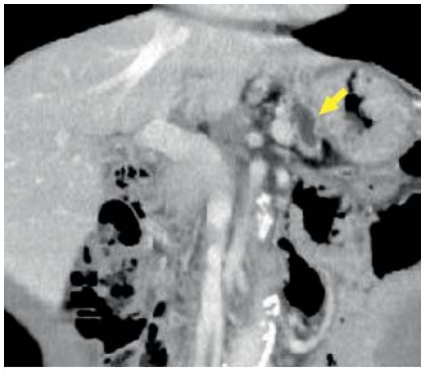
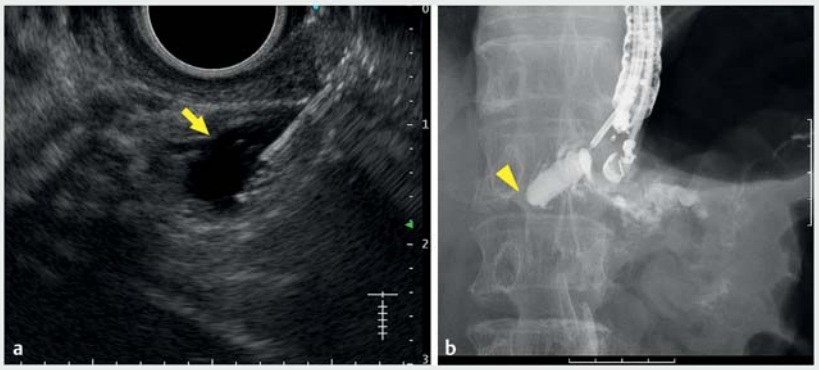
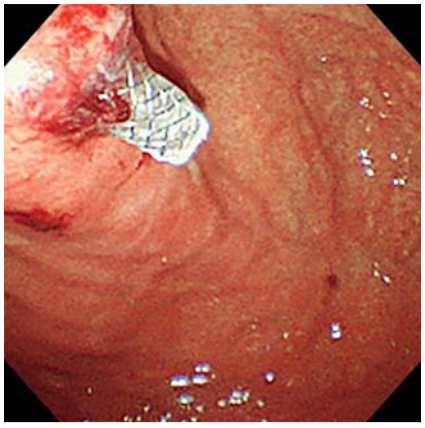
Recanalization of an obstructive pancreaticojejunal anastomosis with direct visualization by using antegrade peroral pancreatoscopy



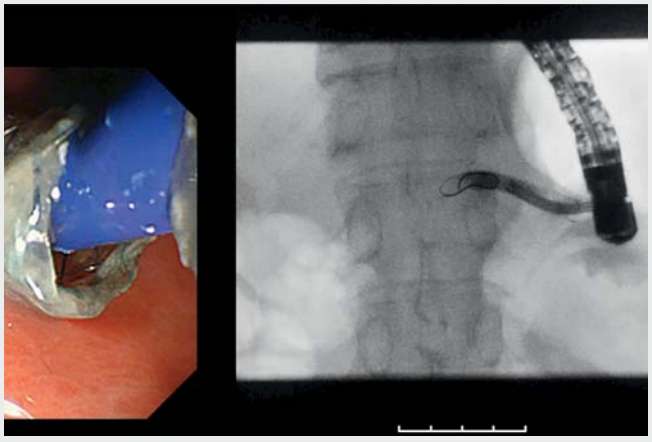
▶ **Fig. 1** Contrast-enhanced computed tomography (coronal views) showing the dilated main pancreatic duct of the remnant pancreas (arrow).



▶ **Fig. 2** Endoscopic ultrasound-guided pancreatic drainage. **a** The dilated main pancreatic duct (arrow) was punctured with a 19-gauge needle under endoscopic ultrasound guidance. **b** From fluoroscopy, no contrast medium flowed out of the dilated pancreatic duct (arrowhead).

