



Pulley traction-assisted colonic endoscopic submucosal dissection affords good visibility of submucosal layer

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A 75-year-old man underwent surveillance colonoscopy after polypectomy at another institution. Colonoscopy revealed a laterally spreading tumor involving a diverticulum in the ascending colon. He was referred to our hospital for further examination and treatment.

Colonoscopy at our institution revealed a laterally spreading tumor (LST) involving a diverticulum in the posterior wall of the ascending colon (Figs. 1 and 2). The lesion was a granular-nodular mixed-type LST, and the Japanese Narrow-band Imaging Expert Team classification was type 2A (ie, no evidence of invasion). Therefore, we performed endoscopic resection instead of surgical intervention.

The procedure was performed with continuance of aspirin therapy because the patient had a history of abdominal aortic aneurysm, aortic dissection, and myocardial infarction and had undergone coronary-artery bypass graft surgery. Because it was difficult to remove the lesion involving the diverticulum by conventional EMR, we performed traction-assisted colonic endoscopic submucosal dissection using a clip-and-line to facilitate efficient submucosal dissection (Video 1, available online at www.VideoGIE.org).^{1,2}

After injection of a sufficient amount of hyaluronic acid, a mucosal incision was performed on the diverticular side of the tumor and then on the anal side by use of a

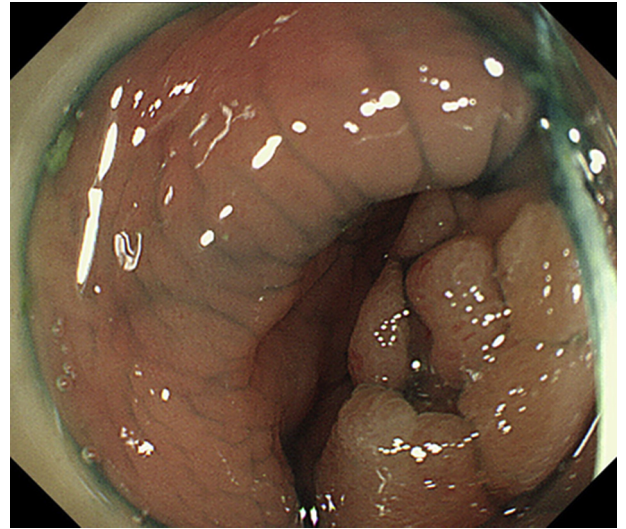


Figure 2. Colonoscopic view showing involvement of the polyp with a diverticulum.

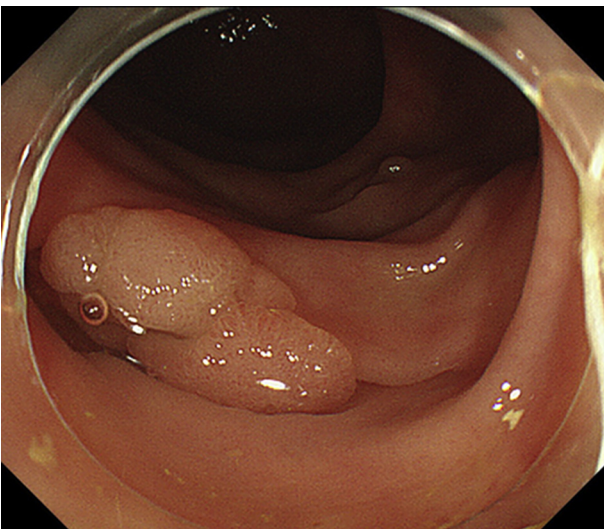


Figure 1. Colonoscopic view showing a laterally spreading tumor in the ascending colon.

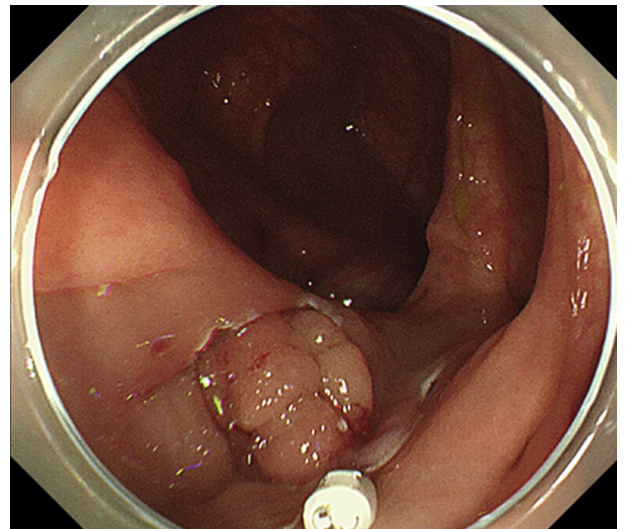


Figure 3. During traction-assisted endoscopic submucosal dissection, creating a flap was difficult because of interference from the anal fold of the colon.

