

Double-band ligation-assisted endoscopic submucosal resection for type 1 gastric neuroendocrine tumor with type A gastritis

A 72-year-old woman was diagnosed with a 10-mm type 1 gastric neuroendocrine tumor (NET) in the gastric body, associated with type A gastritis and diabetes mellitus (► **Fig. 1 a**). Endoscopic ultrasonography indicated that the lesion was confined to the submucosa. In order to resect the lesion completely with clean margins, we applied a double-band ligation-assisted endoscopic submucosal resection (dL-ESMR) technique.

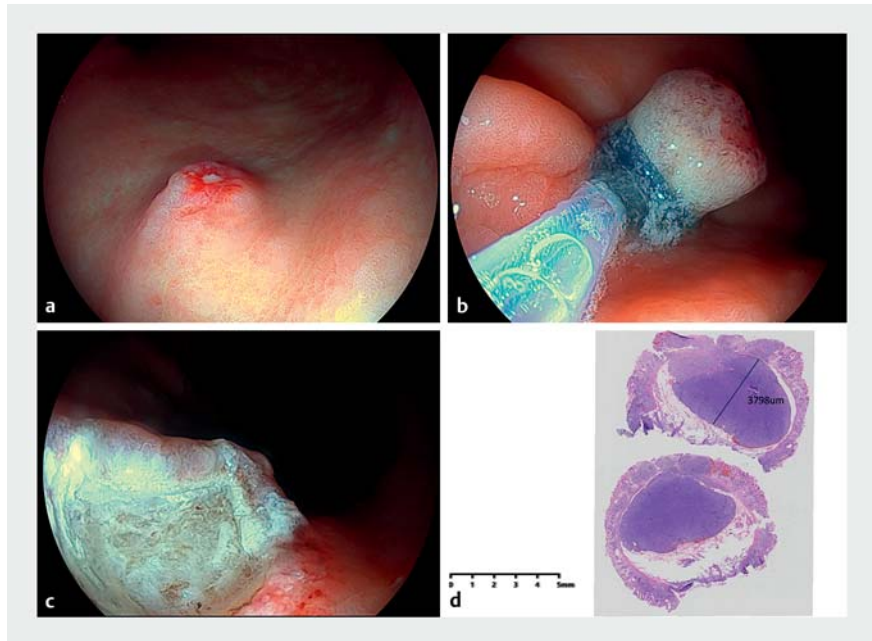
The NET was sucked into the ligator to ensure that the entire submucosal lesion was completely contained. Two bands were then released successively below the lesion. Next, a snare was deployed under the second band for resection with Endocut Q (Effect 3, Cut duration 2, Cut interval 4) (► **Fig. 1 b**). The wound was clean, without bleeding or perforation (► **Fig. 1 c**). The whole process took about 10 minutes. Histological examination showed a grade 2 NET with submucosal invasion depth of 3798 μm . Both vertical and horizontal margins were negative (► **Fig. 1 d**).

Bas-Cutrina et al. reported that endoscopic band ligation without resection was a safe and effective option for management of small subepithelial tumors [1]. However, this approach did not allow complete pathology assessment. For larger gastric NETs, dL-ESMR can avoid damage to the muscularis propria while ensuring complete resection. Therefore, dL-ESMR may be successfully applied to treat larger gastric NETs, most of which involve the submucosa, as in the current case (► **Video 1**).

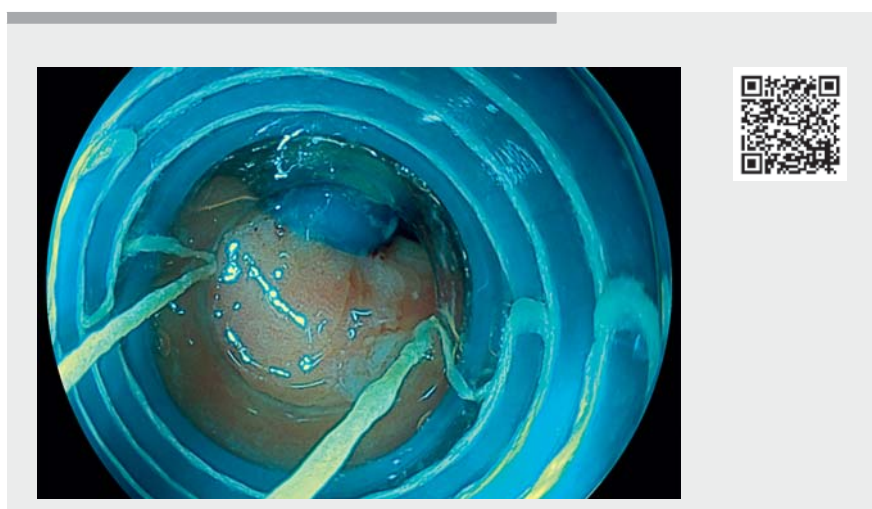
Endoscopy_UCTN_Code_TTT_1AO_2AG

Competing interests

The authors declare that they have no conflict of interest.



► **Fig. 1** The process of double-band ligation-assisted endoscopic submucosal resection. **a** A 10-mm type 1 gastric neuroendocrine tumor was located in the gastric body. **b** A snare was deployed under the second band for resection after releasing two bands successively. **c** No residual lesion, bleeding, or perforation was observed in the wound. **d** The histological appearance of the resected specimen showed a grade 2 neuroendocrine tumor with submucosal invasion depth of 3798 μm , while vertical and horizontal margins were negative.



► **Video 1** Double-band ligation-assisted endoscopic submucosal resection for type 1 gastric neuroendocrine tumor with type A gastritis.

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Reference

- [1] Bas-Cutrina F, Ballester-Clau R, Gonzalez-Huix F et al. Gastric perforation during ligation-assisted endoscopic mucosal resection of a neuroendocrine tumor: banding without resection may be a safer option. *Endoscopy* 2020; 52: E370–E371

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