

Endoscopic ultrasound-guided fine-needle tissue acquisition from a subepithelial lesion in the distal ileum using the forward-viewing echoendoscope



Fig. 1 Endoscopic image of the subepithelial lesion in the terminal ileum in a 68-year-old woman.

In a context of rapidly expanding indications for endoscopic ultrasound (EUS)-guided procedures, a dedicated forward-viewing linear therapeutic echoendoscope (FV-EUS) has been developed and tested for different clinical indications [1–3]. The frontal endoscopic view combined with the exit of the working channel at the tip of the echoendoscope offers some unique advantages over the standard cur-

vilinear echoendoscope. This has opened up new possibilities for EUS-guided fine-needle aspiration and tissue acquisition (EUS-FNTA) from difficult targets and combined endoscopic/EUS treatment [3, 4].

We have previously described the possibility of using FV-EUS to navigate easily through the colon to reach and sample extracolonic lesions located above the sigmoid tract [4]. We now report the first case of intubation of the ileocecal valve followed by sampling of a distal ileal lesion performed using the FV-EUS.

A 68-year-old woman with a 13-year history of ulcerative colitis was found on routine surveillance colonoscopy to have a 1.5 cm lesion in the terminal ileum that presented characteristics suggestive of a subepithelial lesion with a normal-appearing overlying mucosal layer (Fig. 1).

To exclude extrinsic compression, comput-

ed tomography was carried out and confirmed the presence of a wall thickening or lesion at the level of the terminal ileum, close to the ileocecal valve.

Colonoscopy using the FV-EUS was attempted and was completed up to the cecum. The terminal ileum was then intubated and, under EUS guidance, a hypoechoic lesion measuring 14×10 mm and confined to the third wall layer was detected. EUS-FNTA using a 19-gauge needle was performed (Fig. 2, Video 1) and a tissue sample obtained (Fig. 3), which revealed a serotonin-secreting neuroendocrine tumor with a Ki67 proliferation index of less than 1%, corresponding to a grade 1 tumor (NET G1). The patient underwent right hemicolectomy, and definitive assessment of the surgical specimen confirmed the diagnosis of a grade 1 serotonin-secreting neuroendocrine tumor with lymph node involvement (pT3N1) [5].

Endoscopy_UCTN_Code_TTT_1AS_2AF

Competing interests: None

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Video 1

Intubation of the ileocecal valve under endoscopic guidance, endoscopic ultrasonography-guided fine-needle tissue acquisition from the detected subepithelial lesion, and histologic features of the collected specimen.

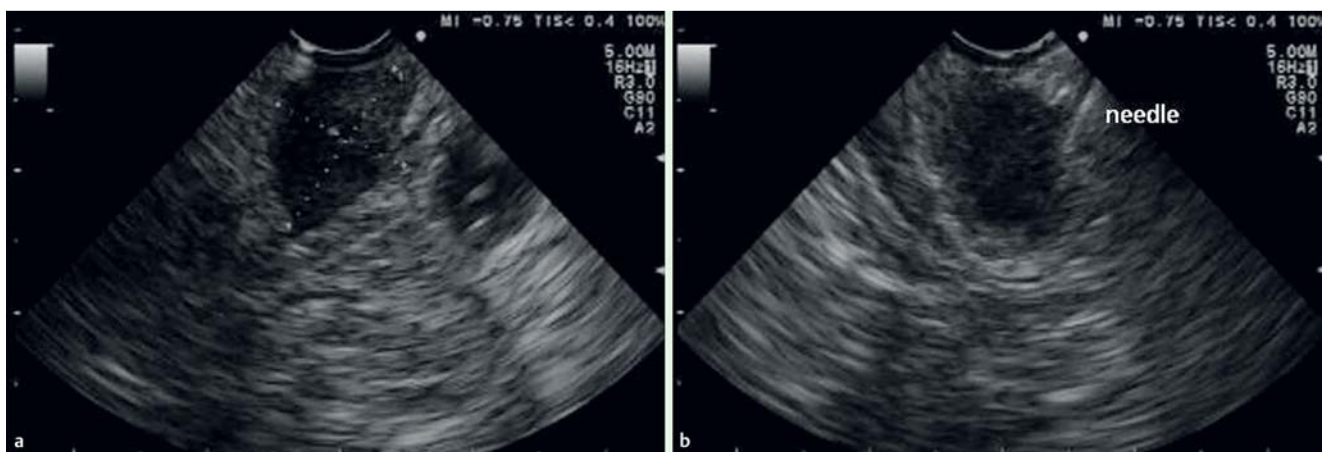


Fig. 2 **a** Endoscopic ultrasound (EUS) view of the subepithelial lesion in the terminal ileum, demonstrating a hypoechoic lesion measuring 14×10 mm and confined to the submucosal layer. **b** EUS-guided fine-needle tissue acquisition from the lesion using a 19-gauge needle.

