



Endoscopic submucosal dissection of a rectal nongranular laterally spreading tumor with the use of a new endoscopic platform

Ferdinando D'Amico, MD,¹ Roberta Maselli, MD, PhD,¹ Piera Alessia Galtieri, MD,¹ Marco Spadaccini, MD,¹ Alessandro Repici, MD^{1,2}

Endoscopic submucosal dissection (ESD) is a technically demanding and time-consuming procedure. The main challenges are related to the instability of the operating field and to the lack of traction, owing to the single operating channel.¹ The ORISE Tissue Retractor System ([TRS] Boston Scientific, Marlborough, Mass, USA) is a new endoscopic platform that consists of an expandable and dynamically controlled intraluminal chamber, mounted on a flexible overtube, with 2 specifically designed retractor graspers.^{2,3} The system is front-loaded over the endoscope and inserted into the colon. When the target area is reached, the system is positioned, creating an expanded and stable operating field around the lesion. Endoscopic removal of the lesion is then performed with commonly available endoscopic instruments through the operating channel of the endoscope. The resection is simplified by the use of 2 retractor graspers, which can be moved forward and backward, moved left or right, rotated 360°, and pulled in and out. Retractor graspers are used to lift the lesion to visualize the dissection plane. The video (Video 1, available online at www.VideoGIE.org) shows an ESD of a rectal lesion in which the ORISE TRS was used.

A 74-year-old woman with hypertension, type-2 diabetes mellitus, and proliferative diabetic retinopathy underwent

colonoscopy after a positive fecal immunohistochemical test result. Colonoscopy identified a rectal nongranular laterally spreading tumor 25 mm in diameter, 4 cm from the dentate line, with a slightly pseudodepressed central area (IIa+IIc) and an adenomatous pit pattern (III/IV according to the Kudo classification) (Fig. 1). The ESD was performed with use of a therapeutic gastroscope from the ELUXEO 700 series (Fujifilm), with CO₂ insufflation. After submucosal infiltration with adrenaline diluted in physiologic solution and methylene blue, a circumferential incision of the lesion was made with a Hybrid Knife (ERBE Elektromedizin GmbH, Tübingen, Germany). Subsequently, the ORISE TRS (Boston Scientific, Marlborough, Mass, USA) was positioned, stabilizing the lumen (Fig. 2). The retractor grasper was then used to lift the lesion, to improve visualization of the dissection plane and facilitate en bloc removal of the lesion (Figs. 3 and 4). Finally, the ORISE TRS was removed, and the resected lesion was recovered for histologic typing (Fig. 5). No intraoperative or postoperative adverse events occurred. The histologic examination showed a tubulovillous adenoma, with high-grade dysplasia (Fig. 6).

The use of this endoscopic platform may help stabilize the work environment, allowing for retraction and tissue resection and potentially increasing the efficiency of the ESD.

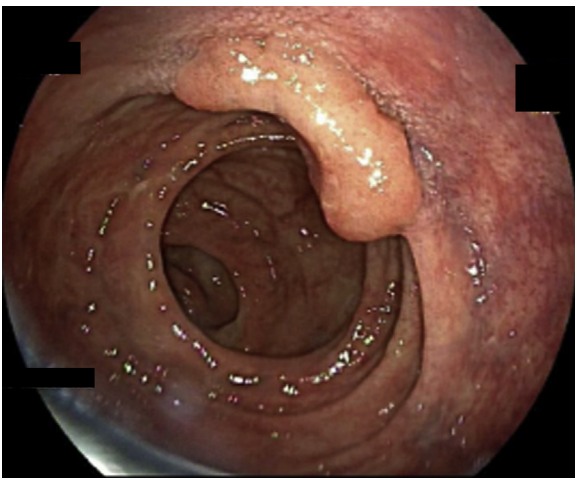


Figure 1. Rectal nongranular laterally spreading tumor about 25 mm in diameter.

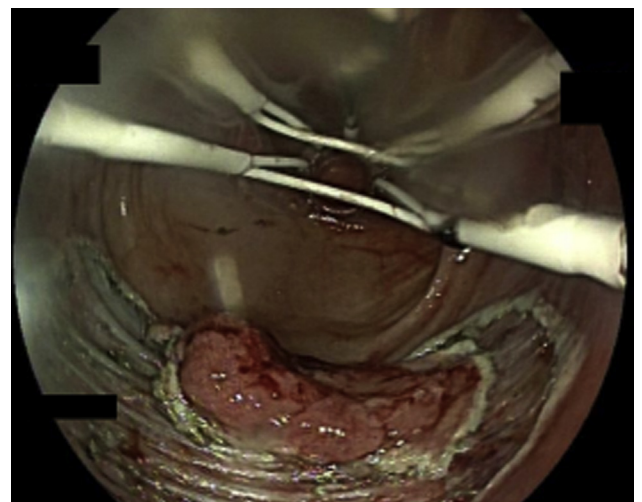


Figure 2. Placement of the ORISE Tissue Retractor System.

