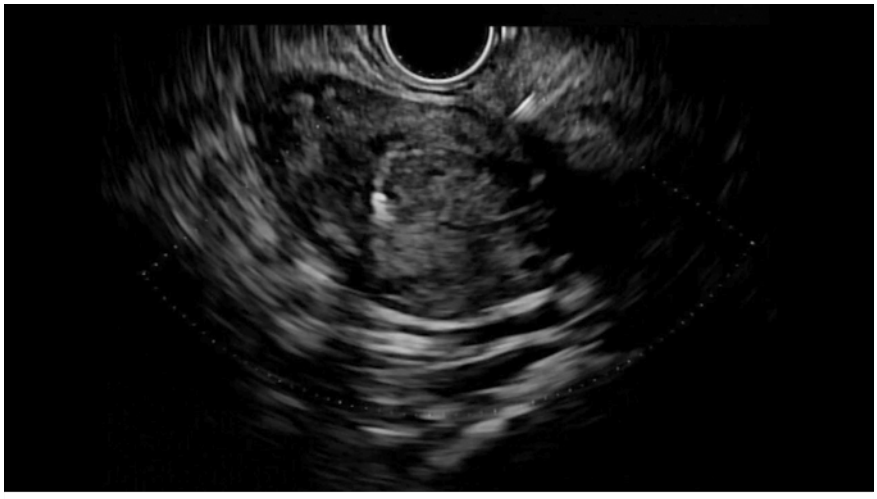
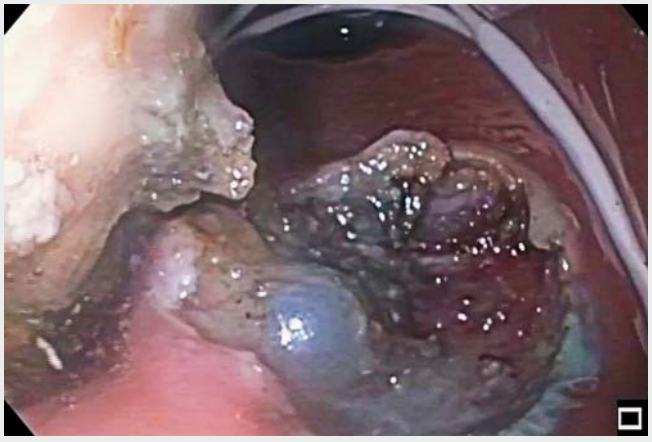
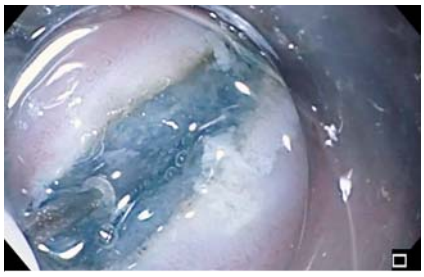
Device-assisted submucosal tunneling endoscopic resection for rectal gastrointestinal stromal tumor



▶ **Fig. 1** Gastrointestinal stromal tumor in a 69-year-old man: oval lesion measuring 50 mm × 25 mm and arising from the muscularis propria at 10 cm from the anal verge.



Video 1 Submucosal tunneling endoscopic resection for rectal gastrointestinal stromal tumor. Adequate dissection of the mass was facilitated by traction assisted by a novel retracting device.



▶ **Fig. 2** Submucosal dissection was performed around the lesion.

Gastrointestinal stromal tumors (GIST) are the most common mesenchymal tumors of the gastrointestinal tract, although rare in the rectum. GISTs range from tumors with benign behavior to aggressive sarcomas [1, 2]. Resection is recommended for localized tumors larger than 2 cm [3]. The surgical treatment for rectal GIST is not standardized; conventional surgery is difficult in the rectum since the pelvis is deep, narrow, and in close proximity of other organs, so less invasive modalities that can provide R0 en bloc resection are attractive [2, 4].

A 69-year-old man presented with a rectal subepithelial lesion found during routine colonoscopy. Endoscopic ultrasonography (EUS) identified a hypoechoic lesion with calcifications, measuring 50 mm by 25 mm, arising from the muscularis propria at 10 cm from the anal verge (▶ **Fig. 1**). Given concern for malignancy, removal was performed using submucosal tunneling endoscopic resection.

The base of the lesion was marked using the tip of the endoscopic knife, and after marking the submucosal space was injected using a prefilled lifting solution containing methylene blue and saline. Then the submucosal space was accessed and a submucosal tunnel was performed in the submucosal space below the lesion, using repeated submucosal injection followed by short bursts of dissection (▶ **Fig. 2**, ▶ **Video 1**). A tissue retraction system was used to facilitate resection of the lesion; traction was performed using a rat tooth forceps. After this, the lateral borders of the lesion were dissected from the muscularis propria using mostly the isolated tip knife, and the submucosal dissection was continued until the lesion was completely resected en bloc. The mucosal defect was closed with endosuturing. Final pathology revealed a GIST removed in its entirety.

Submucosal tunneling endoscopic resection assisted by a tissue retracting device allows en bloc resection of rectal subepithelial lesions.

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Competing interests

Michel Kahaleh is a consultant for Concordia Lab and Obalon Technologies Inc. He has done research for Fuji, Pentax, Gore, Aspire, GI Dynamics, Cook, Apollo, NinePoint Medical, and Merit. He has done research and consulting for Boston Scientific. All of the other authors have no disclosures.

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Bibliography

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