

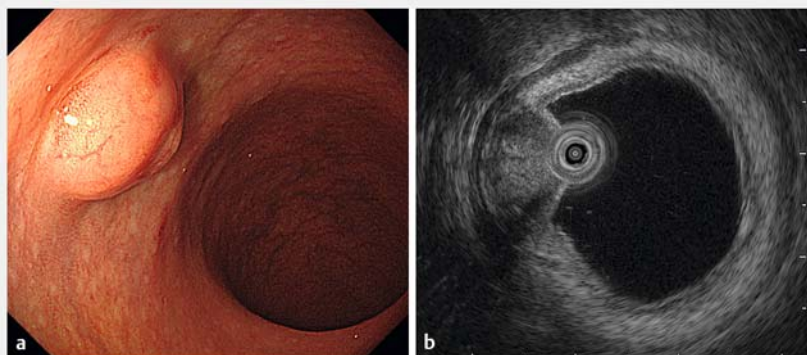
Per anal endoscopic myectomy for rectal neuroendocrine tumor invading submucosal deep layer and ending at the muscle layer



Endoscopic submucosal dissection (ESD) is an effective technique for treating rectal neuroendocrine tumors. However, it is technically challenging to ensure a proper resection margin if the tumor invades deeply into the submucosa and ends adjacent to the muscle layer. Recently, ESD with myectomy, called per anal endoscopic myectomy, has been developed for rectal lesions with severe fibrosis [1]. In the present study, we describe a successful case of per anal endoscopic myectomy for rectal neuroendocrine tumors.

A 79-year-old man was referred to our hospital to treat a rectal neuroendocrine tumor (about 12 mm in diameter, 1.5 cm proximal to the dentate line) (► **Fig. 1**). As the tumor diameter was >10 mm, radical surgery was recommended. However, the patient refused surgery, considering the risk of a postoperative functional defecation disorder. No metastasis was observed during computed tomography and magnetic resonance imaging, and the patient requested local resection by endoscopy. Endoscopic ultrasonography revealed deep submucosal tumor invasion ending near the muscle layer (► **Fig. 1**). We performed per anal endoscopic myectomy to treat the rectal neuroendocrine tumor to ensure a sufficiently deep margin.

The ST Hood Short-type (Fujifilm, Tokyo, Japan) was used as a distal attachment during endoscopy. Incisions of the mucosa and inner circular muscle were made using the electrosurgical Dual Knife (Olympus, Tokyo, Japan). Myotomy was performed using the SB Knife Jr2 (Sumitomo Bakelite, Tokyo, Japan). The clip-with-line traction method exposed the muscle layer during dissection between the inner circular muscle and outer longitudinal muscle [2]. Finally, en bloc resection was achieved, and the mucosal defect was closed using clips (► **Video 1**). Histological examination



► **Fig. 1** a Rectal neuroendocrine tumor, about 12 mm in diameter, 1.5 cm proximal from the dentate line. b Endoscopic ultrasonography image revealed deep submucosal invasion ending adjacent to the muscle layer.



► **Video 1** Per anal endoscopic myectomy for rectal neuroendocrine tumor invading submucosal deep layer and ending at the muscle layer.

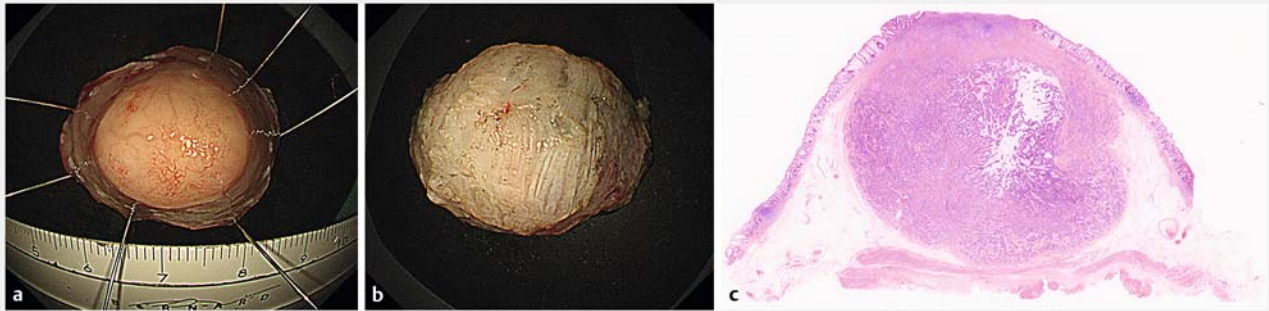
revealed R0 resection of the neuroendocrine tumor (► **Fig. 2**).

Hence, per anal endoscopic myectomy is beneficial for treating deeply invasive rectal neuroendocrine tumors while ensuring a sufficient resection margin.

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Competing interests

The authors declare that they have no conflict of interest.



► **Fig. 2** a Macroscopic view of the resected specimen from the mucosal side. b Macroscopic view of the resected specimen from the submucosal side. c Histopathological image of lesion that was removed with the internal circular muscle.

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