

## A light in the dark: Peroral cholangioscopy provides a new strategy for difficult cannulation in pancreaticobiliary maljunction

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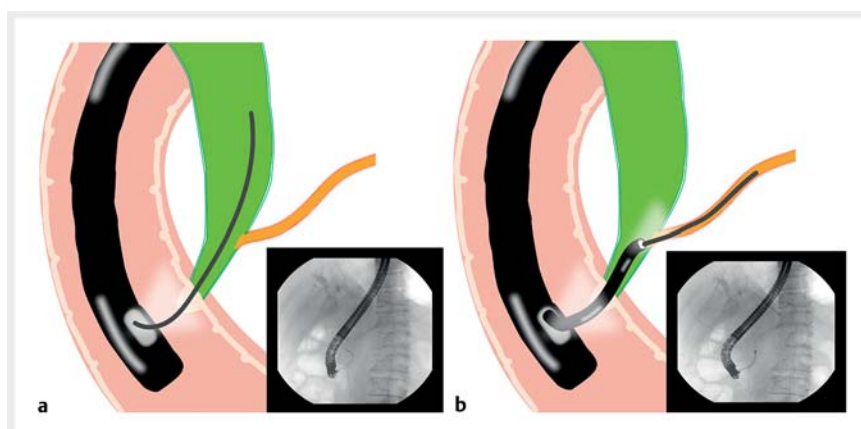


► **Fig. 1** Magnetic resonance cholangiopancreatography showed the confluence between dilated biliary and pancreatic ducts.



► **Fig. 2** Pancreatic duct opacification when conducting cholangiography.

A 56-year-old man suffered from epigastric pain for 5 days with elevated amylase (2600 IU/L), and computed tomography indicated acute pancreatitis. Magnetic resonance cholangiopancreatography showed the confluence between dilated biliary and pancreatic ducts (► **Fig. 1**), and endoscopic ultrasound indicated a 1.7-cm common channel, suggesting a pancreaticobiliary maljunction (PBM). Subsequent endoscopic retrograde cholangiopancreatography (ERCP) showed pancreatic duct opacification when conducting cholan-



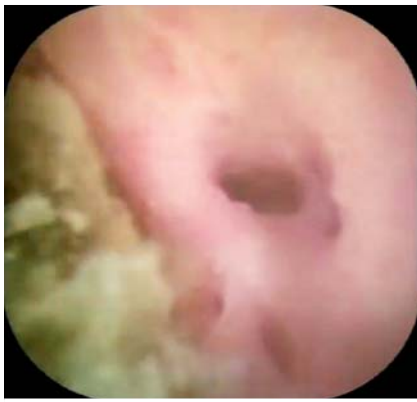
► **Fig. 3** **a** The guidewire could not be inserted into the pancreatic duct owing to the long common channel. **b** The peroral choledochoscope was used to observe the opening of pancreatic duct and insert the guidewire under direct visualization.



► **Video 1** Peroral cholangioscopy-assisted pancreatic duct cannulation in a patient with a pancreaticobiliary maljunction.

giography (► **Fig. 2**). Considering the symptoms of acute pancreatitis and high amylase, we attempted stent implantation to conduct pancreatic juice drainage and relieve the abdominal pain. However, owing to the long common channel and the sharp angle, the guidewire could not be inserted into the pancreatic duct during prior attempts (► **Fig. 3 a**). Therefore, a novel peroral

choledochoscope (Eye-Max CDS11001, 9Fr; Micro-Tech, Nanjing, China) with a 1.8-mm working channel was used to observe the opening of pancreatic duct under direct visualization (► **Fig. 3 b**, ► **Video 1**). The fusion junction was presented clearly inside the field (► **Fig. 4**), and the guidewire was inserted into the pancreatic duct successfully with the assistance of the peroral choledochoscope.



► **Fig. 4** The fusion junction visible with the help of a peroral choledochoscope.

scope. After pancreatic duct stent implantation, the amylase gradually decreased and the patient's recovery was uneventful during 5-month follow-up. Peroral cholangioscopy has been widely applied in diagnosing pancreatobiliary diseases and shown its vital role in selective cannulation of complex biliary strictures [1]. PBM is a rare congenital malformation with the pancreatic and bile ducts united outside of the duodenal wall, resulting in dysfunction of the sphincter of Oddi and regurgitation of bile and pancreatic juice [2,3]. Endoscopic pancreatic duct stenting is an effective way to relieve the symptoms, although the diversity of anatomic variation sometimes makes cannulation difficult [4]. To our knowledge, this is the first report that applies peroral cholangioscopy in pancreatic duct cannulation in patients with PBM. Peroral cholangioscopy makes the fusion junction visible and provides a new strategy for difficult cannulation in PBM.

Endoscopy\_UCTN\_Code\_TTT\_1AR\_2AI

## Funding

Natural Science Foundation of Shandong Province, China  
ZR2020LZL003

## Competing interests

The authors declare that they have no conflict of interest.

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## Citation Format

Endoscopy *Endoscopy* 2023; 55: E792–E793. doi: 10.1055/a-2096-1950.

## Bibliography

Endoscopy 2023; 55: 968–969

DOI 10.1055/a-2154-3461

ISSN 0013-726X

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