

New colorectal endoscopic submucosal dissection technique using a single tunnel: the “gateway” method

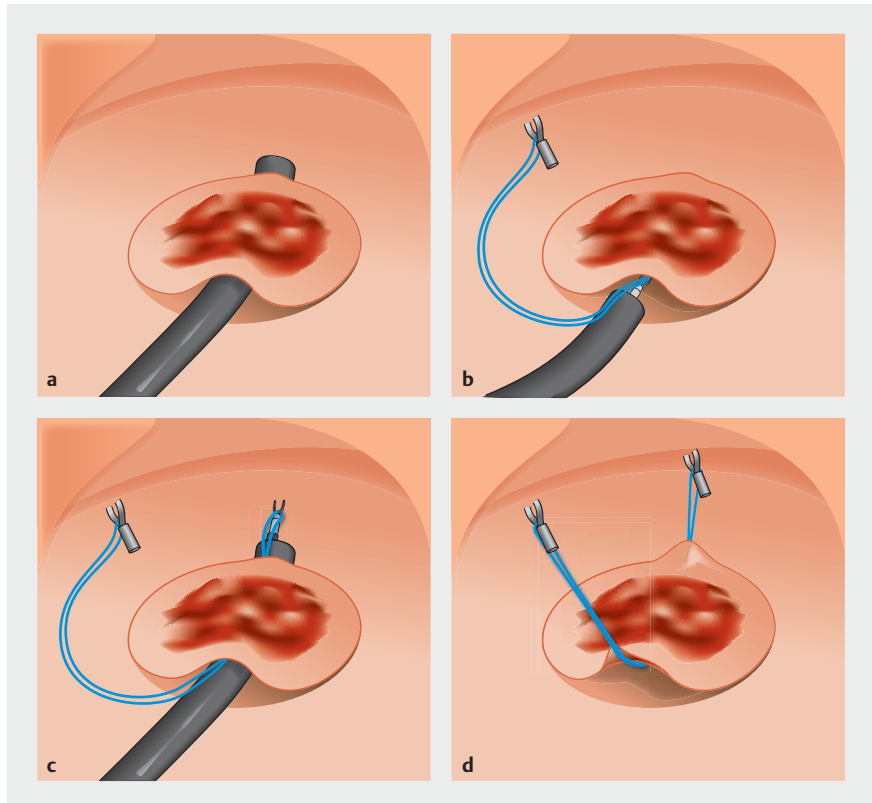


► **Fig. 1** The lesion was a laterally spreading nongranular type in the rectum. The lesion had a pseudodepressed area, and submucosal fibrosis was expected.

Recently, a single-tunnel endoscopic submucosal dissection (ESD) technique has been reported to be effective for large colorectal tumors [1–3]. However, even with this technique, ESD for a large colorectal tumor is sometimes difficult when working against gravity. We report a novel method that makes it possible to apply sufficient traction in the single-tunnel technique even when working against gravity (► **Video 1**).

The patient was a 55-year-old man who had a laterally spreading nongranular type tumor in the rectum (► **Fig. 1**). Submucosal fibrosis was predicted from the macroscopic appearance of the tumor; therefore, adequate traction was considered essential.

First, we created a single penetrated tunnel near the center of the lesion and confirmed that we could pass the scope (► **Fig. 2a**). Next, we passed a looped thread through the tunnel that was approximately 1.5-times the length of the tunnel. One end of the loop was secured with a clip to the anal side of the lesion, and grasping the opposite end with forceps, we passed the thread through the tunnel (► **Fig. 2b**, ► **Fig. 3a**). We fixed the end with the clip to the opposite wall of the lesion, on the oral side (► **Fig. 2c**,



► **Fig. 2** Schematic diagram of the endoscopic “gateway” method. **a** We first created a single penetrating tunnel near the center of the lesion. **b** One end of the looped thread was secured with a clip to the anal side of the lesion. **c** The thread was passed through the tunnel. **d** The looped thread elevated the lesion during air insufflation, creating a “gateway.”

