

DEN Video Article

Colonic tumor in a diverticulum removed by endoscopic submucosal dissection: Two-step strategy using multi-loop traction devices

Yuki Okubo,¹  Takashi Kanesaka^{1,2}  and Yoji Takeuchi¹ ¹Department of Gastrointestinal Oncology, Osaka International Cancer Institute, and ²Department of Gastroenterology and Hepatology, Osaka University Graduate School of Medicine, Osaka, Japan

BRIEF EXPLANATION

ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD) has a high rate of en bloc resection for colorectal tumors.¹ ESD for colonic lesions involving diverticula

carries a high risk of perforation because diverticula lack the proper muscle layer. Further, difficulty in identifying the proper dissecting layer makes the procedure technically challenging. The usefulness of the traction methods for such lesions has been reported previously.^{2–4} The present case

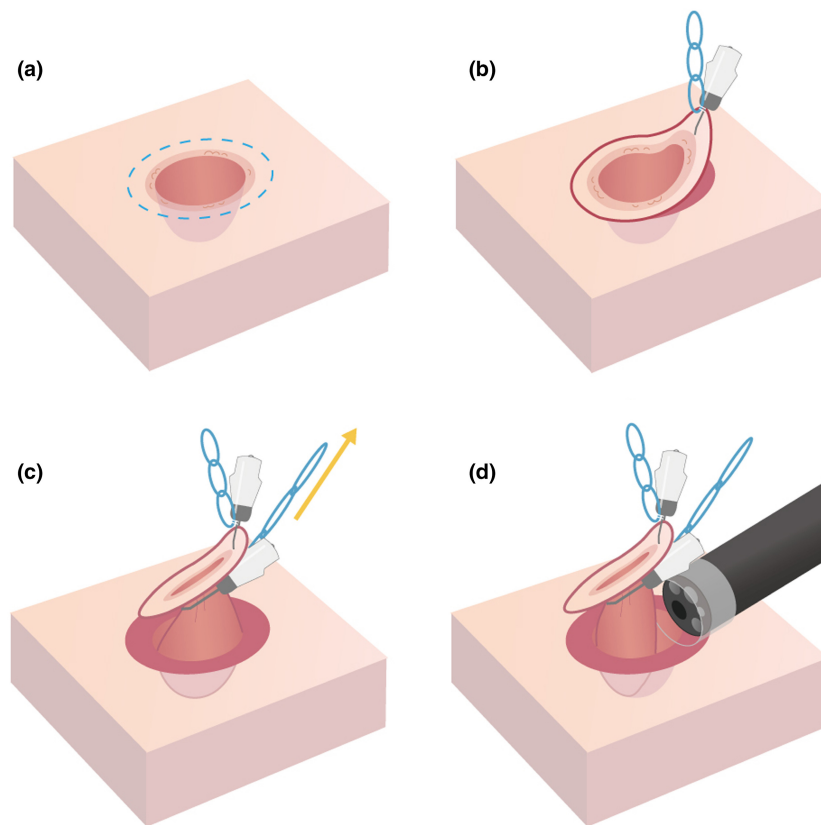


Figure 1 Schema of a two-step strategy. (a) Mucosal incisions were done for a lesion involving a large diverticulum. (b) First traction. (c) Second traction. (d) The inside of the diverticulum was scraped.

Corresponding: Takashi Kanesaka, Department of Gastrointestinal Oncology, Osaka International Cancer Institute, 3-1-69 Otemae, Chuo-ku, Osaka 541-8567, Japan. Email: takashikanesaka@gmail.com

Received 3 March 2022; accepted 18 May 2022.

