

## Inspection of intraductal papillary mucinous neoplasm via the papilla using a novel slim pancreatoscope under balloon enteroscopy

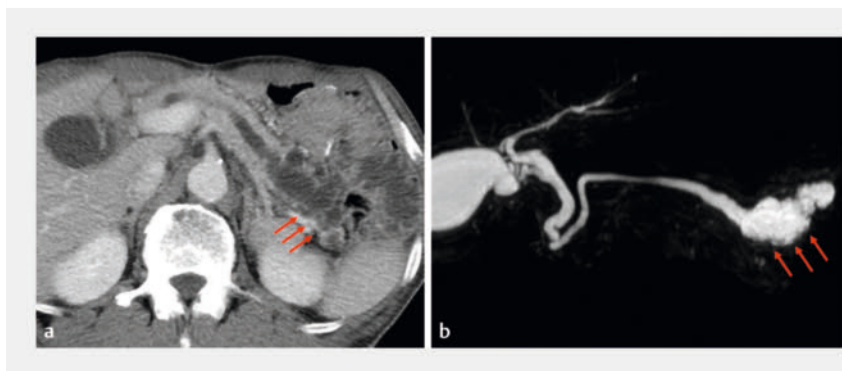
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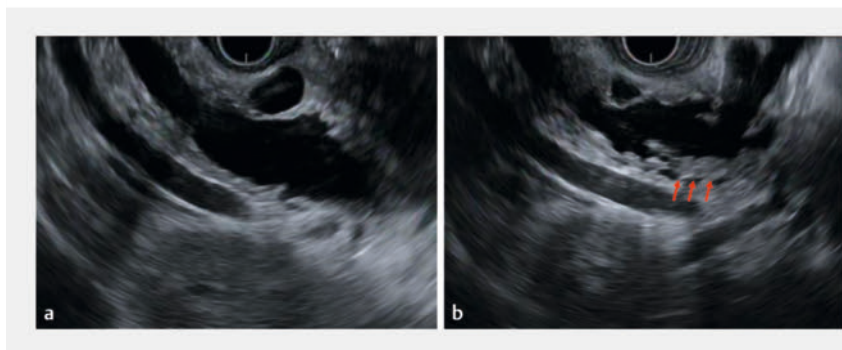
**▶ Video 1** Successful inspection of intraductal papillary mucinous neoplasm via the papilla using a novel slim pancreatoscope under balloon enteroscopy in a patient with Roux-en-Y gastrectomy.

Peroral pancreatoscopy (POPS) is useful for the direct visualization of intraductal lesions in the pancreatic duct [1–3]. However, POPS in patients with Roux-en-Y anastomosis via the papilla under balloon enteroscopy is difficult because pancreatoscopes are approximately 10 Fr in diameter and cannot pass through the forceps channel of the balloon enteroscope. We report a successful inspection of an intraductal papillary mucinous neoplasm (IPMN) using a novel slim pancreatoscope under balloon enteroscopy in a patient with Roux-en-Y gastrectomy.

A 74-year-old man had undergone total gastrectomy with Roux-en-Y for gastric cancer 4 years earlier. On referral to our facility, computed tomography and magnetic resonance imaging revealed pancreatic duct dilation and a pancreatic cyst in the tail region (▶ Fig. 1). Endoscopic ultrasonography revealed pancreatic duct dilation and a pancreatic cyst with a suspected mural nodule connected with the main pancreatic duct (▶ Fig. 2). Therefore, endoscopic retrograde cholangiopancreatography (ERCP) was performed using a short-type single-



**▶ Fig. 1** Findings revealing pancreatic duct dilation and pancreatic cyst in the tail region (red arrow). **a** Computed tomography. **b** Magnetic resonance imaging.



**▶ Fig. 2** Endoscopic ultrasonography revealing pancreatic duct dilation and pancreatic cyst with a suspected mural nodule connected with the main pancreatic duct (red arrow).

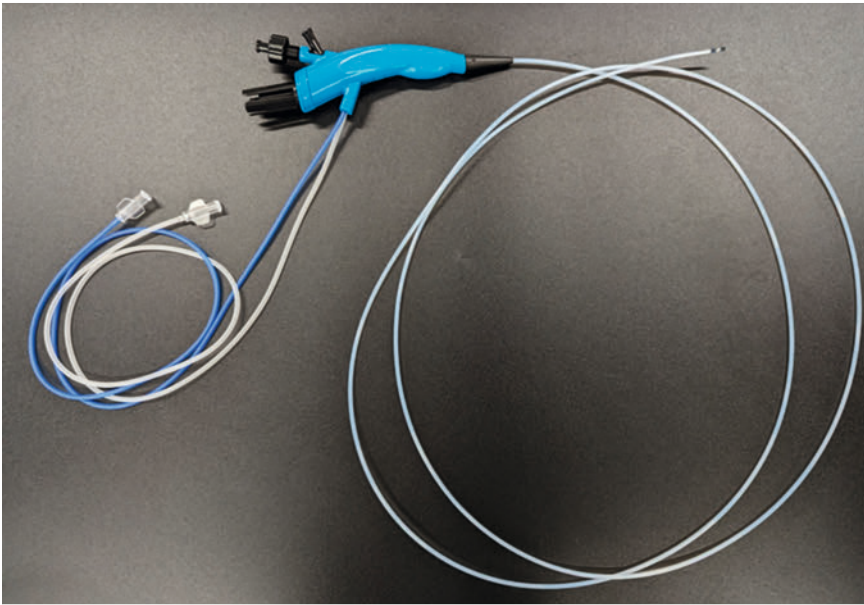
balloon enteroscope (SIF-H290; Olympus, Tokyo, Japan) with a working length of 152 cm and a working channel diameter of 3.2 mm [4, 5]. Additionally, POPS was performed using a slim pancreatoscope (DRES Slim Scope; Japan Lifeline, Tokyo, Japan) with a length of 195 cm and a diameter of 2.6 mm (▶ Fig. 3, ▶ Video 1). Endoscopic findings revealed mucus discharge from the papilla (▶ Fig. 4a). Pancreatography revealed defects in the pancreatic tail (▶ Fig. 4b). Subsequently, POPS was performed using a slim pancreatoscope. A villous, protruding lesion was observed in the tail of the pancreatic duct, whereas no lesions were observed in the head and body of the pancreatic duct (▶ Fig. 5). Finally, we diag-