► **Fig. 3b**). After insufflating with air, the looped thread lifted the tunnel and a “gateway” was created, which markedly improved the operative field (► **Fig. 2d**, ► **Fig. 3c**). The lesion was resected in an en bloc fashion (► **Fig. 3d**)

Good traction makes it easy to identify the submucosal layer during dissection in ESD, and leads to quicker dissection speed. Because the lesion is not gripped by the clips in our technique, there is no worry that the lesion will be damaged during traction and elevation. We believe that this “gateway” method is very beneficial in colorectal ESD with single-tunneling technique as it allows good traction.

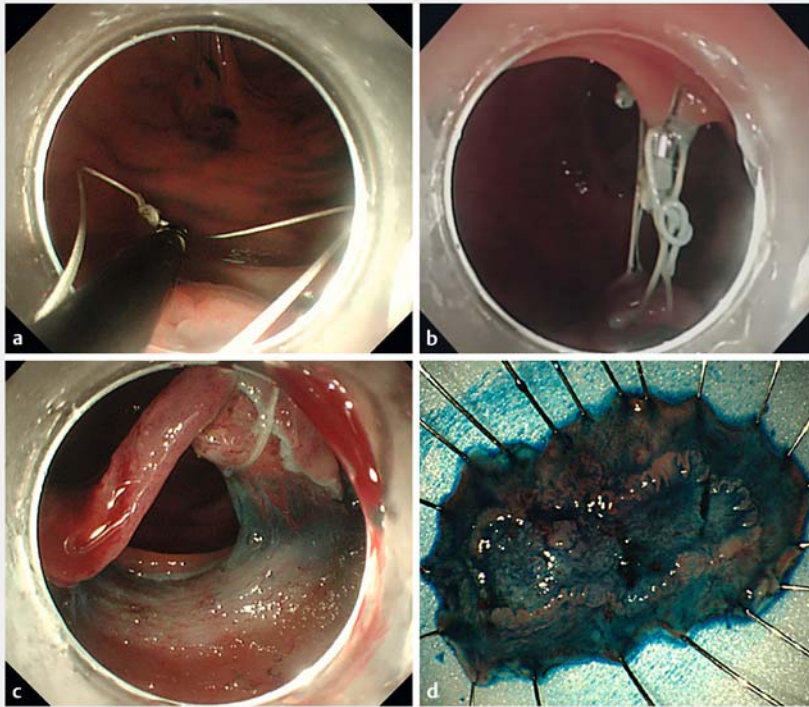
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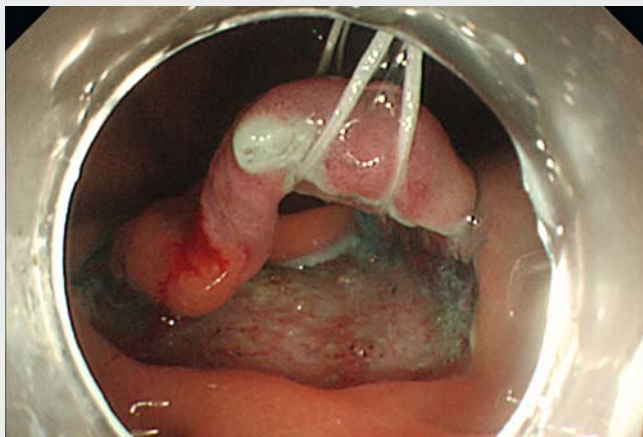
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Competing interests

None



► **Fig. 3** Endoscopic views of the endoscopic “gateway” method. **a** The looped thread was approximately 1.5-times longer than the lesion and was released into the lumen. **b** The looped thread was passed through the tunnel and fixed to the wall opposite the lesion using a clip. **c** Even with a single tunnel, the “gateway” method makes it possible to apply effective traction by lifting both sides of the lesion. **d** The laterally spreading nongranular type lesion was successfully resected.



► **Video 1** This “gateway” method makes it possible to apply sufficient traction in the single-tunnel technique even when working against gravity.

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