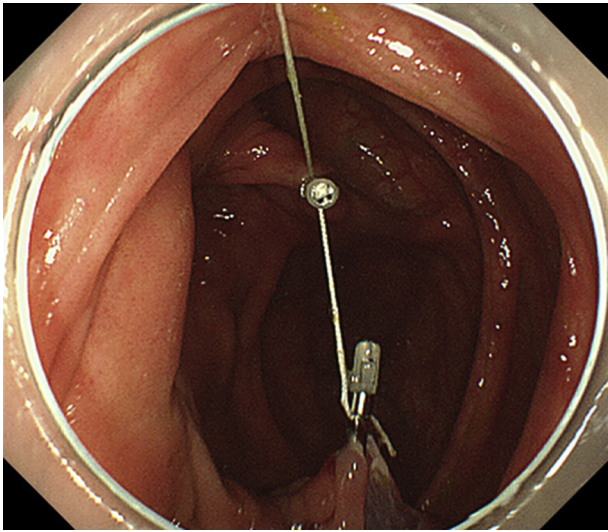


Figure 4. The addition of another clip to the bottom of the cecum to create a “pulley.”

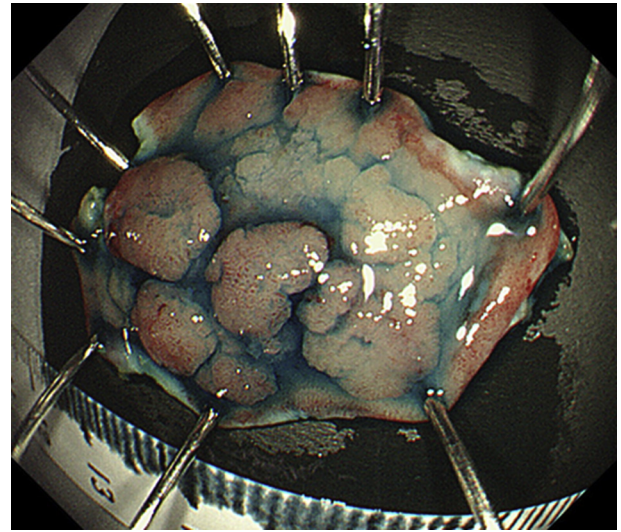


Figure 6. En bloc resection of the tumor in 29 minutes.

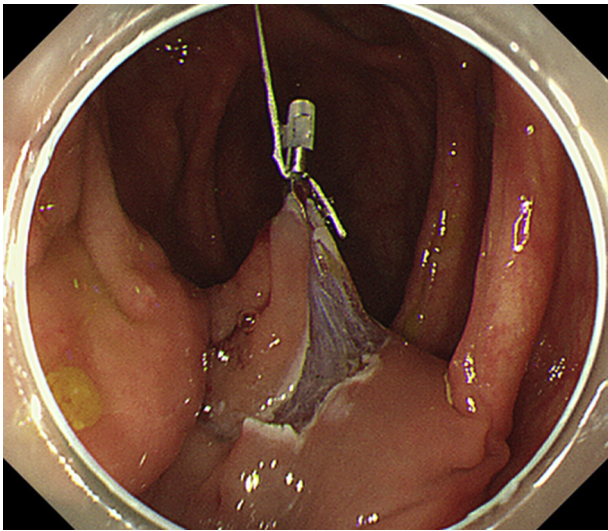


Figure 5. Achievement of considerably better visibility of the submucosal layer.

