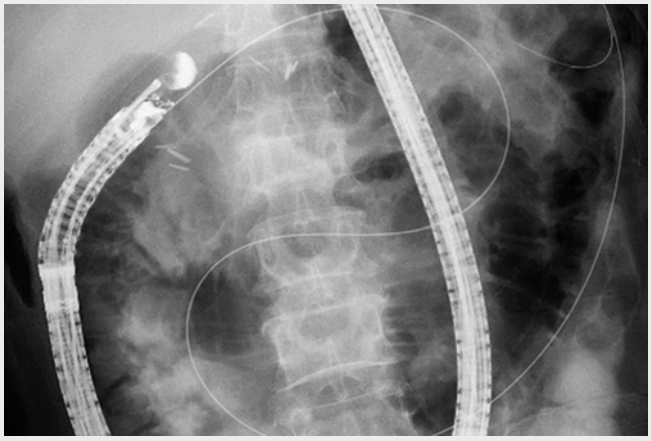
Thieme

Endoscopic ultrasonography-guided fine-needle biopsy from the pancreatic head of a patient with Roux-en-Y reconstruction

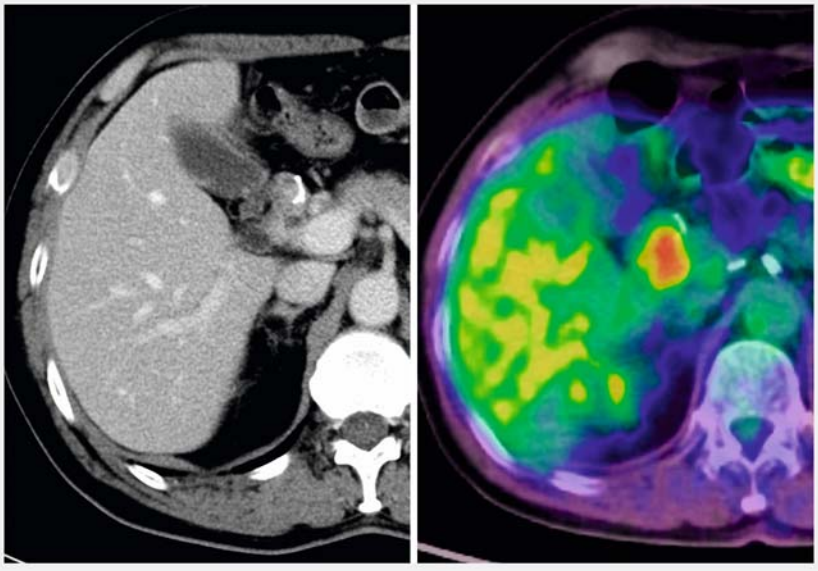
Although endoscopic ultrasonography-guided fine needle biopsy (EUS-FNB) has been developed, its implementation is still challenging in patients with surgically altered anatomy [1–3]. A 68-year-old man who had undergone laparoscopic total gastrectomy with Roux-en-Y reconstruction for gastric cancer 40 months previously was admitted to our department. His serum carcinoembryonic antigen (CEA) level was increased at 43.6 ng/mL. Abdominal computed tomography (CT) scanning revealed an obscure mass beside the pancreatic head (▶ **Fig. 1 a**). An 18F-fluorodeoxyglucose positron emission tomography/CT scan revealed abdominal accumulation of tumor near the surgical staples (▶ **Fig. 1 b**).

The patient underwent transjejunal EUS-FNB. First, a double-balloon endoscope (DBE; EI-530B; Fujifilm, Tokyo, Japan) was inserted into the afferent limb. Next, a 0.035-inch ultrastiff guidewire (Wrangler SUS endoscopic guidewire; Piolax Medical Devices, Yokohama, Japan) was placed in the afferent limb. Thereafter, a new curved linear echoendoscope (CLE; EG-580UT; Fujifilm) was inserted into the afferent limb over the guidewire under fluoroscopic and endoscopic guidance. The trajectory of the CLE was close to the surgical staples, these being a tumor landmark (▶ **Fig. 2**; ▶ **Video 1**). The EUS revealed a hypoechoic mass beside the pancreatic head near the surgical staples. Finally, EUS-FNB was performed using a 22-gauge Franseen needle (Acquire; Boston Scientific Japan, Tokyo, Japan) without any complications (▶ **Fig. 3**; ▶ **Video 1**). The cytopathological diagnosis showed adenocarcinoma, consistent with recurrence of the gastric cancer.

