

Transcolonic endoscopic ultrasound-guided fine-needle biopsy to diagnose a pancreatic tail adenocarcinoma in a patient with surgically altered anatomy



► **Fig. 1** Computed tomography scan showing a 25-mm hypovascular tumor at the pancreatic tail (yellow arrowhead) and the significant distance between the gastric tube and the pancreatic tail (two-headed arrow).



► **Fig. 2** Photograph of the overtube ST-C7, which has an inner cylinder diameter of 18.4 mm and an effective length of 32 cm.

Previous studies have demonstrated that endoscopic ultrasound-guided fine-needle aspiration/biopsy (EUS-FNA/B) is an efficient method for diagnosing pancreatic masses in patients with surgically altered anatomy [1], but it is sometimes difficult to visualize the target organs from the reconstructed route [2]. Echoendoscope manipulation challenges have restricted the approaches for EUS-FNA/B to the lower gastrointestinal tract, through the sigmoid colon and rectum [3]. Meanwhile, transcolonic EUS-FNA/B using forward-viewing echoendoscope or guidewire-assisted techniques have been reported [4, 5]. Herein, we report a case of pancreatic tail adenocarcinoma diagnosed by transcolonic EUS-FNB from the splenic flexure using an overtube method.

A 70-year-old woman who had previously undergone esophagectomy with



► **Video 1** Transcolonic endoscopic ultrasound-guided fine-needle biopsy via an overtube is used to diagnose a pancreatic tail adenocarcinoma in a patient with surgically altered anatomy.

retrosternal gastric tube reconstruction for esophageal carcinoma presented with abdominal pain. Contrast-enhanced computed tomography revealed a 25-mm hypovascular tumor at the pancreatic tail, which was suggestive of pancreatic cancer (► **Fig. 1**). Because of the distance between the gastric tube and the pancreas along the postoperative reconstruction, a puncture through the gastric tube was not possible. Therefore, we attempted transcolonic EUS-FNB in order to obtain a biopsy (► **Video 1**).

First, we inserted a colonoscope with an overtube (ST-C7; Olympus Co., Tokyo, Japan) (► **Fig. 2**) up to the splenic flexure. We then placed the overtube at the sigmoid colon, pulled out the colonoscope, and inserted an echoendoscope (GF-UCT260; Olympus Co.) through the overtube to reach the splenic flexure (► **Fig. 3a**). A hypoechogenic tumor was visualized at the pancreatic tail from the splenic flexure, and the lesion was punctured twice with a 22-gauge Franseen needle (Acquire; Boston Scientific Corp.,

Natick, Massachusetts, USA) under EUS guidance (► **Fig. 3b**).

The patient received prophylactic antibiotics and no procedure-related adverse events were observed. Histopathological examination revealed adenocarcinoma (► **Fig. 4**) and we diagnosed the patient as having a resectable pancreatic ductal adenocarcinoma. She received two cycles of neoadjuvant chemotherapy with gemcitabine and S-1, before undergoing distal pancreatectomy.

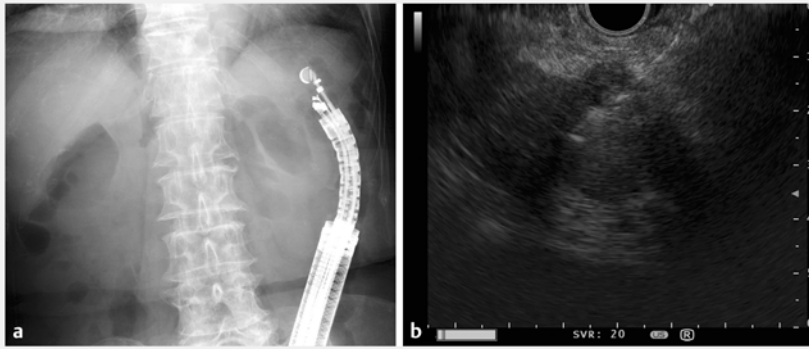
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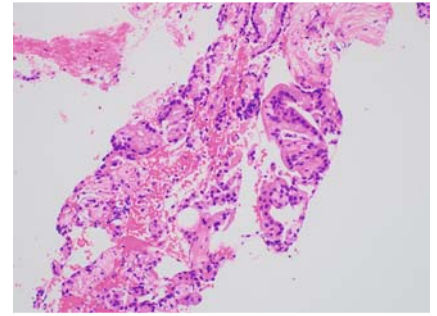
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Competing interests

The authors declare that they have no conflict of interest.



► **Fig. 3** Images during transcolonic endoscopic ultrasound-guided fine-needle biopsy (EUS-FNB) showing: **a** the echoendoscope in position at the splenic flexure after its insertion through the overtube; **b** a hypoechoic tumor in the pancreatic tail being punctured with a 22-gauge Franseen needle.



► **Fig. 4** Histopathological appearance, which revealed an adenocarcinoma.

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