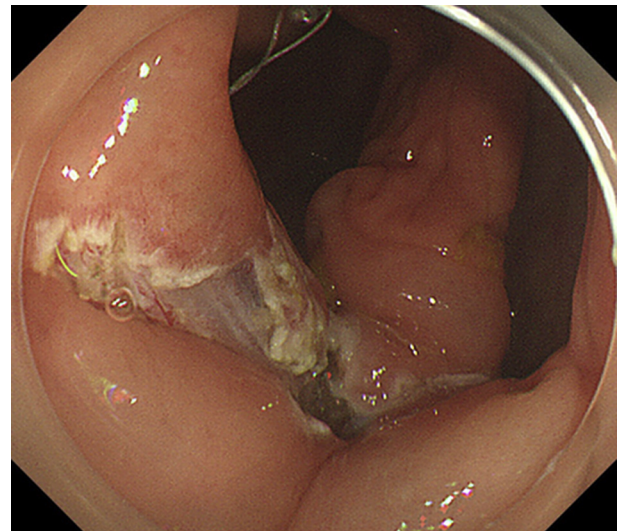


Figure 7. Mucosal defect present after endoscopic submucosal dissection.

FlushKnife BT (DK2618JB15; Fujifilm Medical, Tokyo, Japan). We then grasped the anal side of the tumor with the clip-and-line. However, it was impossible to create a flap because of interference from the anal fold of the colon (Fig. 3).

Another clip was added to the bottom of the cecum to create a “pulley” (Fig. 4),³⁻⁵ so that pulling the line with appropriate tension, depending on the situation, enabled good visibility of the submucosal layer (Fig. 5). Considerably better visibility of the submucosal layer was

afforded by traction on the line, and the tumor was resected en bloc in 29 minutes (Fig. 6).

A small muscle defect was seen at the location of the diverticulum in the mucosal defect (Figs. 7 and 8), and the entire mucosal defect was completely closed with clips (Fig. 9). After the line was cut with scissors forceps, the lesion was retrieved through the anus. Prophylactic antibiotics were prescribed for 4 days after the procedure. Oral feeding commenced on day 3 postoperatively, and the patient was discharged on day 6.

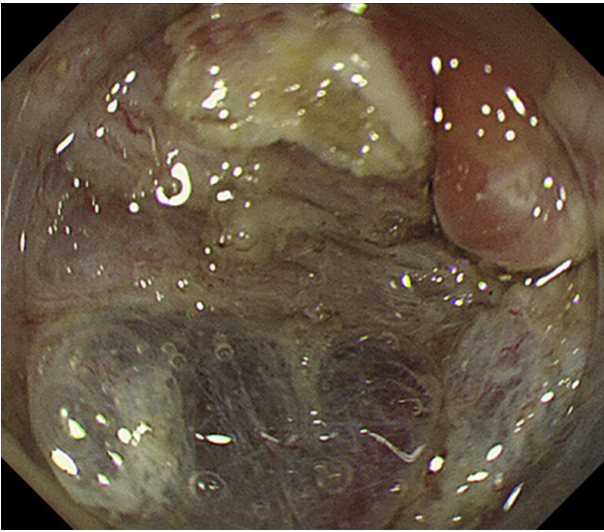


Figure 8. Small muscle defect at the location of the diverticulum in the mucosal defect.

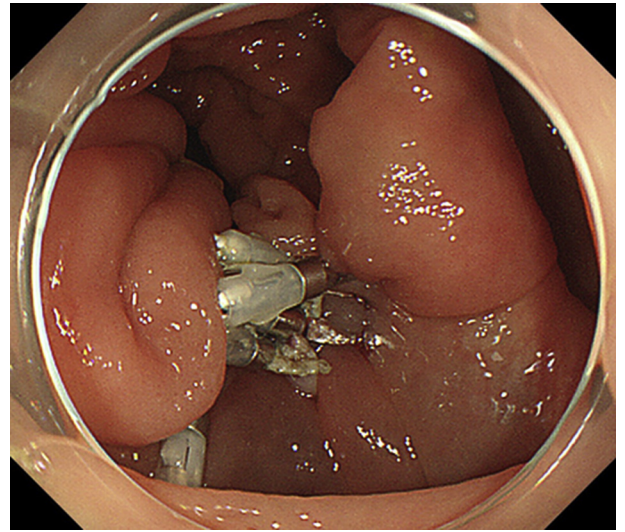


Figure 9. Complete closure of the entire mucosal defect with clips.

Pathologic examination of the lesion showed high-grade dysplasia with negative margins.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

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