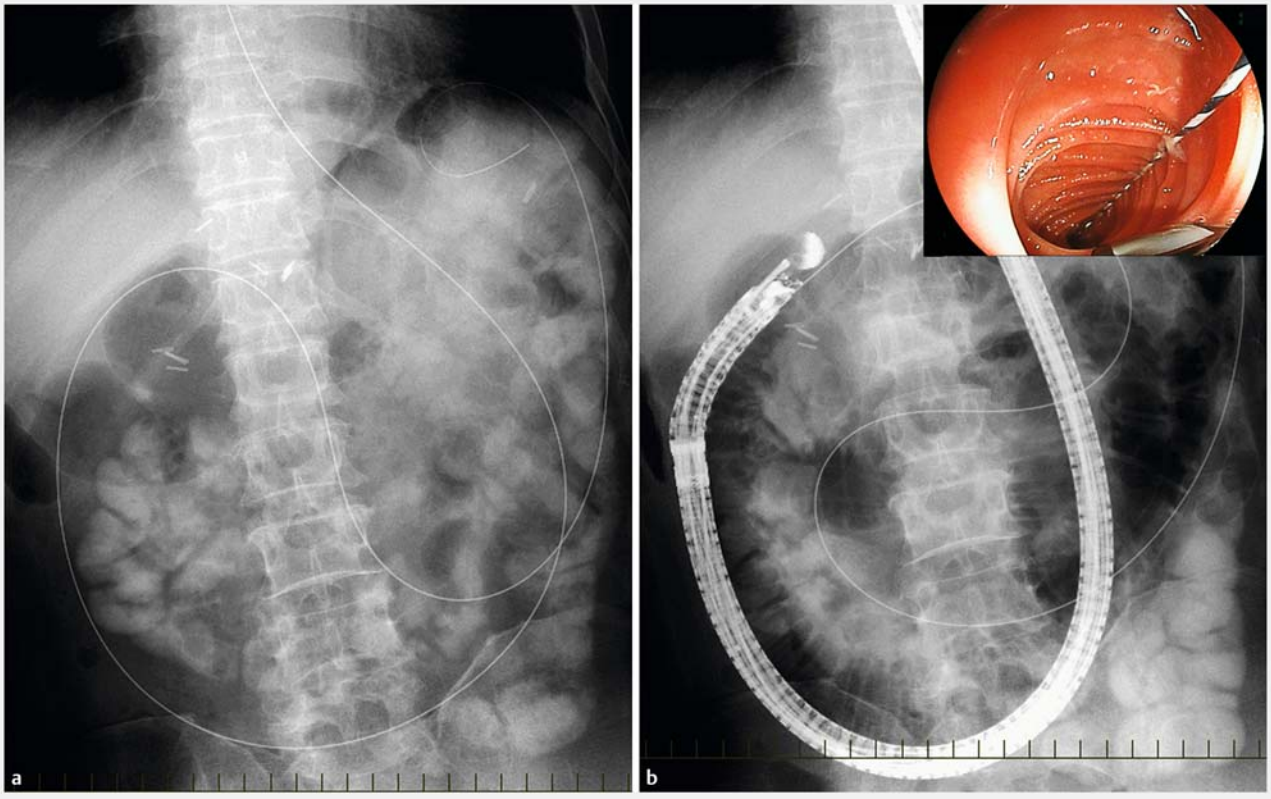
EUS-FNB for patients who have undergone Roux-en-Y reconstruction, particularly from the pancreatic head, is still challenging [1–3]. The following tips have been illustrated by this case: (i) DBE-guided ultrastiff guidewire placement can correct flexion of the afferent



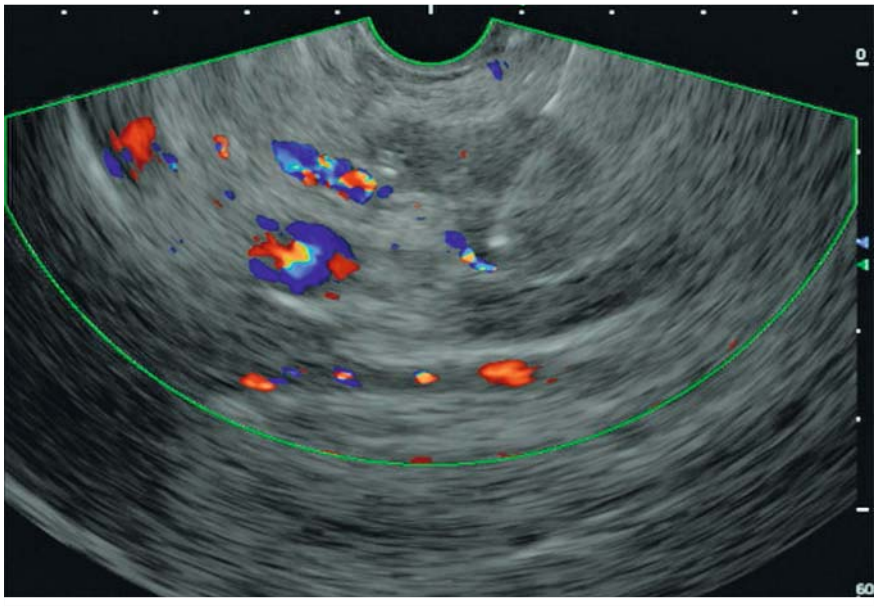
Video 1 Step-by-step process of endoscopic ultrasonography-guided fine needle biopsy of the pancreatic head through the afferent limb in a patient who had undergone previous Roux-en-Y reconstruction.



▶ **Fig. 1** Images of a tumor mass near to the surgical staples in a patient who had undergone laparoscopic total gastrectomy with Roux-en-Y reconstruction: **a** contrast-enhanced computed tomography (CT) scan, showing an obscure mass beside the pancreatic head; **b** positron emission tomography (PET)/CT scan, showing an appearance suggestive of pancreatic cancer or a recurrent gastric cancer.



▶ **Fig. 2** Fluoroscopic images showing: **a** the ultrastiff guidewire placed in the afferent loop following double-balloon endoscope intubation; **b** the new curved linear echoendoscope that has been positioned following the guidewire and advanced near to the surgical staples. **Inset:** The tip of the echoendoscope is visualized endoscopically throughout the procedure.



▶ **Fig. 3** Echoendoscopic color Doppler image showing the 22-gauge Franseen biopsy needle beside the pancreatic head puncturing the hypoechoic mass, which was 18.2 mm in diameter. The image of the pancreatic head including the vascular system is similar to that obtained during an ordinary echoendoscopy at the duodenal bulb.

limbs; (ii) a new CLE enables safe and reliable intubation into the afferent limb because of the frontal endoscopic view and flexible scope tip [3]. The combination of DBE-assisted ultrastiff guidewire placement and new CLE intubation facilitates EUS-FNB from the pancreatic head for patients with surgically altered anatomy.

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Competing interests

None

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