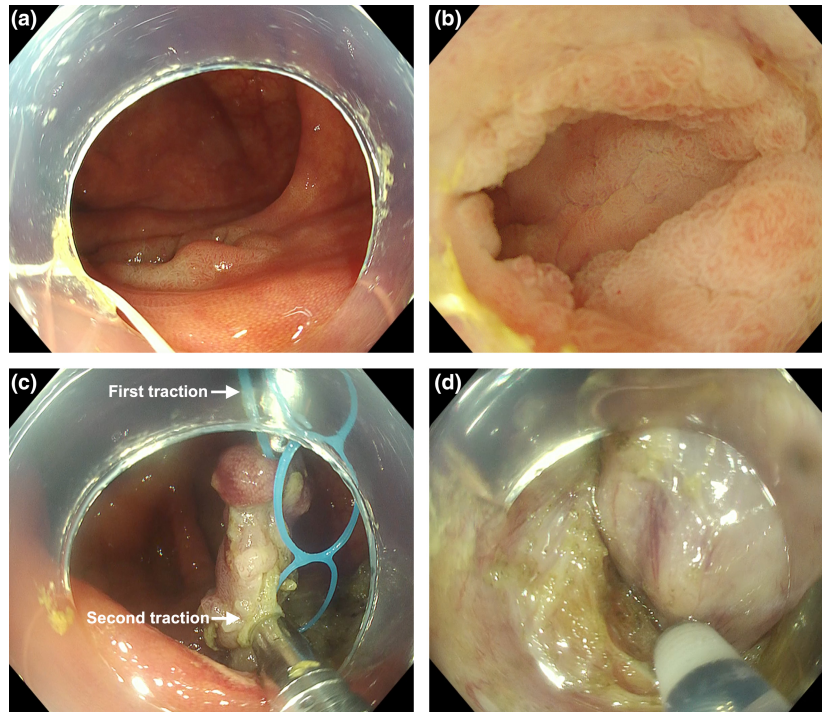


Figure 2 Endoscopic images of a 20 mm laterally spreading tumor involving a large diverticulum in the ascending colon. (a) Distant view. (b) Inside view of the diverticulum. The adenomatous mucosa was identified inside of the diverticulum by underwater observation. (c) The second traction was added to pull out the diverticulum part of the lesion more strongly. The advantage of this method over using the center loop of the first traction is that it has a stronger and more stable traction, with a lower risk of tears. (d) The inside of the diverticulum was scraped.

demonstrated that even a tumor involving a large diverticulum could be removed using a two-step strategy with better traction throughout the procedure (Fig. 1).

A 68-year-old man was diagnosed with a 20 mm laterally spreading tumor involving a large diverticulum in the ascending colon (Fig. 2a). The lesion completely covered a 10 mm diverticulum (Fig. 2b). We performed ESD for the lesion using FlushKnife BT-S (1.5 mm, DK2620J; Fujifilm Medical, Tokyo, Japan) (Video S1). After the submucosal injection and circumferential mucosal incision, the submucosa outside of the diverticulum was dissected with a multi-loop traction device⁵ (Boston Scientific, Tokyo, Japan) and endoclips (SureClip; Micro-Tech, Nanjing, China) (first traction). The submucosal side of the specimen was then grasped firmly with another clip and a traction device so as to maintain a strong and stable traction (second traction, Fig. 2c,d). Due to the second traction, a good field of view was kept until the bottom part of the lesion was cut off. The retroperitoneal space was exposed after removing the lesion and the resection wound was closed using endoclips. Antibiotics were administered for 7 days after the procedure. The patient

showed fever and mild abdominal pain only on postoperative day 1 and was discharged on postoperative day 8. Histopathological examination revealed adenoma with negative margins.

This two-step strategy can be an option to improve the field of view during ESD, especially for lesions involving a large diverticulum.

ACKNOWLEDGMENTS

WE THANK CHIHIRO Tsunoda for drawing the illustration and Editage (www.editage.com) for English language editing.

CONFLICT OF INTEREST

AUTHOR T.K. HAS received honoraria for lectures from Olympus Corporation. Y.T. has received honoraria for lectures from Olympus Corporation and Fujifilm Medical Co., Ltd. The other author declares no conflict of interest for this article.

REFERENCES

- 1 Kobayashi N, Takeuchi Y, Ohata K *et al.* Outcomes of endoscopic submucosal dissection for colorectal neoplasms: Prospective, multicenter, cohort trial. *Dig Endosc* 2022; **34**: 1042–51.
- 2 Ritsuno H, Sakamoto N, Osada T, Goto SP, Watanabe S. Large superficial tumor of the colon involving a diverticulum removed by endoscopic submucosal dissection. *Gastrointest Endosc* 2015; **82**: 751.
- 3 Sakamoto T, Abe S, Nakajima T *et al.* Complete removal of a colonic neoplasm extending into a diverticulum with hybrid endoscopic submucosal dissection-mucosal resection and endoscopic band ligation. *Endoscopy* 2015; **47** (Suppl 1 UCTN): E295–6.
- 4 Kato M, Uraoka T, Wada M *et al.* Laterally spreading tumor involving a colon diverticulum successfully resected by endoscopic submucosal dissection. *Gastrointest Endosc* 2016; **84**: 191–2.
- 5 Matsui H, Tamai N, Futakuchi T, Kamba S, Dobashi A, Sumiyama K. Multi-loop traction device facilitates gastric endoscopic submucosal dissection: Ex vivo pilot study and an inaugural clinical experience. *BMC Gastroenterol* 2022; **22**: 10.

SUPPORTING INFORMATION

ADDITIONAL SUPPORTING INFORMATION may be found in the online version of this article at the publisher's web site.

Video S1 Endoscopic submucosal dissection with a two-step strategy for a colonic tumor involving a large diverticulum.