



Cold snare polypectomy in combination with a traction device for resection of a colonic adenoma partially extending into a diverticulum

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Colonic diverticula lack a muscular layer because they typically develop as a result of the herniation of mucosa and submucosa through a muscle layer that the vasa recta penetrates. The herniation is caused by increased intraluminal pressure. Endoscopic resection of tumors near colonic diverticula is difficult and dangerous because of the aforementioned anatomic features. Endoscopic resection-related adverse events have been reported.¹

In recent years, cold snare polypectomy (CSP) has been widely performed for small colorectal tumors.² CSP causes less delayed bleeding and has shorter procedure times compared with hot snare polypectomy.³ Although CSP has been effective in reducing the risk of perforation for colorectal tumors adjacent to a diverticulum,⁴ the removal strategy for small colorectal tumors involving a diverticulum remains unclear. We report the successful resection of a colonic tumor partially extending into a colonic diverticulum using an S-O clip for traction ([Video 1](#), available online at www.VideoGIE.org).⁵

A flat, elevated lesion with a diameter of 8 mm was observed in the ascending colon. The lesion partially

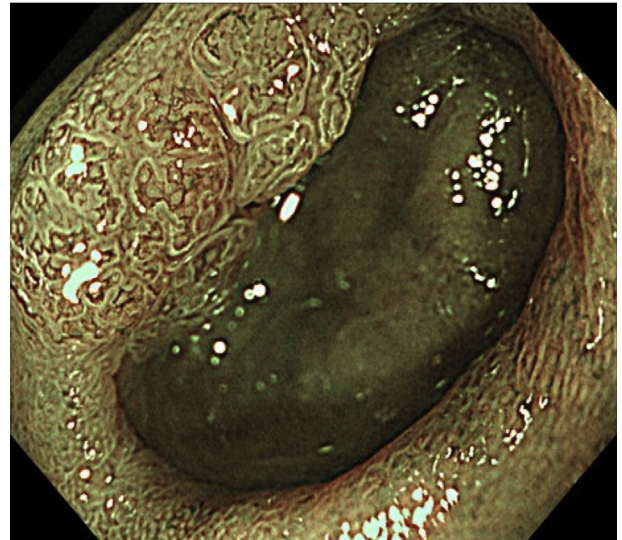


Figure 2. Narrow-band imaging magnification showed type 2A per the Japan Narrow Band Imaging Expert Team classification.

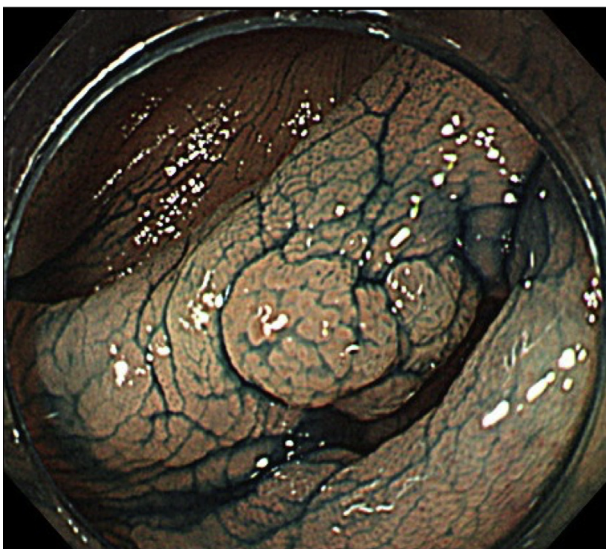


Figure 1. A flat, elevated lesion with a diameter of 8 mm in the ascending colon extends into the diverticulum.



Figure 3. Indigo carmine dye spray magnification showed type III pit pattern.

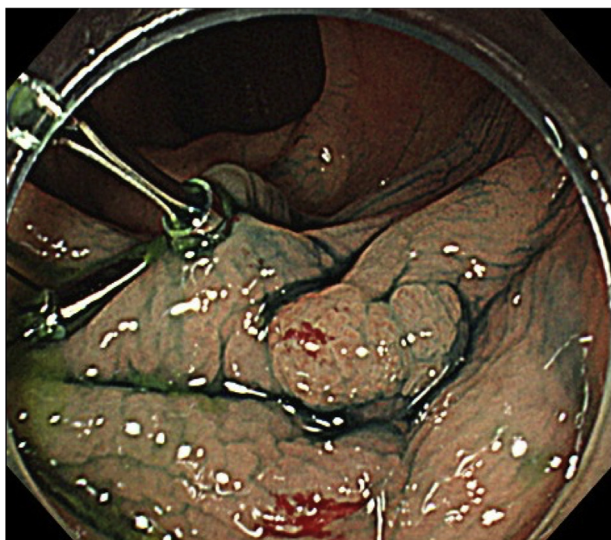


Figure 4. Clipping onto the nonneoplastic mucosa near the lesion outside the diverticulum.

