



Clip-and-line traction method for difficult ERCP cannulation due to choledochocoele

Mark Henrik Bonnichsen, MBBS (Hons),¹ Angela Djajakusuma, MD,^{2,3} Clement C. H. Wu, MBBS,^{4,5} Christopher J. L. Khor, MBBS,^{4,5} Damien M. Y. Tan, MBBS^{4,5}

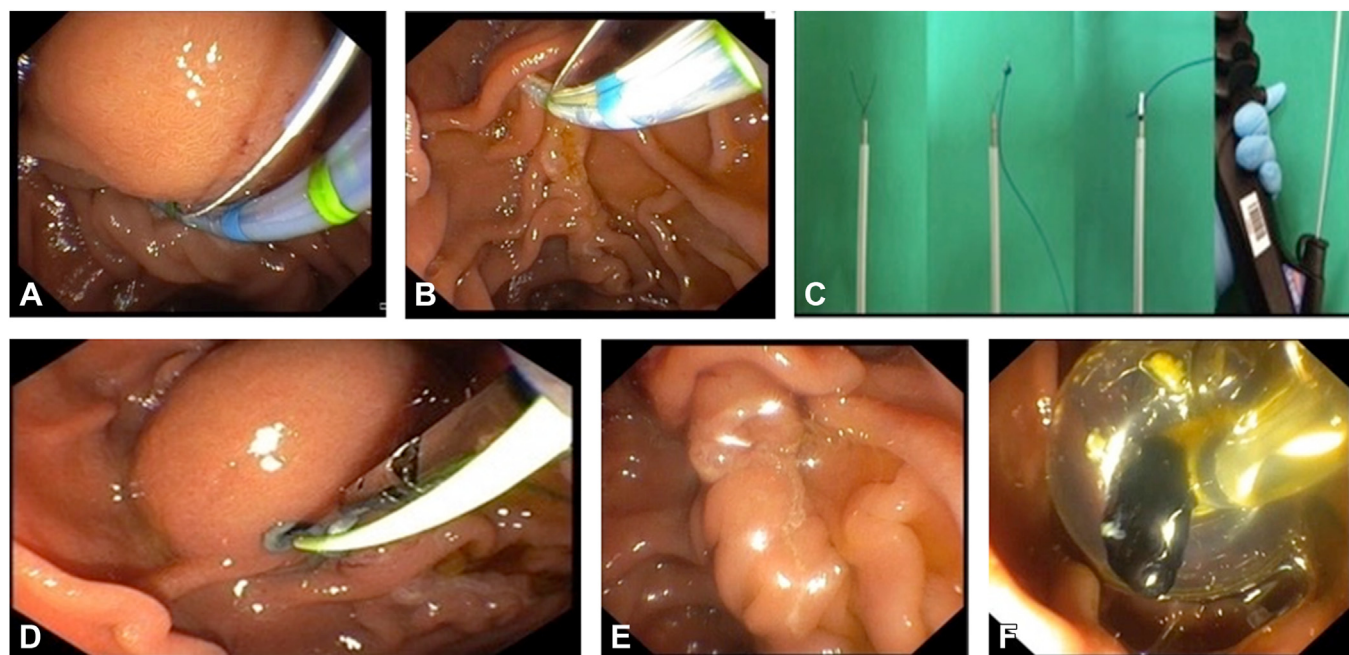


Figure 1. **A**, Major papilla underneath a choledochocoele. **B**, Sphincterotome used to attempt to expose major papilla. **C**, Clip-and-line traction method setup. **D**, Clip deployment onto choledochocoele. **E**, View of the major papilla after clip and traction. **F**, Extraction of stone with extraction balloon.

Selective biliary cannulation may be unsuccessful in up to 18% of cases.¹ This is often a result of altered anatomy, diverticuli, or variations in papillary anatomy. We present the case of a 77-year-old woman who underwent ERCP for choledocholithiasis. She was asymptomatic and under-

Abbreviations: CBD, common bile duct; ESD, endoscopic submucosal dissection.