nosed the patient with IPMN with mural nodules in the tail of the pancreatic duct. Although POPS via the papilla is considered difficult in patients with Roux-en-Y anastomosis under balloon enteroscopy, this novel slim pancreatoscope makes it possible, potentially improving the diagnostic yield in such patients.

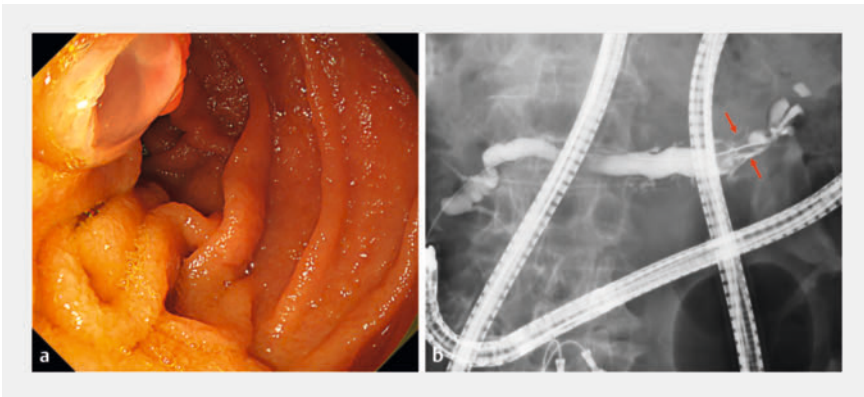
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► **Fig. 3** A slim pancreatoscope with a length of 195 cm and a diameter of 2.6 mm.



► **Fig. 4** Endoscopic and pancreatography findings. **a** Endoscopic findings showing mucus discharge from the papilla. **b** Pancreatography revealing defects in the pancreatic tail (red arrow).

### Conflict of Interest

The authors declare that they have no conflict of interest.

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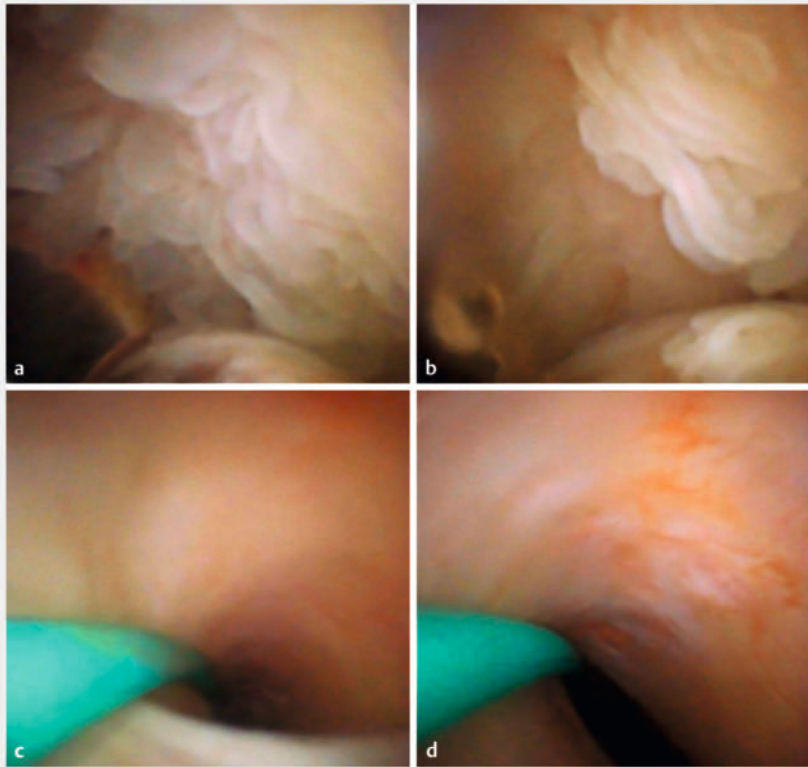
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► **Fig. 5** Peroral pancreatoscopy findings. **a, b** A villous, protruding lesion in the tail of the pancreatic duct. **c** No lesions were observed in the head of the pancreatic duct. **d** No lesions were observed in the body of the pancreatic duct.

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