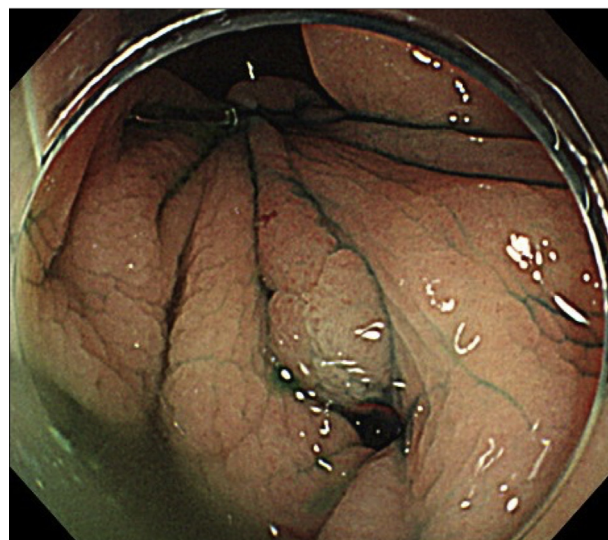


Figure 6. The tumor inside the diverticulum was exposed after creation of traction.

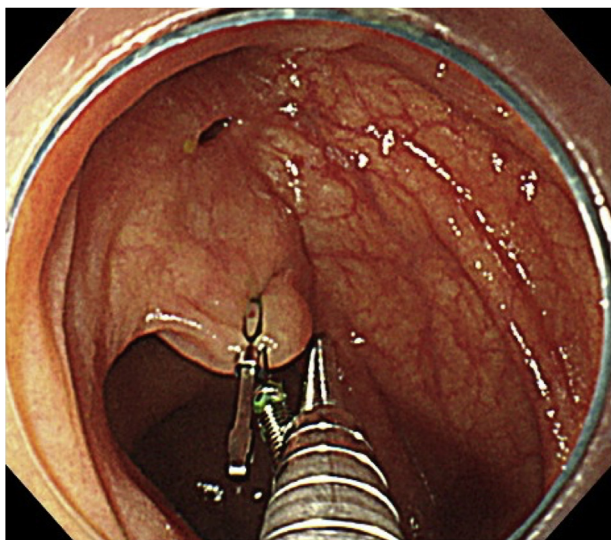


Figure 5. Traction to the contralateral oral side using an S-O clip.

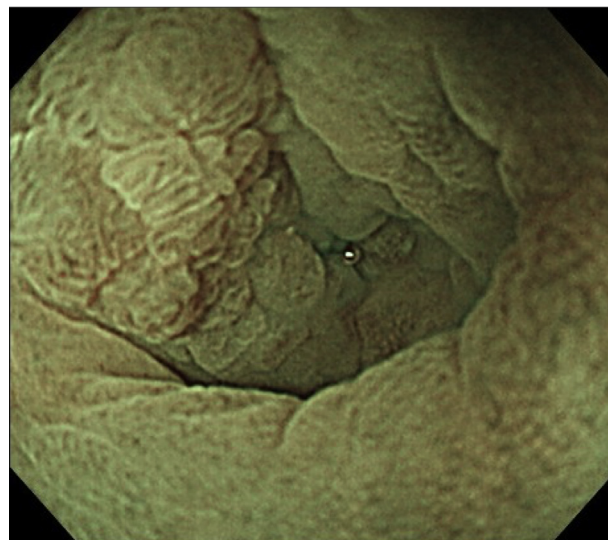


Figure 7. The tumor margin inside the diverticulum could be identified after filling of the diverticulum with water after traction.

extended into the diverticulum, and the margin of the lesion inside the diverticulum was barely identifiable (Fig. 1). The lesion was diagnosed as Japan Narrow-band Imaging (NBI) Expert Team classification type 2A based on the regular vessel and surface pattern with NBI magnification (Fig. 2). Furthermore, indigo carmine dye spray revealed type III pit pattern (Fig. 3). We diagnosed the lesion as a low-grade adenoma.

Although we planned to perform CSP, it seemed impossible to properly snare the whole tumor because of its bend into the diverticulum and the narrow space. To overcome this technical difficulty, we used an S-O clip to grasp the nonneoplastic mucosa near the lesion outside the

diverticulum and displace it to the contralateral oral side of the tumor (Figs. 4 and 5).

After creation of traction, the tumor inside the diverticulum was exposed (Fig. 6). Although the tumor within the diverticulum was more easily identified, recognition of the lesion margin inside the diverticulum remained difficult. After filling the diverticulum with water for expansion, we could visualize the entirety of the tumor, including the margin within the diverticulum (Fig. 7).

