Prophylactic Suturing Closure Is Recommended after Endoscopic Treatment of Colorectal Tumors in Patients with Antiplatelet/Anticoagulant Therapy

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Keywords

Endoscopic submucosal dissection · Laterally spreading tumor · Clip

Abstract

The prophylactic closure of mucosal defects after endoscopic resection is known to prevent postoperative bleeding in colorectal lesions. However, closure of large mucosal defects is difficult with conventional clips only, and several closure techniques have been previously described; use of an Endoloop, 8-ring loop, or loop clip and a small incision around the mucosal defect. Given that the prophylactic closure requires much cost and time, the application should be limited to high-risk cases. Medication of antithrombotics or antiplatelet agents would be one of the reasonable indications for prophylactic closure of mucosal defects after endoscopic resection of colorectal tumors.

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A 70-year-old man was admitted to our hospital with a diagnosis of 2 large flat colorectal tumors. He had undergone rectal resection for rectal cancer 3 years before and the postsurgery surveillance colonoscopy showed 2 colorectal laterally spreading tumors, each measuring 20 and 30 mm in diameter, at the transverse and the descending colon, respectively. A stent had been implanted due to abdominal aortic aneurysm 3 years before. Thereafter, he had been taking aspirin (81 mg/day). He had no known allergies, and he drank alcohol occasionally and did not smoke tobacco.

Endoscopic submucosal dissection (ESD) was performed for the 2 colorectal lesions at the same time. Antiplatelet therapy was continued due to high risk of thrombosis after the withdrawal. A larger post-ESD mucosal defect was sutured using endoclips, but not for a smaller one. The next day after ESD, he complained of rectal bleeding. Endoscopy confirmed the source of bleeding was the smaller post-ESD mucosal defect without prophylactic closure (Fig. 1a), but not the larger mucosal wound with prophylactic closure (Fig. 1b). Histopatho-

Fig. 1. **a** Endoscopic image of delayed bleeding from the mucosal defect after endoscopic submucosal dissection (ESD), which had not been sutured after the procedure. **b** Endoscopic image of the ESD site of the larger lesion that had been sutured using clips. At this site, no bleeding was found after ESD.

Fig. 2. Endoscopic closure of a large mucosal defect using a clip with a ring-shaped nylon loop.

logical examination showed that the larger one was an intramucosal well-differentiated adenocarcinoma without lymphovascular involvement and the smaller one was a sessile serrated adenoma/polyp. Neither recurrence nor complications were found 4 years after endoscopic resection.

A large mucosal defect is made after colorectal ESD, which can be associated with complications such as perforation and bleeding. The prophylactic closure of mucosal defects after endoscopic resection is known to prevent postoperative bleeding and transmural burn syndrome in colorectal lesions [1]. In a retrospective study, prophylactic clip closure after endoscopic resection of sessile colorectal polyps or flat colorectal lesions 2 cm or larger was reported to be effective for preventing delayed bleed-

ing [2]. The currently available clips can be delivered through the endoscope (through-the-scope clips: TT-SCs): Quick Clip (Olympus Japan Inc., Natick, MA, United States), Resolution Clip (Boston Scientific Inc., Natick, MA, USA), and Instinct Clip (Cook Medical Inc., Bloomington, IN, USA). Over-the-scope clips (OTSC system; Ovesco Endoscopy AG, Tübingen, Germany) are also available. Closure of large mucosal defects is difficult with conventional clips only, and several closure techniques have been previously described; use of an Endoloop, 8-ring loop, or loop clip and a small incision around the mucosal defect [3]. The procedure used in our case is described as follows (Fig. 2): a ring-shaped nylon loop (2–3 mm in diameter) was attached to a conventional clip, and the 1st clip with a small loop was placed at an edge of

the mucosal defect. We put one blade of the 2nd clip through the small loop attached to the 1st clip and then placed the 2nd clip at the opposite side of the 1st clip beyond the mucosal defect. It is important that the 1st and the 2nd clips are placed at the points across the maximal diameter, which moves the edges of the mucosal defect closer to each other and makes the subsequent clipping procedure easier. Clips were placed in zipper fashion to completely close the resection site. Given that the prophylactic closure requires much cost and time, the application should be limited to high-risk cases. The present case suggests that medication of antithrombotics or antiplatelet agents would be one of the reasonable indications for prophylactic closure of mucosal defects after endoscopic resection of colorectal tumors.

Disclosure Statement

The authors have no conflicts of interest to declare.

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