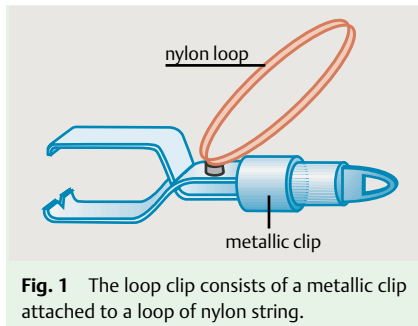
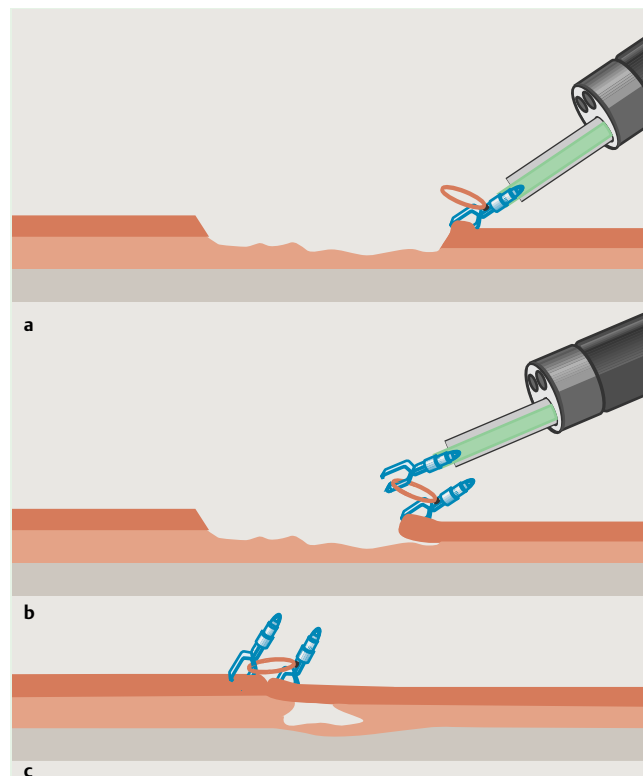
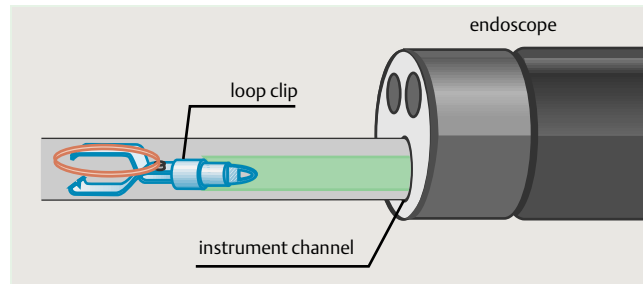


“Loop Clip”, a new closure device for large mucosal defects after EMR and ESD



Endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD) are indicated for the treatment of large early-stage superficial colorectal cancers. Bleeding and perforation are common complications of EMR and ESD, but closure of the mucosal defect reduces the risk of complications. Hemoclips have been used for endoscopic closure of EMR defects, but they can only be used when the diameter of the defect is less than the width of the open clip. Because it is quite difficult to do, it is not common to close large mucosal defects despite the increased risk of bleeding and perforation. A few techniques involving closure devices have been reported [1,2], but these complicated methods have not been widely employed because of the need for a 2-channel colonoscope. Therefore, we designed a new closure device for large mucosal defects, named a “loop clip”. The loop clip consists of a metal clip attached to a loop of nylon string (● **Fig. 1**). The loop clip can be passed through the instrument channel of the endoscope (● **Fig. 2**). After EMR and ESD, a loop clip is connected to the edge of the mucosal defect at the mid of distal side and the mid of proximal side (● **Fig. 3** and **4**). Afterwards, regular clips are placed individually to achieve complete closure. Complete closure of mucosal defects using the loop clip has been performed on three large mucosal defects after ESD (mean size, 39 mm). We confirm that it was easy to close any mucosal defect completely and immediately using the loop clip. These preliminary results suggest that loop clip-assisted complete closure of mucosal defects is effective and easy to do and can be done immedi-



ately. None of the patients developed fecal peritonitis or delayed bleeding. In the future, this method of suturing is expected to become successful for immediate closure of gaping perforations.

Competing interests: None

Endoscopy_UCTN_Code_CPL_1AH_2AG
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Video 1

Loop clip for large mucosal defects after endoscopic submucosal dissection in the cecum.

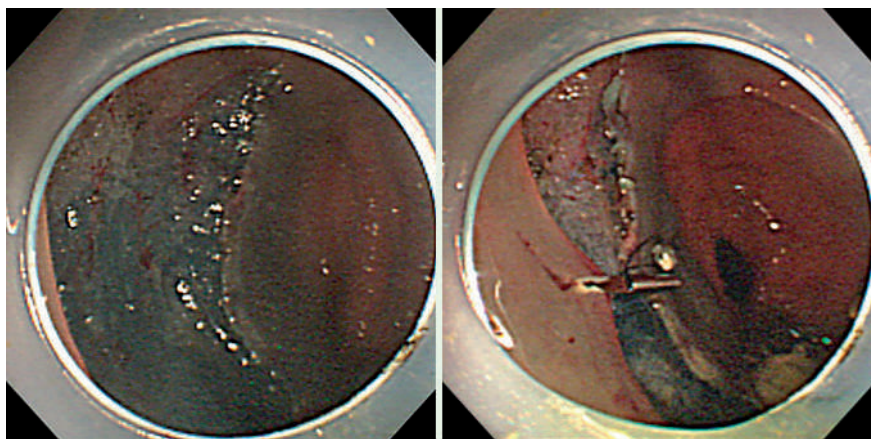


Fig. 4 Loop clip for large mucosal defects after endoscopic submucosal dissection in the ascending colon.

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