The snare tip was fixed to the margin of the tumor inside the diverticulum, and en bloc resection was achieved (Fig. 8). NBI did not reveal residual tumor after the resection (Fig. 9). The pathologic findings indicated a

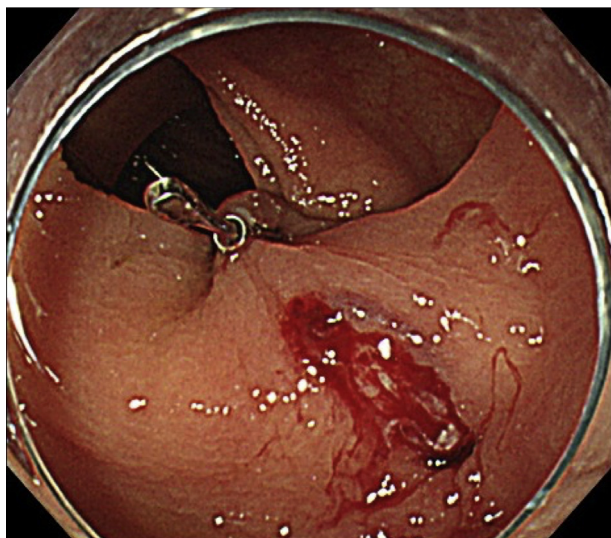


Figure 8. An en bloc resection was achieved by cold snare polypectomy.

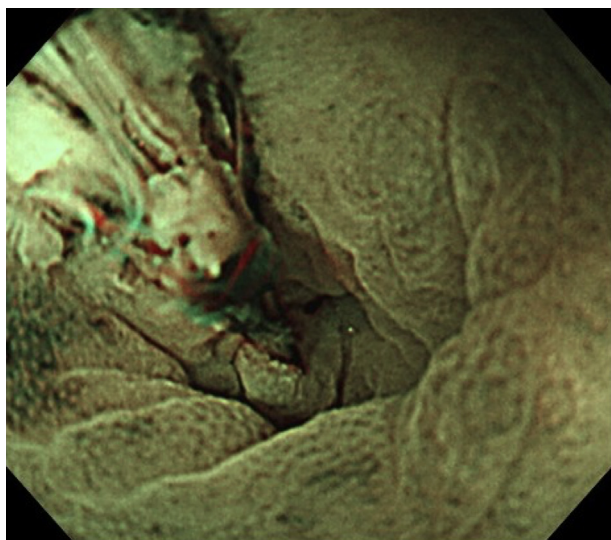


Figure 9. The cut end after cold snare polypectomy was clear.

low-grade adenoma. Although both horizontal and vertical margins were indefinite, the complete resection was carried out endoscopically.

We successfully performed CSP for the resection of a colonic tumor partially extending into a diverticulum. The technical highlight of this case was the use of an S-O clip to extract the tumor from the diverticulum and use of water filling to expand the diverticulum. If the S-O clip is not available, a clip with loop thread can be an alternative option.^{6,7} The techniques we report here can be useful for managing colonic tumors associated with diverticula.

DISCLOSURE

All authors disclosed no financial relationships.

Abbreviations: CSP, cold snare polypectomy; NBI, narrow band imaging.

REFERENCES

1. Xu J, Yang L, Guo Y, et al. Perforation of sigmoid diverticulum following endoscopic polypectomy of an adenoma. *BMJ Case Rep* 2010;2010.
2. Horiuchi A, Ikuse T, Tanaka N. Cold snare polypectomy: indications, devices, techniques, outcomes and future. *Dig Endosc* 2019;31:372-7.
3. Shinozaki S, Kobayashi Y, Hayashi Y, et al. Efficacy and safety of cold versus hot snare polypectomy for resecting small colorectal polyps: Systematic review and meta-analysis. *Dig Endosc* 2018;30:592-9.
4. Kubosawa Y, Nishizawa T, Kinoshita S, et al. Cold snare polypectomy for polyp adjacent to colonic diverticulum. *VideoGIE* 2018;3:85-6.
5. Sakamoto N, Osada T, Shibuya T, et al. Endoscopic submucosal dissection of large colorectal tumors by using a novel spring-action S-O clip for traction (with video). *Gastrointest Endosc* 2009;69:1370-4.
6. Mori H, Kobara H, Nishiyama N, et al. Novel effective and repeatedly available ring-thread counter traction for safer colorectal endoscopic submucosal dissection. *Surg Endosc* 2017;31:3040-7.
7. Indo N, Anami T, Asaji N, et al. Easy and effective counter-traction using a clip with a looped thread for colorectal endoscopic submucosal dissection. *Endoscopy* 2019;51:E233-4.

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