

A novel peroral pancreatoscopy combined endoscopic ultrasonography-assisted rendezvous procedure: a new strategy for bridging disconnected pancreatic duct syndrome

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► **Fig. 1** Fluoroscopic image during endoscopic retrograde cholangiopancreatography and accompanying schematic showing the pseudocyst with no opacification of the upstream main pancreatic duct, confirming disconnected pancreatic duct syndrome.



► **Fig. 2** Fluoroscopic image showing endoscopic ultrasonography-guided puncture of the upstream main pancreatic duct, with the guidewire passing into the pseudocyst.



► **Fig. 3** Peroral pancreatoscopy showing the endoscopic ultrasonography guidewire in the pseudocyst.



► **Fig. 4** Fluoroscopic image showing a single-pigtail plastic stent that was placed via the papilla across the disconnection of the main pancreatic duct.

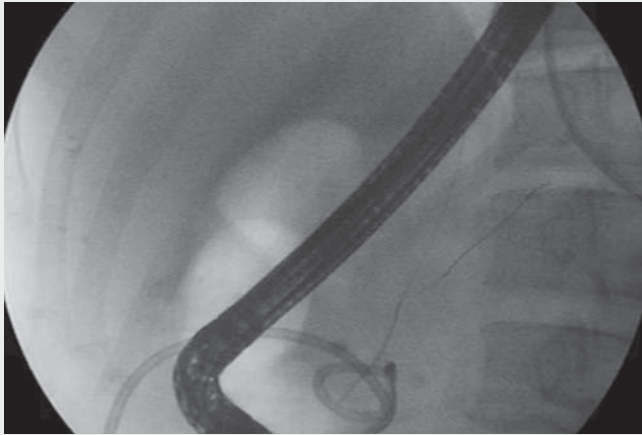
A 48-year-old man with a history of acute necrotizing pancreatitis presented to our institution for management of a persistent external pancreatic fistula. He had required percutaneous catheter drainage for a pseudocyst in the pancreatic neck before this complication. A pancreatogram showed that the pseudocyst was in communication with the main pancreatic duct (MPD) in the head; however, there was no opacification of the upstream MPD, confirming complete MPD disconnection (► **Fig. 1**). It had not been possible to traverse the MPD dis-

connection with a guidewire during prior attempts.

We attempted to advance a novel peroral cholangiopancreatoscope (“eyeMax”, 9Fr; Micro-Tech Co., Ltd., Nanjing, China) across the papilla into the pseudocyst but were unable to find the opening of the upstream MPD. Therefore, we decided to use the endoscopic ultrasonography-assisted rendezvous technique (EUS-RV) to help locate the opening with the cholangiopancreatoscope. Using a linear echoendoscope, the upstream MPD was recognized and punc-

tured with a 19G fine-needle aspiration (FNA) needle in the stomach. A second guidewire was inserted through the needle into the MPD and further down into the pseudocyst (► **Fig. 2**). Under pancreatoscopic guidance again, we were able to see the EUS guidewire coming out of the disrupted orifice of the upstream MPD (► **Fig. 3**). Following the EUS guidewire, the cholangiopancreatoscope guidewire was smoothly inserted into the upstream MPD (► **Video 1**). An endoscopic retrograde cholangiopancreatography (ERCP) catheter was used to adjust the direction of the guidewire to gain deep access to the MPD and a 7-Fr × 9-cm single-pigtail plastic stent was placed via the papilla across the disconnection (► **Fig. 4**; ► **Video 1**). The percutaneous drainage catheter was removed, with successful closure of the cutaneous opening of the fistula noted 2 months later.

In conclusion, the combination of ERCP, EUS, and peroral pancreatoscopy offers a novel, accurate, and microinvasive treatment method for pancreatic duct related disorders [1–3].



Video 1 A completely disrupted pancreatic duct is bridged using a novel peroral choangiopancreatostomy combined with an endoscopic ultrasonography-assisted rendezvous technique.

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Competing interests

The authors declare that they have no conflict of interest.

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