New cholangiopancreatoscopy-assisted diagnosis of disconnected pancreatic duct syndrome and bridging disconnected pancreatic duct

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A 56-year-old female was hospitalized in our department due to pancreatic pseudocyst formation with walled-off necrosis. The maximum diameter of the cyst was approximately 14 cm on preoperative computed tomography. Considering the large size of the cyst, we chose to puncture and drain it through the gastric wall, and we placed two plastic double pigtail stents and a nasal sac tube for drainage.

A second surgery was performed 4 weeks later, and a cholangiogram revealed that the cyst cavity was communicating with the bile duct (▶ **Fig. 1**). We then innovatively used a novel cholangiopancreatoscope ("eyeMax", 9F; Micro-Tech Co., Ltd., Nanjing, China) to examine the cyst cavity to find the ruptured pancreatic duct opening (▶ **Fig. 2**). We also used a guidewire to enter the duodenal lumen through the pancreatic duct and papilla under direct vision (▶ **Fig. 3**), thus directly confirming that the patient had disconnected pancreatic duct syndrome. During the endoscopic retrograde cholangiopancreatography, the 9Fr cholangiopancreatoscope failed to enter the cyst cavity due to narrowing of the pancreatic duct. Subsequently, we used the guidewire again, successfully inserted the guidewire into the distal pancreatic duct (▶ **Fig. 4**), and placed a 5F x 9 cm pancreatic duct stent. A follow-up examination after 8 weeks revealed that the stent was in place and that the cyst did not recur (▶ **Video 1**).

Use of this cholangiopancreatoscope to assist in bridging ruptured pancreatic

▶ **Fig. 1** Contrast medium is injected into the cyst cavity to show the cyst cavity and bile ducts.

▶ **Fig. 3** The guidewire enters the duodenum from the cyst cavity, confirming that the cyst communicates with the main pancreatic duct.

▶ **Fig. 4** The guidewire passes through the ruptured pancreatic duct and into the distal pancreatic duct.

▶ **Fig. 2** Cholangiopancreatoscopy was used to explore the cyst cavity and the opening of the pancreatic duct was suspected to be ruptured, and a guidewire was inserted and the location of the opening was successfully found.

VIDEO

▶ **Video 1** Surgical procedure.

ducts has been previously reported [1, 2, 3]. Unlike in previous cases, we were able to use this cholangiopancreatoscope to successfully locate the opening of the ruptured pancreatic duct. In addition, a cholangiopancreatoscope with a smaller diameter may increase the likelihood of passing through the narrowed segment of the pancreatic duct, allowing direct vision and enabling us to insert a guidewire and bridge the ruptured pancreatic duct.

Conflict of Interest

The authors declare that they have no conflict of interest.

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