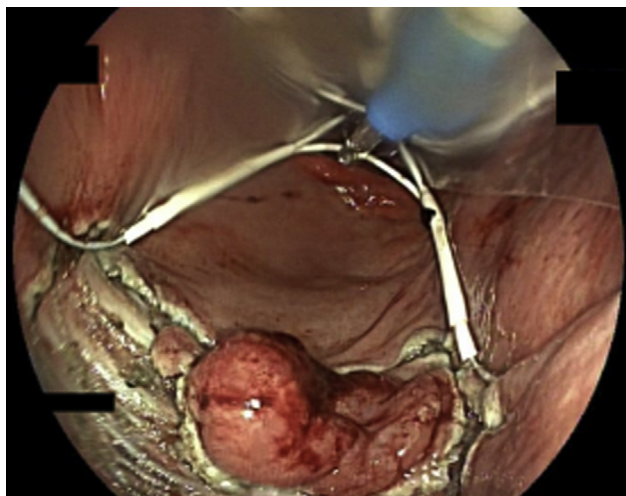


Figure 3. Use of retractor grasper to lift the lesion, improving visualization of the dissection plane and facilitating en bloc removal.

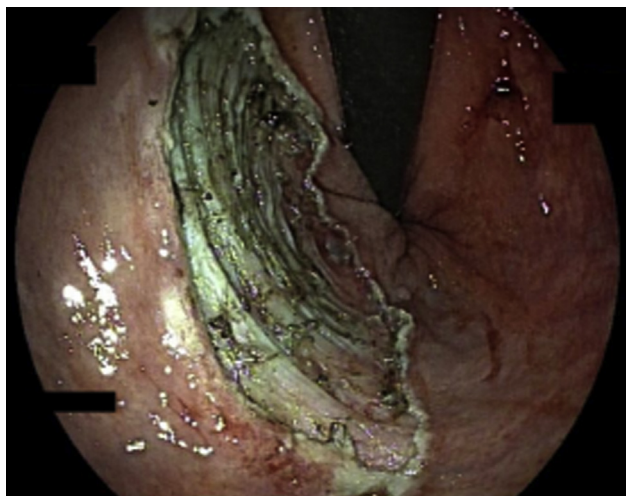


Figure 4. En bloc resection.

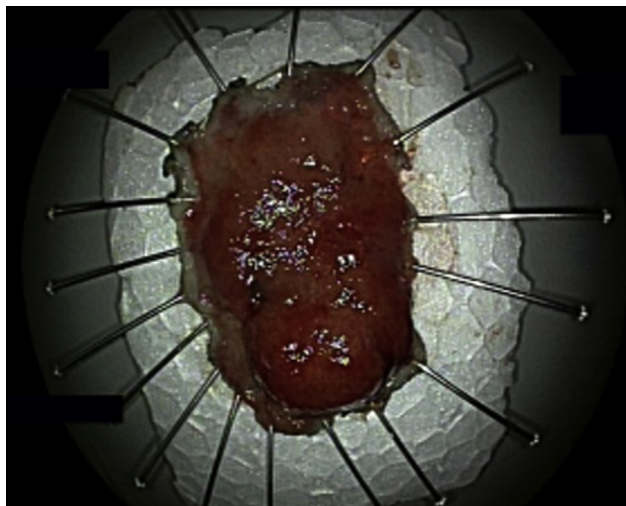


Figure 5. Resected lesion, 30 × 20 mm in diameter.

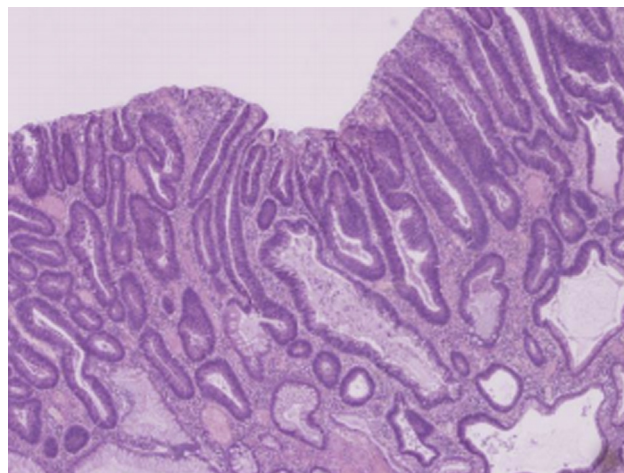


Figure 6. Histologic view showing a tubulovillous adenoma, with high-grade dysplasia (H&E, orig. mag. ×40).

Moreover, with the use of the ORISE TRS, improved visualization of lesions and submucosal dissection plane should reduce the risk of adverse events, such as bleeding and perforation, compared with standard ESD. Prospective studies are needed to evaluate the efficacy and safety of this new device for the treatment of colorectal lesions.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

Abbreviations: ESD, endoscopic submucosal dissection; TRS, tissue retractor system.

REFERENCES

1. Pimentel-Nunes P, Dinis-Ribeiro M, Ponchon T, et al. Endoscopic submucosal dissection: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2015;47:829-54.
2. Kantsevoy SV, Bitner M, Piskun G. New endoscopic platform for endoluminal en bloc tissue resection in the gastrointestinal tract (with videos). *Surg Endosc* 2016;30:3145-51.
3. A new endoluminal platform for endoscopic removal of difficult colonic lesions: initial clinical experience. Kantsevoy SV, Bitner M, Liu BR, et al. Available at: <https://www.sages.org/meetings/annual-meeting/abstracts-archive/a-new-endoluminal-platform-for-endoscopic-removal-of-difficult-colonic-lesions-initial-clinical-experience/>. Accessed December 14, 2018.

Digestive Endoscopy Unit, Division of Gastroenterology, Humanitas Research Hospital (1), Humanitas University, Rozzano, Milan, Italy (2).

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