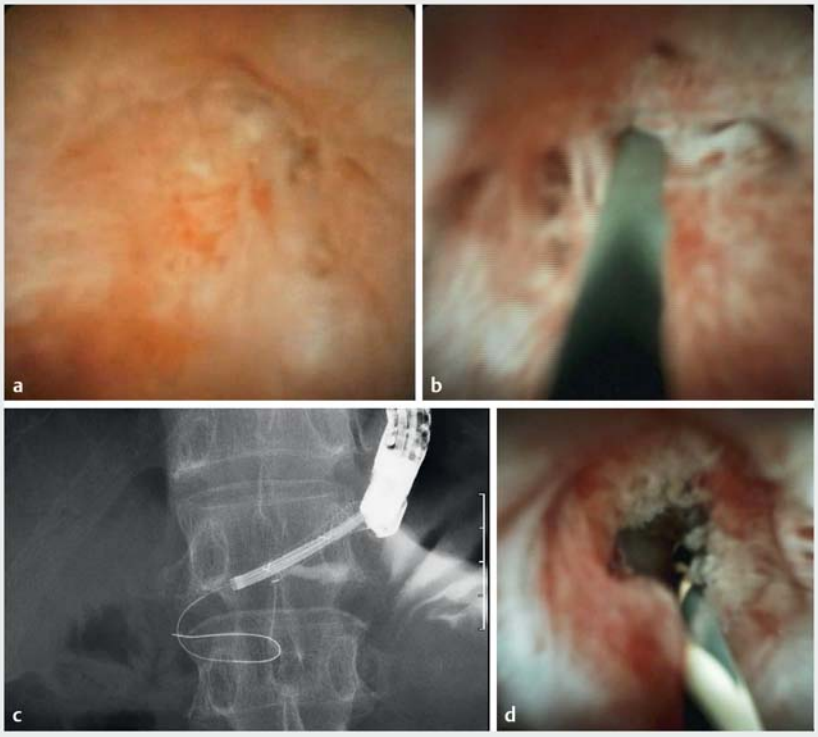


▶ **Fig. 3** A 6-mm fully covered self-expandable metallic stent was inserted across the pancreaticogastrostomy.



Video 1 Recanalization of the stenosis of a pancreaticojejunal anastomosis under direct visualization by using antegrade peroral pancreatoscopy via endoscopic ultrasound-guided pancreaticogastrostomy.

A 60-year-old man came to our hospital complaining of upper abdominal pain possibly due to stenosis of a pancreaticojejunal anastomosis with upstream dilation of the main pancreatic duct (▶ **Fig. 1**). Because an endoscopic transluminal approach via the afferent loop failed, we performed endoscopic ultrasound (EUS)-guided pancreatic drainage with a 19-gauge needle (EZ Shot 3 Plus; Olympus Co., Tokyo, Japan). However, no contrast medium flowed out of the dilated main pancreatic duct to the jejunum (▶ **Fig. 2**), and a 0.025-inch guidewire could not be inserted across the anastomosis. A 7-Fr plastic stent was exchanged, 1 month later, for a 6-mm fully covered self-expandable metallic stent (Niti-S Biliary S-type Stent, Century Medical Co., Ltd., Tokyo, Japan) across the pancreaticogastrostomy to perform peroral pancreatoscopy (POPS) (▶ **Fig. 3**). A SpyGlass DS system (Boston Scientific Co., Marlborough, Massachusetts, USA) was used to perform POPS to visualize the anastomosis from the inside of the main pancreatic duct (▶ **Video 1**). We found the duct completely obstructed at the anastomotic site and covered with



▶ **Fig. 4** Peroral pancreatoscopy (POPS) using a SpyGlass DS system. **a** POPS revealed complete obstruction of the main pancreatic duct at the anastomotic site, which was covered with fibrotic tissues. **b** The fibrotic tissues were partially broken by poking repeatedly with a guidewire. **c** A guidewire could be passed through the anastomosis. **d** After the anastomosis was dilated by use of a dilator and balloon catheter along the guidewire, POPS images confirmed that the anastomosis site was adequately dilated.

fibrotic tissues (▶ **Fig. 4**). It was difficult to break through this obstruction even with POPS guidance. However, repeated poking with a guidewire partially broke the fibrotic tissues and a guidewire could finally be passed through the anastomosis. After dilation of this anastomosis using a 7-Fr catheter and a 6-mm balloon catheter, contrast medium immediately flowed from the main pancreatic duct to the jejunum. No procedure-related adverse events were observed, and the abdominal symptoms improved after treatment.

Although the efficacy of EUS-guided pancreatic drainage for stenosis of the pancreaticojejunal anastomosis has been described [1, 2], the procedure is still challenging. Recently, the usefulness of cholangioscopy for stenosis of the biliary enteric anastomosis has been reported [3, 4]. Therefore, direct visualization using POPS via EUS-guided pancreaticogastrostomy appears to be a promising alternative method if fluoroscopic interventions have failed.

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Competing interests

The authors declare they have no conflict of interest.

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