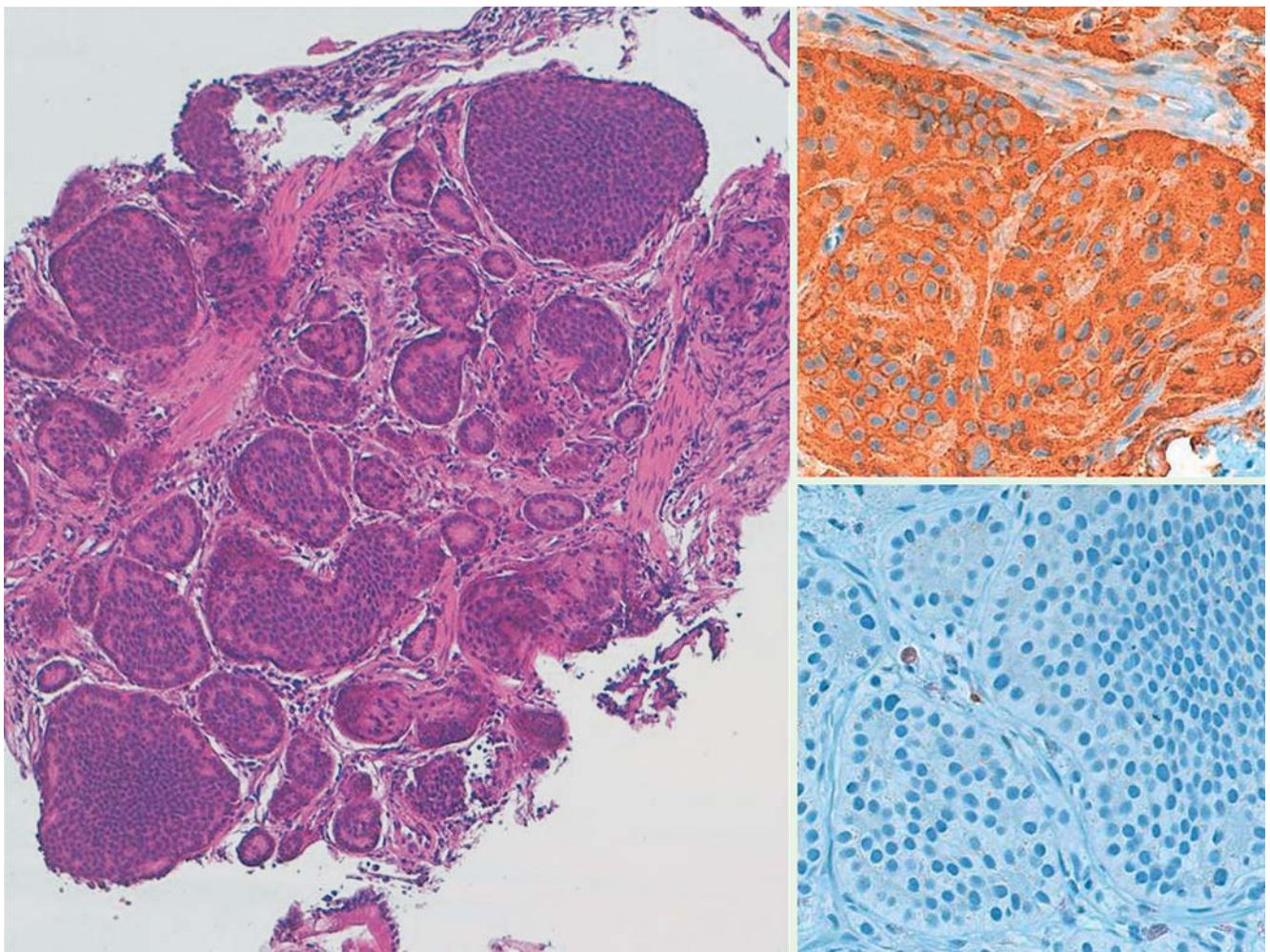


Fig. 3 Tissue specimen showing solid nests of neoplastic polygonal cells with mild atypia (main image), immunoreactivity to chromogranin A (right upper), and a Ki-67 proliferation index of about 1% (right lower). Staining: hematoxylin and eosin (H&E) (main image), immunoperoxidase (smaller images).

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DOI <http://dx.doi.org/10.1055/s-0034-1364947>
Endoscopy 2014; 46: E214–E215
 © Georg Thieme Verlag KG
 Stuttgart · New York
 ISSN 0013-726X

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