Clinical efficacy of partial endoscopic band ligation for treatment of large-orifice colonic diverticular bleeding

Hiroki Takemoto, MD, Taiki Aoyama, MD, PhD, Shinji Nagata, MD, PhD

Endoscopic band ligation (EBL) is one of the major endoscopic treatments for colonic diverticular bleeding, along with clipping and coagulation methods[1]; however, EBL is not indicated for all cases of colonic diverticular bleeding. In particular, it remains unclear whether EBL can be applied to cases involving bleeding from a large-orifice diverticulum. Although the EBL procedure commonly includes suction of the entire diverticulum into the suction cup to ligate the neck of the inverted diverticulum, partial ligation inside the diverticulum has not yet been reported as a treatment option. Counterturn of the diverticulum by suction does not accompany serosal involvement that leads to perforation, which was proved by ex-vivo examination of specimens after EBL.[2] Here, we report the use of partial EBL for the treatment of large-orifice colonic diverticular bleeding (Video 1, available online at www.VideoGIE.org).

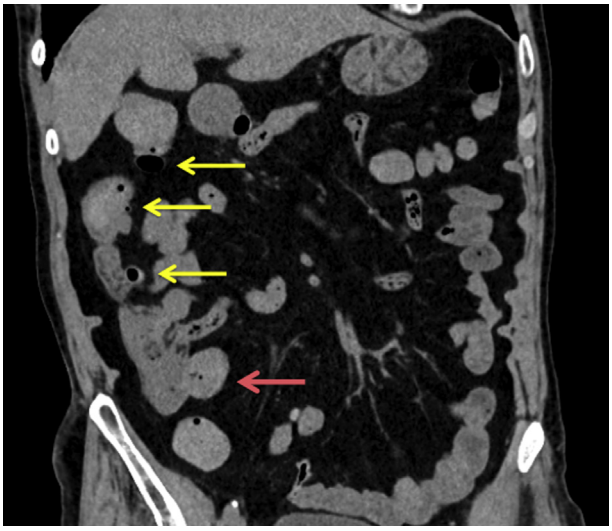

Figure 1. Abdominal CT at admission, showing numerous diverticula in the ascending colon (*yellow arrows*), including a large diverticulum (*red arrow*).

A 76-year-old man was admitted to our hospital because of hematochezia. He did not have a history of long-term steroid use, which is known to be a risk factor for delayed perforation.[3] Abdominal CT revealed numerous diverticula in the ascending colon, including a large diverticulum (Fig. 1). After bowel preparation, colonoscopic examination was performed using a PCF-Q260AZI endoscope (Olympus, Tokyo, Japan). We located the diverticulum having a large orifice beside the ileocecal valve. Furthermore, we detected a nonbleeding visible vessel with impending bleeding at the dome of the diverticulum (Fig. 2A). After obtaining informed consent from the patient, we attempted EBL of the lesion using a MD-48910B EBL device (Sumitomo, Tokyo, Japan) that included an outer sliding tube, an inner banding cylinder with a 10-mm diameter, an air-feeding tube, and an O-ring. The diameter of the banding cylinder was smaller than that of the orifice. Because suction of the entire diverticulum was impossible, partial

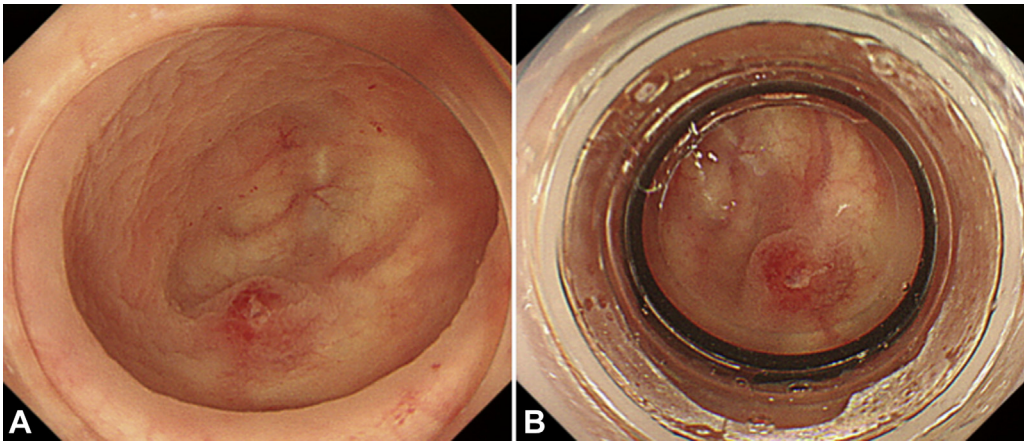

Figure 2. Endoscopic findings of the large-orifice diverticulum. **A,** A nonbleeding visible vessel is seen at the dome of the large-orifice diverticulum. **B,** The diameter of the cylinder attached to the endoscope tip is smaller than that of the orifice.

