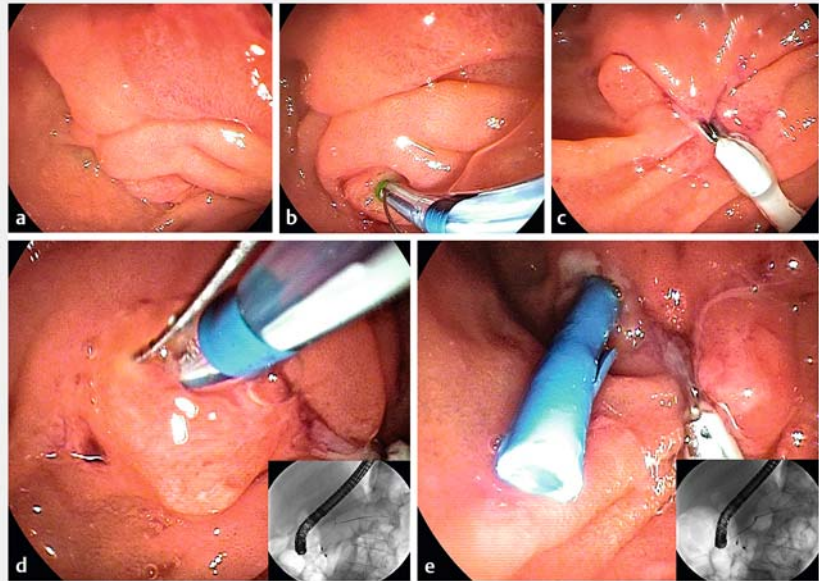


Thread a needle with two hands: inner countertraction using clip with rubber band facilitates difficult pancreatic cannulation during ERCP



Difficult biliary or pancreatic cannulation during endoscopic retrograde cholangiopancreatography (ERCP) is among the leading causes of failed operations [1]. Inspired by the application of traction in endoscopic treatment of early gastrointestinal tumors [2], we have developed clip-and-rubber-band traction to accomplish difficult pancreatic cannulation during ERCP (▶ **Video 1**).

An elderly woman was diagnosed with an uncinate process tumor of the pancreas by endoscopic ultrasound-guided fine-needle biopsy. To relieve the high pressure of the extremely dilated pancreatic duct, ERCP was considered to perform pancreatic duct drainage. Unfortunately, a long, rugose, and pendulous papilla with a stiff and constrictive orifice was revealed under duodenoscopy (▶ **Fig. 1 a**), resulting in the failure of conventional cannulation because the papillary orifice could not be reached or entered (▶ **Fig. 1 b**). Consequently, the clip-and-rubber-band traction technique was used to rescue the difficult ERCP. After an endo-clip holding a rubber band was anchored to the inferior border of the papillary orifice, a second endo-clip was introduced to pick up the rubber band and fix it to the opposite wall of the duodenum (▶ **Fig. 1 c**). As the papilla was completely lifted upright with the countertraction device and the papillary orifice was well exposed, the sphincterotome with a guidewire was successfully inserted into the pancreatic duct within seconds (▶ **Fig. 1 d**). After the stenosis of the pancreatic duct head was thoroughly dilated with dilating bougies, a 7-Fr × 7-cm plastic stent was smoothly placed into the pancreatic duct body with fluent drainage of pancreatic juice (▶ **Fig. 1 e**).



▶ **Fig. 1** The inner countertraction using a clip with rubber band rescued a difficult pancreatic cannulation during ERCP. **a** Duodenoscopy shows an elongated and rugose major papilla with a stiff and pendulous orifice. **b** Due to an extremely twisted and unreachable location of the papillary orifice, several attempts using conventional cannulation proved difficult and pancreatic access failed. **c** The countertraction device using clips and a rubber band was applied to straighten the folded papillary structure and expose its orifice. **d** Since the papilla orifice was pulled out and fully displayed using countertraction-assisted force, ultimately the guidewire was smoothly advanced into the pancreatic duct. **e** A pancreatic plastic stent was smoothly inserted into the body pancreatic duct after the stricture part of the head pancreatic duct was fully dilated.

Compared with the external means of traction including clip with line [2], snare [3] and forceps [4] in ERCP, internal countertraction has several remarkable advantages. It does not interfere ERCP instruments, and it is inexpensive, easily accessible, and simple and convenient to manipulate. This technique is very promising for improving the success rate of difficult biliary or pancreatic cannulation during ERCP in the future.

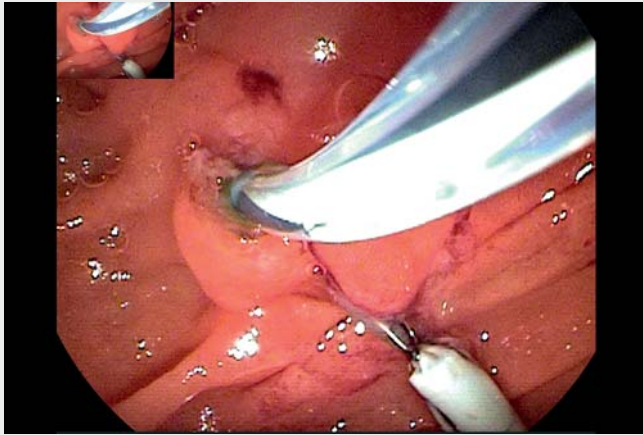
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Competing interests

The authors declare that they have no conflict of interest.



Video 1 The clip-and-rubber-band traction rescued the difficult pancreatic duct drainage during ERCP in a patient with an uncinus process tumor.

Bibliography

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