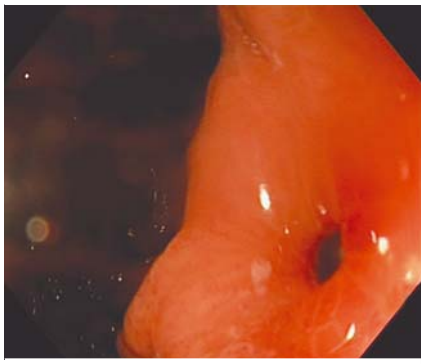
SpyGlass DS-guided conversion of transmural pancreaticogastrostomy drainage to transpapillary drainage by rendezvous via a lumen-apposing metal stent

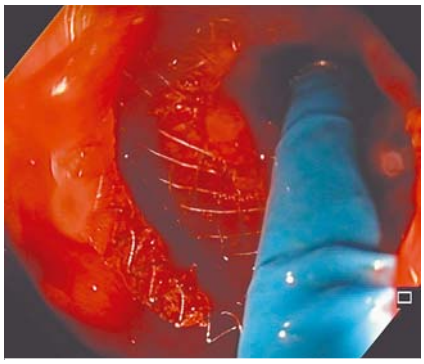
Recently, we reported a successful endoscopic ultrasound-guided pancreatic duct (PD) drainage using a lumen-apposing metal stent (LAMS) plus a pigtail stent in a 44-year-old man with chronic pancreatitis and PD stricture [1]. The patient's course was satisfactory and 5 months later conversion of the transmural drainage to transpapillary drainage was planned.

The mature fistula, derived from the pancreaticogastrostomy using the LAMS, was used as a port to facilitate access of a SpyScope (Boston Scientific, Natick, Massachusetts, USA) through a therapeutic upper scope. First, a "buried stent effect" was found in the stomach (▶ **Fig. 1**). The LAMS was unearthed using grasping forceps. Then the cholangiopancreatoscope was positioned at the inner end of the stent, and a 0.035-inch guidewire was advanced in an antegrade direction towards the papilla (▶ **Fig. 2** and ▶ **Fig. 3**). Contrast filling using an endoscopic retrograde cholangiopancreatography cannula revealed a severe PD stricture, and allowed advancement of the guidewire to inside the duodenal lumen (▶ **Fig. 4**). Curiously, no contrast filling of the small-bowel lumen was observed, and the antegrade approach was aborted and changed to a rendezvous method. The scope was exchanged for a duodenoscope, and good positioning of the guidewire in the duodenal lumen was confirmed (▶ **Fig. 5**). This allowed retrograde pancreatic cannulation, and dilation of the stricture in the pancreatic head using a 6-mm biliary balloon. Finally, a double-pigtail plastic stent (7 Fr × 10 cm; Boston Scientific) was inserted into the major papilla and inside the PD, and its inner end was located in the gastric body, through the LAMS (▶ **Fig. 6**; ▶ **Video 1**). No adverse events were reported.

There is a lack of knowledge about the behavior of transmural drainage in long-term follow-up [2], but it is known that transpapillary drainage more closely replicates normal physiology because pancreatic juice drains directly into the duodenum, an alkaline environment, and enterokinase converts trypsinogen into its active form, trypsin, resulting in the activation of pancreatic digestive enzymes [3].



▶ **Fig. 1** SpyGlass DS-guided conversion of transmural drainage to transpapillary drainage in a 44-year-old man with chronic pancreatitis and pancreatic duct stricture. The fistula tract orifice in the gastric body can be seen but the lumen-apposing metal stent (AXIOS, 6 × 8 mm) is "buried" by hyperplasia of the gastric mucosa.



▶ **Fig. 2** Image from a peroral single-operator cholangiopancreatoscope through a therapeutic upper endoscope. The inner end of the lumen-apposing stent is impacted on the pancreatic duct wall.