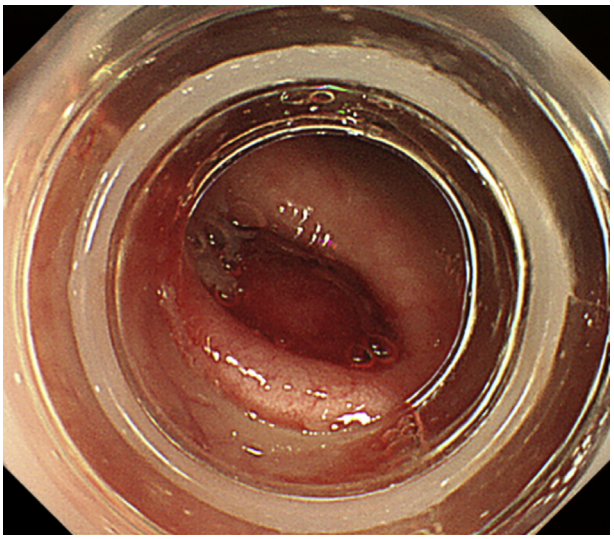

Figure 3. Successful performance of partial endoscopic band ligation.

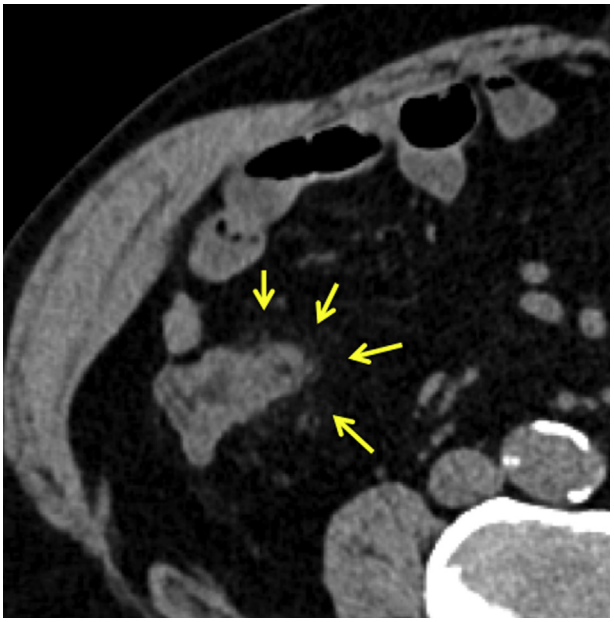

Figure 4. Abdominal CT the day after treatment, showing no evidence of perforation.

ligation of the diverticular dome was performed (Fig. 2B). Eventually, EBL was successfully performed (Fig. 3). Abdominal CT performed on the next day showed no evidence of perforation (Fig. 4). Moreover, the patient was free of symptoms, and laboratory examination showed no remarkable inflammatory changes. The patient was discharged 5 days after treatment, without any adverse events. Recurrent bleeding was not observed, and colonoscopy confirmed a scar in the diverticulum 3 months later (Fig. 5).

Location in the ascending colon has been reported to be a predictor of refractory colonic diverticular bleeding after endoscopic clipping.[4] Thus, we selected EBL, which has a low recurrent bleeding rate. The present findings suggest that partial ligation inside a diverticulum with a large orifice can be clinically tolerated and can be considered a treatment option for colonic diverticular bleeding.

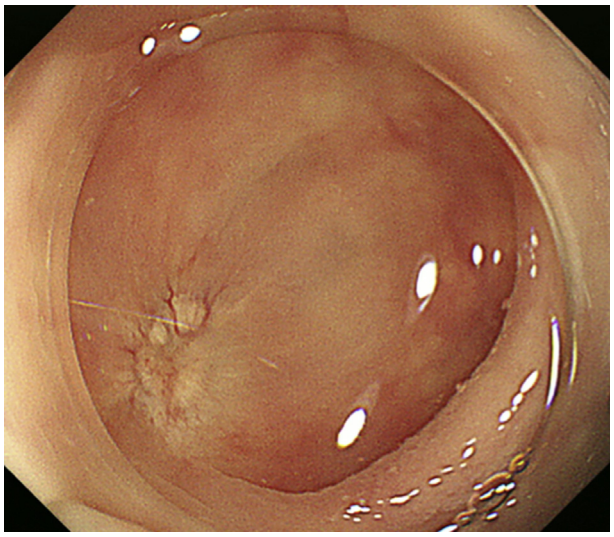

Figure 5. Endoscopic view of the lesion 3 months after the procedure, showing a postoperative scar associated with endoscopic treatment, without any history of recurrent bleeding during follow-up.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

Abbreviation: EBL, endoscopic band ligation.

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Department of Gastroenterology, Hiroshima City Asa Citizens Hospital, Hiroshima, Japan.

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