A novel clip closure method using precutting and a reopenable clip after colorectal endoscopic submucosal dissection

Clip closure of mucosal defects after endoscopic resection has been shown to reduce delayed adverse events [1,2]; however, closing large defects using a conventional clip can be difficult [1]. Thus, alternative clip closure techniques have been developed, but they still need improvement in terms of simplicity and solderability [3,4]. We therefore modified an existing precutting technique [4] using a reopenable clip to close large mucosal defects.

After resection of the lesion, multiple small incisions were performed circumferentially just outside the defect using a DualKnife J (Olympus, Tokyo). A reopenable clip (SureClip, Microtech, Nanjing) was opened, and one side of the claw was inserted into the incision on the anal side, while the other side of the claw was placed just inside the margin of the defect, and the claws were closed while catching the normal mucosa. Bringing the caught mucosa closer to the oral side of the defect, the clip was reopened to insert the opposite side of the claw into the oral-side incision. Finally, the claws were completely closed, and the normal mucosa of both sides were drawn together. The combination of mucosal incision and mucosal catching using a reopenable clip was easily achieved without clip slipping.

After repeating the same procedures to minimize the defects, regular clips were added to close the defect completely. This method was applied in three patients with defect sizes between 33 and 71 mm located in the ascending colon, transverse colon, and rectum. The median (range) procedure time was 20 (10–26) minutes. Complete closure was easily achieved in all cases, and there were no adverse events during the perioperative period. A representative case is shown in Fig. 1 and Video 1.

In conclusion, using a reopenable clip with multiple precut small circumferential mucosal incisions is an excellent...
method to facilitate the complete closure of large mucosal defects.

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Competing interests

The authors declare that they have no conflict of interest.

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Video 1 A novel clip closure method using mucosal precutting and reopenable clips to close large mucosal defects after endoscopic submucosal dissection for colonic lesions. Complete closure was easily achieved using this novel method.