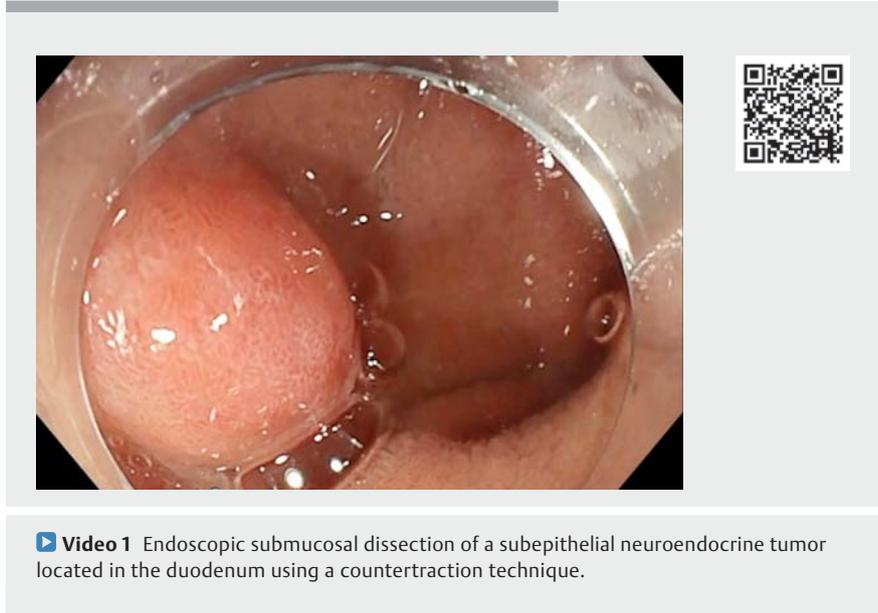


Endoscopic submucosal dissection of a subepithelial neuroendocrine tumor located in the duodenum using a countertraction technique

Endoscopic submucosal dissection (ESD) is the technique of choice to remove large superficial neoplasms of the esophagus, stomach, colon, and rectum [1]. In the duodenum, for non-ampullary lesions, it has been associated with a high risk of perforation [2] owing to the relative thinness of the duodenal wall. Data with regard to ESD for subepithelial lesions are scarce. One study described a low rate of curative treatment for duodenal neuroendocrine tumors (NETs), but few patients were included [3]. Techniques such as countertraction using a rubber band [4] and anchoring the clips to close the scar [5] can be considered to secure the procedure.

We herein report the case of a 58-year-old man with a non-ampullary duodenal subepithelial NET of 9mm that was removed by ESD (▶ **Video 1**). First, a circumferential incision was performed within the mucosa. Countertraction with two clips and a rubber band was then used to facilitate dissection of the lesion (▶ **Fig. 1 a**). The lesion was removed en bloc. After the procedure, the scar was closed by anchoring the clips: small mucosal incisions were performed around the scar (▶ **Fig. 1 b**) to allow better grip for the clip at each edge of the scar with-



out their slipping (▶ **Fig. 1 c**). The patient was discharged the day after the procedure without experiencing any adverse events.

The pathology report revealed a well-differentiated NET, G2 (Ki-67 index 4%; mitotic count 1), without perineural invasion but with lymphatic emboli. The NET was completely resected by the procedure. Surveillance was determined to be

the appropriate further management by a NET multidisciplinary team.

This case highlights the feasibility of ESD for subepithelial NETs located in the duodenum. It also illustrates the countertraction technique and closure of the scar by anchoring the clips to secure the procedure. This must however only be done in highly selected patients and by skilled endoscopists.



▶ **Fig. 1** Endoscopic views showing: **a** countertraction with two clips and a rubber band being used to facilitate dissection of the lesion; **b** small mucosal incisions that were made around the scar to allow better grip for the clips at each edge of the scar without their slipping; **c** the appearance of the closed scar.

Competing interests

The authors declare that they have no conflict of interest.

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Endoscopy 2022; 54: E230–E231
DOI 10.1055/a-1492-2362
ISSN 0013-726X
published online 31.5.2021
© 2021. Thieme. All rights reserved.
Georg Thieme Verlag KG, Rüdigerstraße 14,
70469 Stuttgart, Germany

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