Use of a new traction device to expose the base of a pedunculated appendiceal polyp

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Endoscopic treatment of an appendiceal lesion has been considered challenging because of the great difficulty in attempting endoscopic insertion into the appendix. The risk of perforation and bleeding increases when endoscopic treatment is performed without a complete picture of the lesion. We report a case in which the S-O clip (TC1H05, Zeon Medical, Tokyo, Japan) was very useful in the endoscopic treatment of an appendiceal polyp.

The S-O clip is a new traction device that can maintain good visualization during endoscopic dissection by clipping at a desired position.1,2 The S-O clip is widely used for endoscopic submucosal dissection in the colon, stomach, and duodenum because of its safety and usefulness.3-6 In addition to using the S-O clip technique, reports have been made regarding the usefulness of the traction strategy using clips and rubber bands for endoscopic submucosal dissection.7,8

A 67-year-old man underwent a positron emission tomography/CT scan for thyroid cancer and was found to have an accumulation in the cecum (SUVmax value: 8.1) and the thyroid gland. As shown in the video (Video 1, available online at www.VideoGIE.org), colonoscopy revealed a pedunculated appendiceal polyp with a stalk extending from the interior of the appendix (Fig. 1). The polyp was diagnosed with narrow-band imaging as a non-neoplasia.

In general, surgical resection rather than endoscopic resection is often used to treat appendiceal tumors because it is difficult to see the whole picture of the tumor during endoscopy. This polyp was also believed to be difficult to resect endoscopically because the stalk was buried inside the appendix, preventing us from seeing the whole picture. Even with traction through the transparent hood, only the stalk could be seen. To get the whole picture, we used the S-O clip (Fig. 2).

The S-O clip was placed on the top of the polyp, and the nylon loop of the S-O clip was hooked by the normal clip and fixed at the opposite side of the polyp, at a distance of 2 folds behind the endoscope tip (Fig. 3). The extension of the spring provided appropriate traction, and the polyp was lifted. The base of the stalk, which had been buried inside the appendix, was then clearly visible (Fig. 4).

Glycerol was injected into the submucosal layer, and the polyp was resected using an SB-knife Jr (MD-44703, Sumius, Tokyo, Japan) (Fig. 5). After resection of the lesion, the loop was cut with the bounce of the Zeoclip (ZP-S-165S, Zeon Medical) device to retrieve the polyp. Histologic findings revealed a Peutz-Jeghers–type polyp. Regarding the position of a clip, a clip may be placed at the tip of a pedunculated polyp, but placing a clip at the tip of a flat polyp is buried inside the appendix, and the entire appearance of the polyp cannot be seen.

Figure 1. An appendiceal pedunculated polyp is detected. The root of the polyp is buried inside the appendix, and the entire appearance of the polyp cannot be seen.

Figure 2. The S-O clip consists of a spring (5 mm long and 1.8 mm wide) with an attached metal clip at one end and a nylon loop at the other end.
Figure 3. We used the S-O clip to view the polyp in its entirety. 
A, The S-O clip is placed on the top of the polyp. B, The nylon loop of the S-O clip is hooked by the normal clip. C, The clip is rotated to prevent the nylon loop from coming off. D, The nylon loop is fixed at the opposite side of the polyp, at a distance of 2 folds behind the scope tip.

Figure 4. By using S-O clip traction, the base of the stalk is clearly visible.

Figure 5. The stalk was cut using an SB-knife Jr.
appendiceal polyp interferes with further dissection. For flat lesions, the clip should be placed at the edge of the submucosal flap.

In appendiceal lesions, endoscopic diagnosis and treatment are often challenging because it is difficult to see the lesion in its entirety and gain access to the appendix. In this case, the stalk of the pedunculated polyp was embedded in the appendix, and it was unclear whether an additional lesion was present at the base of the polyp. By lifting the polyp firmly with the S-O clip, it was easier to get under the lesion and expose the entire polyp, which enabled safe endoscopic resection.

In conclusion, the S-O clip may prove to be an effective tool when performing endoscopic resection of a pedunculated appendiceal polyp with the stalk embedded inside the appendix.

DISCLOSURE

All authors disclosed no financial relationships.

REFERENCES

1. Sakamoto N, Osada T, Shibuya T, et al. The facilitation of a new traction device (S-O clip) assisting endoscopic submucosal dissection for superficial colorectal neoplasms. Endoscopy 2008;40:E94-5.

2. 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.

3. Okamoto Y, Oka S, Tanaka S, et al. Clinical usefulness of the S-O clip during colorectal endoscopic submucosal dissection in difficult-to-access submucosal layer. Endosc Int Open 2020;8:E437-44.

4. Nagata M. Modified attachment method using an S-O clip for gastric endoscopic submucosal dissection. VideoGIE 2019;4:151-3.

5. Hashimoto R, Hirasa D, Iwaki T, et al. Usefulness of the S-O clip for gastric endoscopic submucosal dissection (with video). Surg Endosc 2018;32:908-14.

6. Hashimoto R, Hirasa D. Duodenal endoscopic submucosal dissection with traction method using the S-O clip. Dig Endosc 2017;29:635.

7. Utzero E, Jacques J, Charissoux A, et al. Traction strategy with clips and rubber band allows complete en bloc endoscopic submucosal dissection of laterally spreading tumors invading the appendix. Endoscopy 2017;49:820-2.

8. Mavrogenis G, Bazarbachi F, Tsevgas I, et al. Dynamic and multifocal clip and band countertraction for endoscopic submucosal dissection. VideoGIE. Epub 2020 Jun 12.