

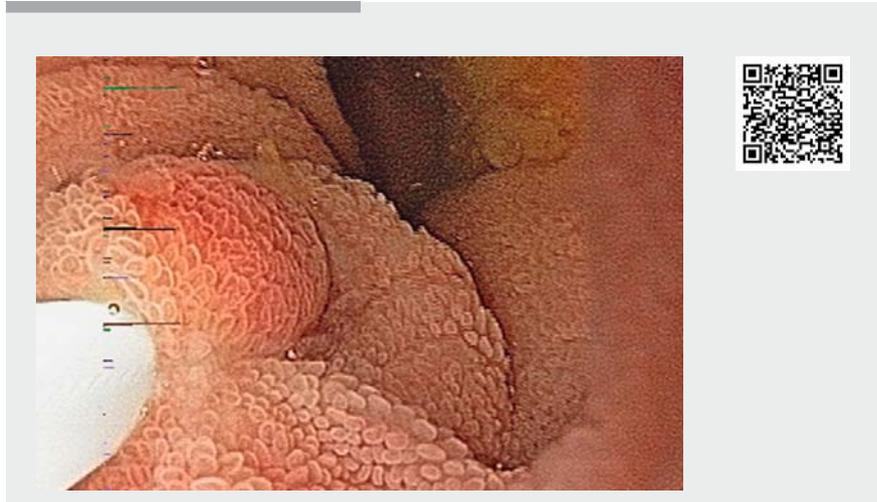
## Underwater endoscopic resection of an ileal neuroendocrine tumor

The small bowel is the third most common site of neuroendocrine tumors (NETs) after the lung and rectum, and NETs represent the most frequent malignancy of the small bowel [1]. Small bowel NETs are usually managed with surgical resection [2]. However, in some situations surgery may be too difficult or not feasible.

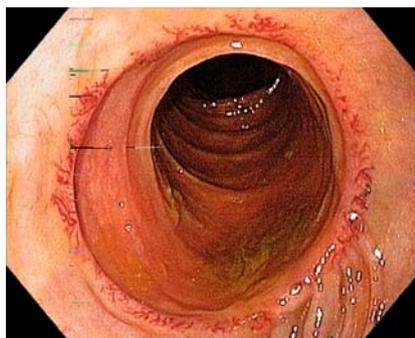
Underwater endoscopic resection was initially described for the treatment of colorectal polyps and flat lesions [3], and later for resection of the rectum [4] and duodenum NETs [5] with good results. However, there is no report of underwater endoscopic resection for small bowel NETs. We describe, for the first time, a case of an ileal NET resected with an underwater endoscopic technique (► **Video 1**).

A 64-year-old man who had previously undergone a total colectomy with ileorectal anastomosis (► **Fig. 1**) was referred for endoscopic treatment of a low-grade NET located at the distal ileum. The endoscopic assessment revealed an elevated, yellowish, 10-mm subepithelial lesion consistent with an NET, located 15 cm proximal to the ileorectal anastomosis (► **Fig. 2**). Due to the low risk of malignancy and the difficulty involved in a possible surgical approach, the surgical team decided for a less invasive treatment by endoscopic resection.

Under endoscopic visualization, water was infused until the ileum lumen was completely filled. A 13-mm snare and an endocut mode were used for the resection (► **Fig. 3**). After resection, endoscopic examination revealed no signs of perforation or residual lesion (► **Fig. 4**). Histologic analysis of the specimen revealed a well-differentiated grade 1 NET invading the superficial submucosal layer with tumor-free, resected deep and lateral margins and without angiolymphatic or perineural invasion.



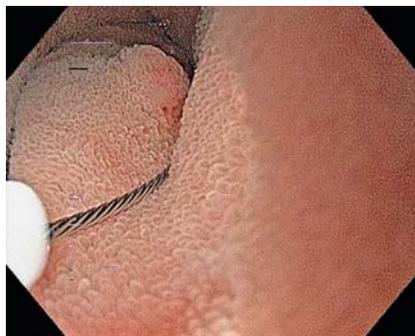
► **Video 1** Underwater endoscopic resection of an ileal neuroendocrine tumor.



► **Fig. 1** Ileorectal anastomosis of patient referred for endoscopic treatment of neuroendocrine tumor.



► **Fig. 2** Ileal neuroendocrine tumor located proximal to the ileorectal anastomosis.



► **Fig. 3** Underwater resection of ileal neuroendocrine tumor with 13 mm snare.



► **Fig. 4** Endoscopic view after resection of neuroendocrine tumor.

Underwater endoscopic resection can be a new therapeutic strategy for a low-grade ileal neuroendocrine tumor and was feasible in this case.

Endoscopy\_UCTN\_Code\_TTT\_1AP\_2AD

## Competing interests

The authors declare that they have no conflict of interest.

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*Endoscopy* 2021; 53: E48–E49

DOI 10.1055/a-1178-0143

ISSN 0013-726X

published online 5.6.2020

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Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

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