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Two-step pancreatic duct stenting with endoscopic ultrasonography and balloon-assisted enteroscopy for pancreaticojejunal anastomotic stricture

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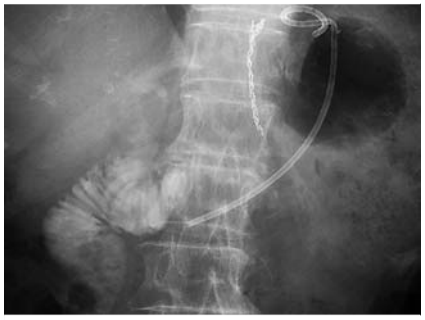
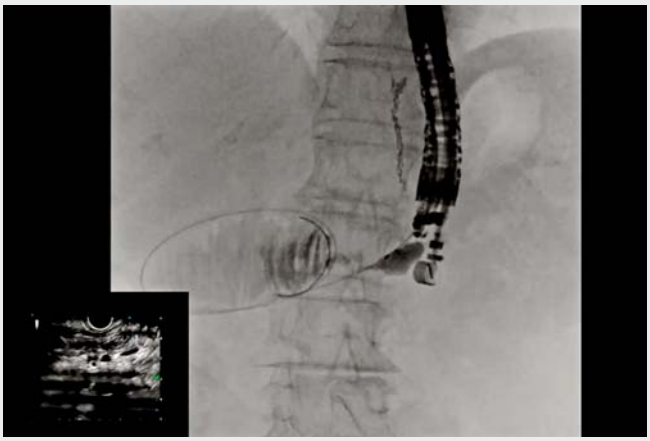
▶ **Fig. 1** Pancreatography during endoscopic ultrasonography-guided puncture of the main pancreatic duct.



▶ **Fig. 2** Fluoroscopic image after the first pancreatic stenting under endoscopic ultrasonography guidance.

▶ **Fig. 3** Computed tomography image 3 months after the first pancreatic stenting showing dilation of the main pancreatic duct.



Video 1 Endoscopic ultrasonography-guided drainage of the main pancreatic duct (MPD) with a plastic stent, followed by balloon-assisted enteroscopy-guided drainage of the MPD with a double-lumen cannula and a plastic stent.

A 75-year-old woman was referred to our hospital for treatment of pancreaticojejunal anastomotic stricture (PJS) after pancreaticoduodenectomy for pancreatic head cancer. Although balloon-assisted enteroscopy was performed, the PJS could not be cannulated by a catheter owing to occlusion. Endoscopic ultrasonography (EUS)-guided pancreatic drainage was performed via the stomach at the main pancreatic duct (MPD) adjacent to the PJS using a 7-Fr plastic stent because puncture of the distal MPD was difficult (▶ **Fig. 1**, ▶ **Fig. 2**, ▶ **Video 1**). Three months later, computed tomography (CT) revealed dilation of the MPD due to the insufficient length of the stent passed through the MPD (▶ **Fig. 3**). Therefore. we planned to place another stent into the MPD from the jejunal side using balloon-assisted enteroscopy.

Although the previous stent was unfortunately dislodged during scope insertion, the pancreaticojejunal anastomosis was easily detected and a 0.025-inch guidewire could be inserted. However, the guidewire was directed only toward the stomach via the fistula. Thus, we used the uneven double-lumen cannula (Piolax Medical Devices Inc., Yokohama, Japan) and succeeded in placing another guidewire into the distal MPD (▶ **Fig. 4**). Finally, a 7-Fr plastic stent was placed (▶ **Fig. 5**, ▶ **Video 1**). One month later, CT revealed disappearance of the MPD dilation.

This is the first report of two-step pancreatic duct stenting with EUS and balloon-assisted enteroscopy for PJS. When PJS and the puncture site under EUS are adjacent and a placed stent does not function adequately, this two-step approach is very effective. The uneven double-lumen cannula has also been reported as an "uneven method" for patients with bile duct cannulation difficulties [1]. When the previous fistula is easily cannulated, but not the targeted MPD, the uneven double-lumen cannula is also useful for selective insertion.

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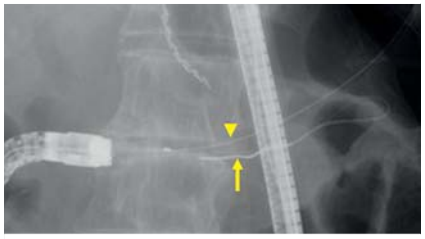

▶ **Fig. 4** Fluoroscopic image showing success of guidewire insertion into the main pancreatic duct (MPD) with a double-lumen cannula (arrowhead: guidewire into the stomach; arrow: guidewire into the MPD).

▶ **Fig. 5** Fluoroscopic image after the second pancreatic stenting under balloon-assisted enteroscopy guidance.

Competing interests

The authors declare that they have no conflict of interest.

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Reference

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