

Complete removal of a colonic neoplasm extending into a diverticulum with hybrid endoscopic submucosal dissection–mucosal resection and endoscopic band ligation

Intramucosal neoplasm is a good indication for endoscopic treatment [1]; however, resection should be avoided when the lesion has spread into a diverticulum because of the high risk for perforation. The usefulness of endoscopic band ligation (EBL) for hemostasis in cases of hemorrhage from a colonic diverticulum

has been reported [2,3], and the “resect and discard strategy” has been used for adenomatous polyps [4]. Therefore, we hypothesized that EBL could be used to entrap an adenomatous lesion spreading into a diverticulum.

A 73-year-old woman was referred for the treatment of a colonic neoplasm extend-

ing into a diverticulum. Colonoscopy showed a flat, elevated, 30-mm lesion in the sigmoid colon. Magnification with Fuji Intelligent Color Enhancement (FICE; Fujinon, Tokyo, Japan) showed a regular or slightly irregular surface and vessel pattern without demarcation, indicating an intramucosal neoplasm (● Fig. 1). The lesion was resected in a triple approach consisting of a hybrid technique (endoscopic submucosal dissection [ESD] followed by endoscopic mucosal resection [EMR] with snaring) [5], then endoscopic band ligation (EBL) of the remainder after suction (● Video 1).

First, we initiated a circumferential incision from the side opposite the diverticulum, then continued with ESD. Following sufficient dissection, EMR with snaring was used to resect the part of the lesion outside the diverticulum. The endoscope was reinserted after a band ligator device (MD-48710 EVL; Sumitomo Bakelite, Tokyo, Japan) had been attached to the tip of the endoscope. The remnant of neoplastic tissue within the diverticulum was suctioned into the attachment cap, and an elastic O-band was released, successfully entrapping the tissue (● Video 1).

At 4 days after treatment, colonoscopy performed to observe the ulcer bed revealed prolapse of the ligated portion. No adverse events were associated with the endoscopic treatment (● Fig. 2a). At 3 months after treatment, colonoscopy revealed absence of the diverticulum and the formation of a scar at the site that

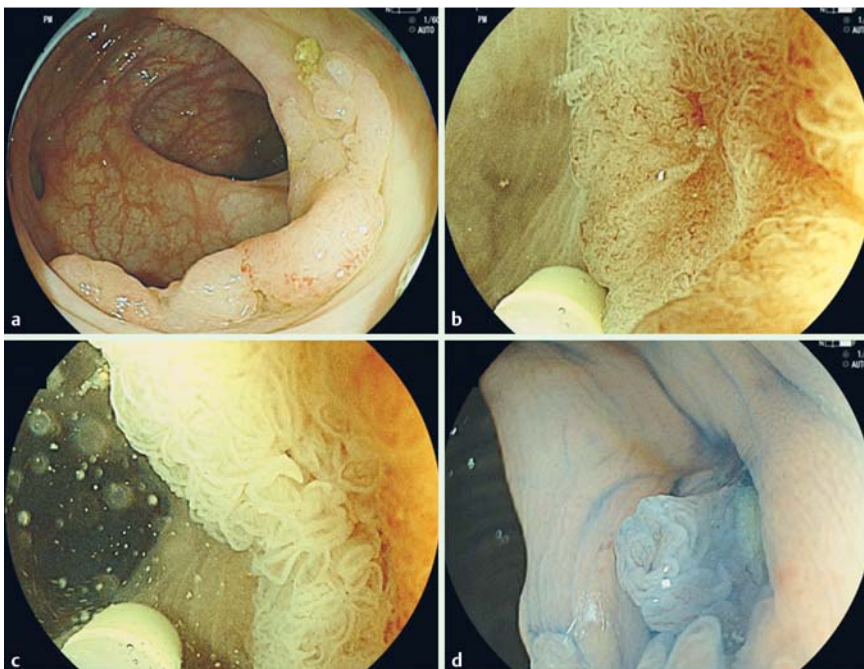


Fig. 1 a Endoscopic image of an entire colonic lesion in a 73-year-old woman. b, c Magnified images obtained with the Fuji Intelligent Color Enhancement (FICE) system. d Part of the lesion extends into the colonic diverticulum.

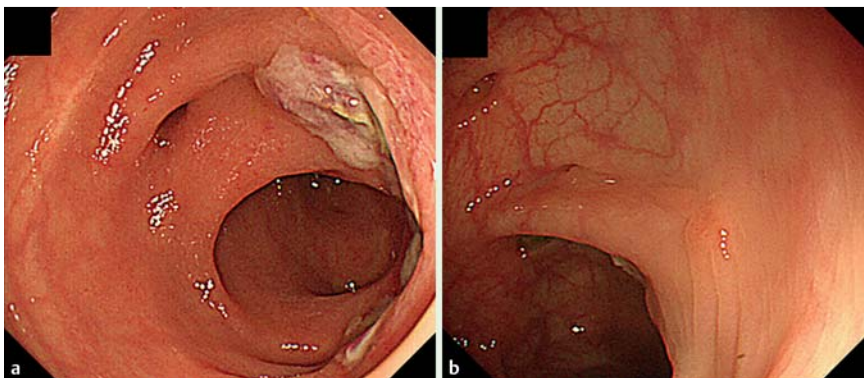


Fig. 2 a Treatment site 4 days after hybrid endoscopic submucosal dissection–mucosal resection and endoscopic band ligation of a colonic lesion extending into a colonic diverticulum, with prolapse of the ligated portion. b Treatment site 3 months later, with a very tiny residual tumor visible on the scar.



The triple endoscopic resection procedure: hybrid endoscopic submucosal dissection (ESD)–endoscopic mucosal resection (EMR) and endoscopic band ligation. Circumferential incision from the side opposite the diverticulum was followed by submucosal dissection. Following sufficient dissection, the EMR snaring technique was used to resect the part of the lesion outside the diverticulum. Then band ligation was used to treat the part of the lesion within the diverticulum.

included a tiny residual lesion, which was successfully ablated by hot biopsy (● Fig. 2b).

The use of a triple approach (hybrid ESD–EMR followed by EBL) to treat a neoplastic lesion in a high risk location (i.e., extending into a diverticulum) may be considered an alternative method for the endoluminal treatment of complex lesions.

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Competing interests: None

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