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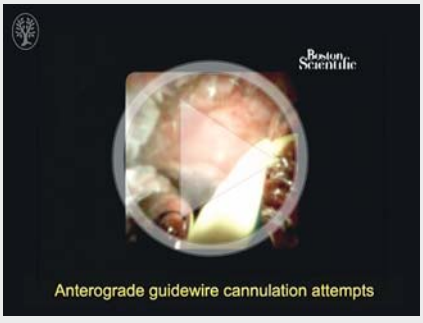
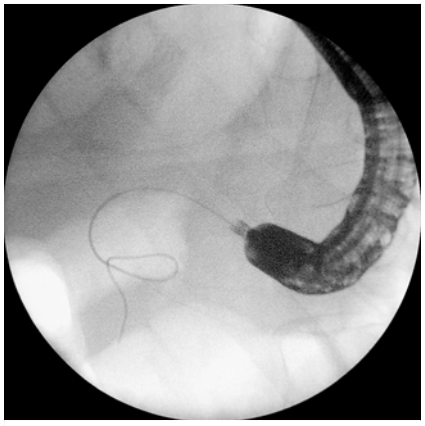
Competing interests

None

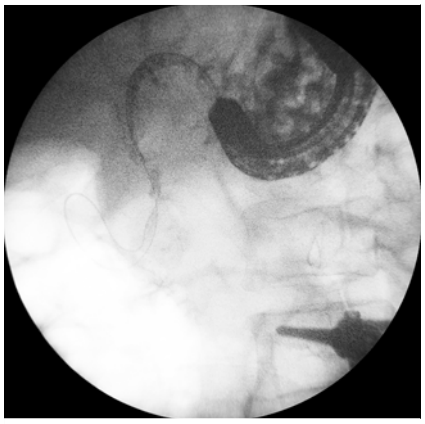
VIDEO 1



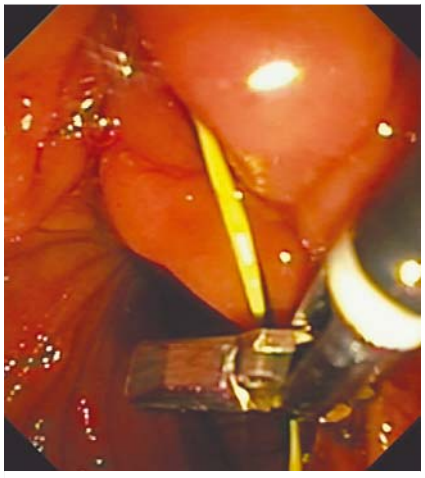
▶ Video 1: Pancreaticogastrostomy transmural drainage converted to transpapillary drainage despite severe pancreatic duct stricture: a rendezvous procedure using intraductal cholangioscopy (SpyGlass DS) and direct visualization via a lumen-apposing metal stent.



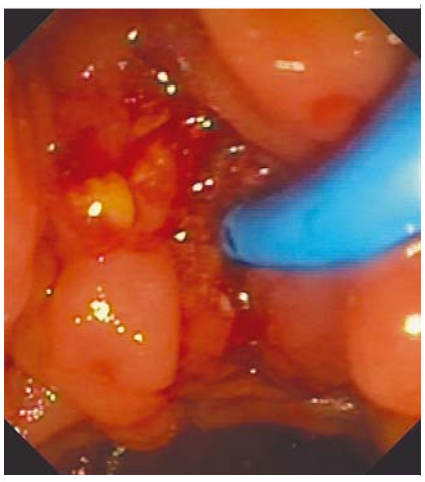
▶ **Fig. 3** SpyGlass DS-guided conversion of transmural pancreatic drainage to transpapillary drainage: a 0.035-inch guidewire is advanced, through the cholangiopancreatoscope, in an antegrade direction towards the papilla.



▶ **Fig. 4** Fluoroscopic view: an antegrade ductogram. An endoscopic retrograde cholangiopancreatography catheter is inserted through the internal ostomy (pancreaticogastrostomy), and a guidewire is advanced until it reaches the duodenal lumen.



▶ **Fig. 5** After scope exchange: endoscopic view using a duodenoscope. Rendezvous image of the guidewire passing out of the papilla and being grasped by forceps.



▶ **Fig. 6** Transpapillary double-pigtail plastic stent inserted retrogradely through the pancreatic head stricture.

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