Copyright © 2023 American Society for Gastrointestinal Endoscopy. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>). 2468-4481 <https://doi.org/10.1016/j.vgjie.2023.06.014>

Department of Gastroenterology and Hepatology, Singapore General Hospital, Singapore (1), Department of Gastroenterology and Hepatology, Singapore General Hospital, Singapore (2), Division of Internal Medicine, National Kidney and Transplant Institute, Manila, Philippines (3), Department of Gastroenterology and Hepatology, Singapore General Hospital, Singapore (4), Duke-NUS Medical School, Singapore (5).

going surveillance MRCP for multifocal intraductal papillary mucinous neoplasm. In addition to the stone, a choledochocoele (type III Todani cyst)² was evident.

During ERCP (Video 1, available online at www.videogie.org), passage of the duodenoscope was able to identify the major papilla; however, the choledochocoele impaired visualization and access for wire-guided cannulation of the common bile duct (CBD; Fig. 1A and B). The decision was made to use a clip-and-line traction method to hold the choledochocoele in place, which has been previously described in endoscopic submucosal dissection (ESD). This was believed to have a lower risk of bleeding and perforation when compared to alternatives such as free-hand precut needle-knife fistulotomy. A line was tied to one of the jaws of an opened hemostatic clip (Resolution 360; Boston Scientific, Marlborough, Mass, USA) and then closed and inserted via the working channel of the duodenoscope (Fig. 1C). Use of dental floss has been previously described but was not available on this occasion. Therefore, a 0.025-inch VisiGlide guidewire (Olympus

Corporation, Tokyo, Japan) was used. The clip was advanced through the working channel, opened, and deployed onto the choledochocoele at the point at which traction would not increase too much tension on the duodenal wall (Fig. 1D). Gentle traction on the line exposed the major papilla. The initial wire pass was into the pancreatic duct, and the decision was made to insert a pancreatic stent to facilitate biliary cannulation (Fig. 1E). This was successful and followed by sphincterotomy and balloon trawl removal of the CBD stone (Fig. 1F). The total procedure time was 62 minutes, and there were no postprocedure adverse events.

The traction method using clip and line has been described to maintain visualization and access in ESD,⁵ but it has not been previously described as an adjunct to aid biliary cannulation in ERCP. Given cost issues and its proven use in ESD, we suggest the use of dental floss rather than a guidewire as the line to aid CBD cannulation. The use of the clip and line allows for improved visualization and stability but also the ability for the assistant to help expose the major papilla. Given the anatomical distortion due to the choledochocoele, we felt this method would be safer than precut needle-knife fistulotomy. We suggest this method as a useful and widely accessible adjunct to

aid selective biliary cannulation when visualization is impaired, but this method requires further validation in a larger population.

DISCLOSURE

Dr Khor is a consultant with Boston Scientific, ERBE, and Fujifilm. Dr Tan is a consultant with Boston Scientific and Pentax Medical. All other authors did not disclose any financial relationships.

REFERENCES

1. Cennamo V, Fuccio L, Zagari RM, et al. Can early precut implementation reduce endoscopic retrograde cholangiopancreatography-related complication risk? Meta-analysis of randomized controlled trials. *Endoscopy* 2010;42:381-8.
2. Le RB, Gagnière J, Filaire L, et al. Pancreaticobiliary maljunction and choledochal cysts: from embryogenesis to therapeutics aspects. *Surg Radiol Anat* 2016;38:1053-60.
3. Yamasaki Y, Takeuchi Y, Uedo N, et al. Efficacy of traction-assisted colorectal endoscopic submucosal dissection using a clip-and-thread technique: a prospective randomized study. *Dig Endosc* 2018;30:467-76.

Facebook

Follow *VideoGIE* on Facebook to receive the latest news, updates, and article links. Visit <https://www.facebook.com/videogiejournal/> and keep checking back to view our most recent posts.