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A double-guidewire technique for endoscopic ultrasonography-guided pancreatic drainage after pancreaticoduodenectomy

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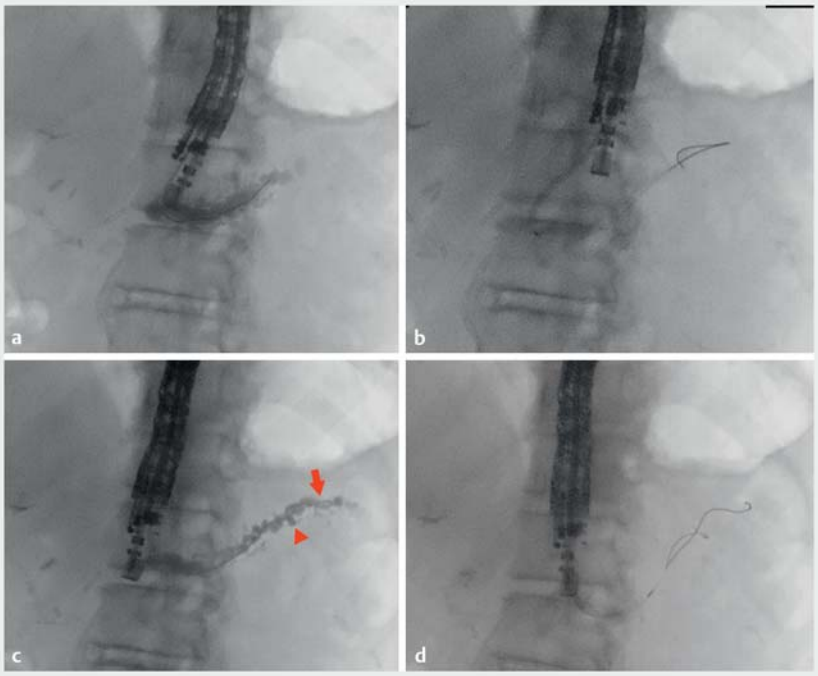
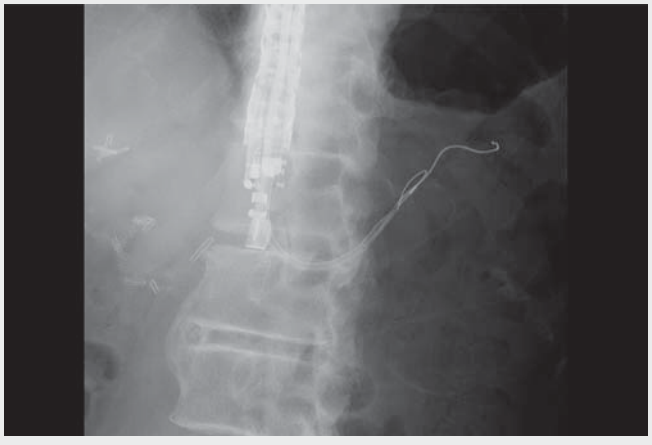
▶ **Fig. 1** Computed tomography revealing dilatation of the pancreatic duct (arrows) and obstruction of the pancreaticogastric anastomosis.

Endoscopic ultrasonography-guided pancreatic drainage (EUS-PD) is challenging owing to technical difficulties. The most important factor for these difficulties is the risk of guidewire dislodgement due to the short length of the guidewire, which can be left in the pancreatic duct (PD). The double-guidewire technique for EUS-guided hepaticogastrostomy has been shown to be effective to stabilize an endoscope and prevent guidewire dislodgement [1, 2]. Herein, we report that this technique is useful for EUS-PD.

A 71-year-old man underwent pancreaticoduodenectomy for intraductal papillary neoplasm 1 year prior to presentation at our hospital. Six months after the initial surgery, the tube that was placed through the pancreaticogastric anastomosis was dislodged. Diabetes mellitus was diagnosed with an increase of HbA1c from 5.7 % to 7.0 % in the following 3 months. Computed tomography imaging revealed dilatation of the PD and obstruction of the pancreatogastric anastomosis (▶ **Fig. 1**). EUS-PD was performed to prevent the exacerbation of pancreatic function (▶ **Fig. 2**). The PD was punctured at the pancreaticogastric anastomosis using a 19-gauge needle, and a 0.025-inch hydrophilic guidewire was manipulated in the duct. A drill and balloon dilator were advanced to the fistula; however, a plastic stent could not be inserted be-



▶ **Fig. 2** **a** A guidewire was advanced to the dilatated pancreatic duct after puncture of the pancreaticogastric anastomosis. **b** A plastic stent could not be advanced to the pancreatic duct since it was tortuous. **c** The second 0.035-inch guidewire (arrowhead) was placed using a double-lumen catheter. The placed 0.025-inch hard guidewire is shown (arrow). **d** The plastic stent on the 0.025-inch guidewire was advanced along with the 0.035-inch guidewire.



Video 1 A case wherein a double-guidewire technique for endoscopic ultrasonography-guided pancreatic drainage was effective in stabilizing the endoscope and preventing guidewire dislodgement.

cause the PD was tortuous and there was a risk of guidewire dislodgement. The original guidewire was changed to a 0.025-inch hard-type (Revowave Ultra-hard, Piolax Medical Devices, Inc., Kanagawa, Japan) through a double-lumen catheter, and a 0.035-inch guidewire (Jagwire Stiff Type, Boston Scientific, Marlborough, Massachusetts, USA) was additionally inserted into the PD. The scope could then be moved to advance the stent because the double-guidewire held the duct in place. Finally, a 7-Fr straight-type stent (Crane stent, SILUX Co., Ltd., Saitama, Japan) was placed across the anastomosis (▶ **Video 1**). The patient was discharged 4 days after PD stenting without any complications.

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Competing interests

The authors declare that they have no conflict of interest.

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