EUS-guided Rendezvous technique for the treatment of choledocholithiasis with difficult cannulation

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Keywords: Endoscopic ultrasound-guided biliary drainage. Endoscopic retrograde cholangiopancreatography.

Dear Editor,

It is not uncommon to encounter difficult cannulation during endoscopic retrograde cholangiopancreatography (ERCP), most of which can be performed by double-guide wire, pre-cut and other techniques. Endoscopic ultrasound-guided biliary drainage (EUS-BD) can be used as a remedial solution for ERCP failure¹. This article provides a very well experience in ERCP combine with EUS-RV technique in cases where the duodenal papilla is located above the medial diverticulum. At the same time, some skills of EUS-RV are provided for endoscopists.

Case report
An 86-year-old female patient was admitted with choledocholithiasis. During the operation of ERCP, it was found that the patient had a large duodenal diverticulum, and the duodenal papilla was difficult to identify. The duodenal papilla could not be shown when the metal clamps were applied to pull the duodenal fold. But we could
initially determine that the papilla was above the internal of the diverticulum. Then
the technique of EUS-guided rendezvous (EUS-RV) was implemented when ERCP
failure.
Endoscopic ultrasound showed that the intrahepatic bile duct did not dilate, so
considering the technique of EUS-guided rendezvous (Extrahepatic bile duct
pathway), we adopted the "pulling endoscope method" to puncture the lower
segment of the common bile duct, and the guide wire passed through the duodenal
papilla. The second guide wire was applied to complete the cannulation under the
guidance of the first guide wire with parallel method. And the subsequent stone
extraction operation was completed by ERCP.

Discussion
EUS-RV has a success rate of 81%\(^2\). EUS-RV is a more complex endoscopic technique
derived from EUS-BD technology\(^3\). It is a very good remedy for patients with complex
bile duct stones with difficult cannulation, with less trauma and a lower incidence of
postoperative pancreatitii\(^4,\,5\). Before implementing this technique, we need to
consider and evaluate whether the puncture pathway and guide wire can
successfully pass through the duodenal papilla. Therefore, the key to the successful
implementation of EUS-RV for this case is to select the lower common bile duct as
the puncture point. Finally, the technique is required a combination of ERCP and EUS
and is suitable for use in experienced medical centers\(^1\).

Acknowledgements
The authors report no conflicts of interest. The authors alone are responsible for the
content and writing of the paper.

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precut papillotomy techniques for biliary access (with videos).  


Figure 1. a: The metal clamps pull the duodenal folds b: Endoscopic ultrasound scan of the lower segment of the common bile duct shows choledocholithiasis (green arrow) and puncture needle (red arrow) c: The lower segment of the common bile duct and the guide wire can be shown by X-Ray d: The location of the duodenal papilla (white arrow)