VIDEO CASE REPORT

Endoscopic fenestration for benign complete anastomotic obstruction following rectal surgery

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BACKGROUND

An anastomotic stricture is a common adverse events after colorectal cancer resection with stapled anastomosis[1,2]; however, complete anastomotic obstruction is rare. Surgical revision is a feasible treatment option for this condition, albeit with a reportedly high morbidity rate.[3,4] Few studies have reported on endoscopic puncture and balloon dilation for rectal anastomotic obstruction.[5,6] However, the safety of endoscopic procedures performed using a 1-sided approach without guidance for the correction of anastomotic obstruction is compromised. Herein, we describe a case of successful endoscopic fenestration using a novel anterograde-retrograde approach combined with the endoscopic rendezvous technique. Not only did we puncture the obstruction, we also enlarged the hole by cutting the fibrous tissue in a concentric manner using an electrosurgical knife before balloon dilation because balloon dilation for rectal anastomotic stenosis is reportedly associated with a high rate of restenosis.[7,8]

CASE

The patient was a 62-year-old man who underwent Hartmann's procedure for rectal cancer staged as pT3N0M0. After the procedure, the sigmoid stoma was closed, and anastomosis was performed in the rectum using the double-stapling technique with a circular stapler of 25-mm diameter. Ileostomy was also performed. An obstruction was observed in the anastomotic region 6 months after the procedure.

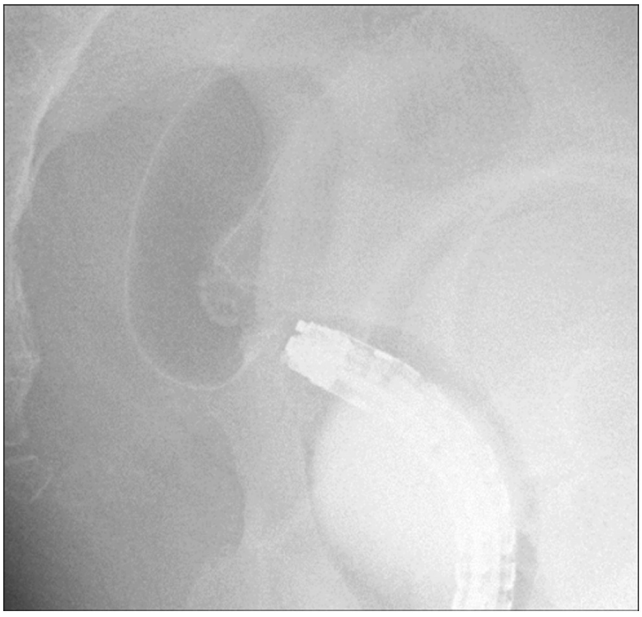

Figure 2. Fluoroscopy showing that the length of obstruction was <1 cm.

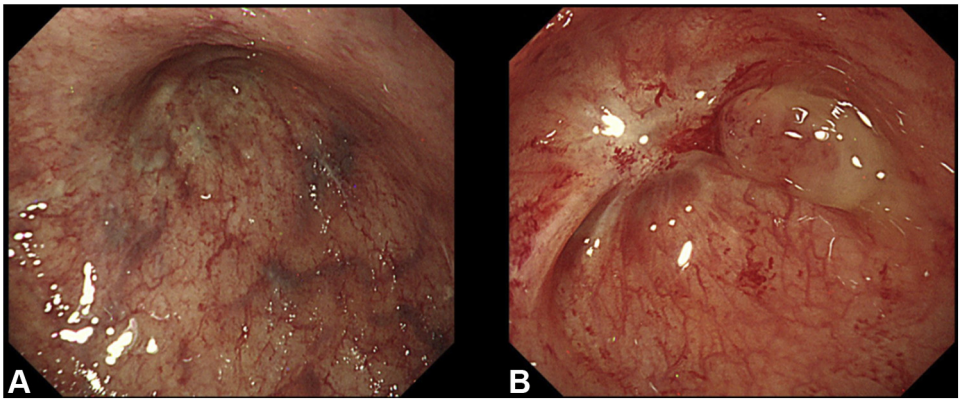

Figure 1. Endoscopic and fluoroscopic images obtained before the procedure. **A,** Endoscopic image from the anal side showing obstruction of the anastomotic region. **B,** Endoscopic image from the oral side.

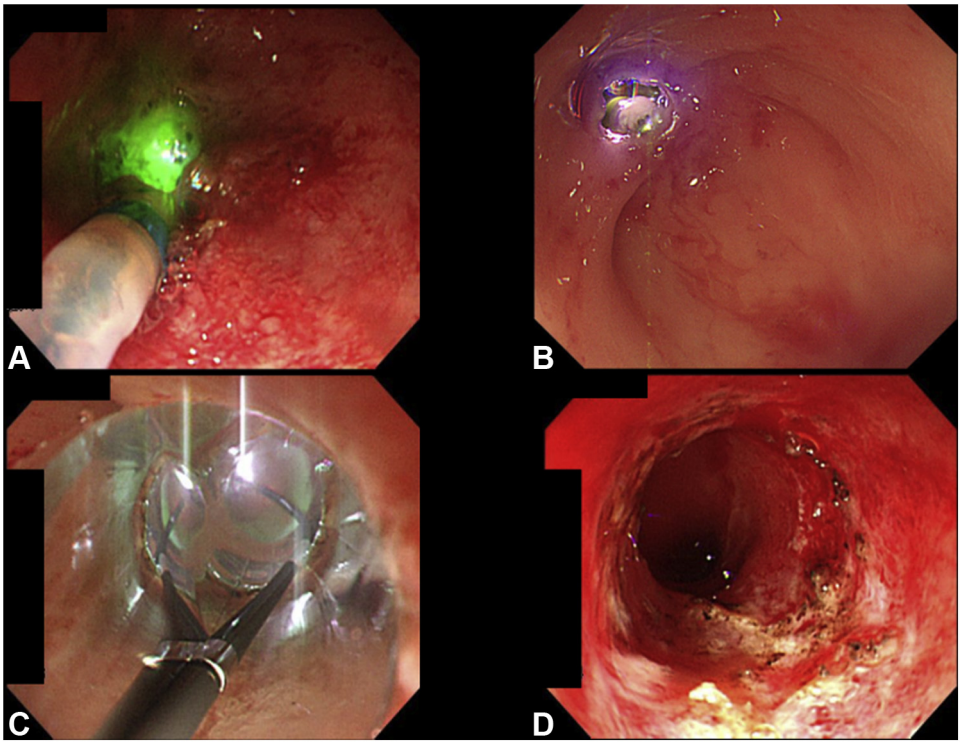

Figure 3. Endoscopic images obtained during the procedure. **A,** Fenestration of the obstruction in the anastomotic region from the anal side. **B,** Enlargement of the hole under oral-side endoscopic guidance. **C,** Balloon dilation to a diameter of 16 mm. **D,** Postoperative images.

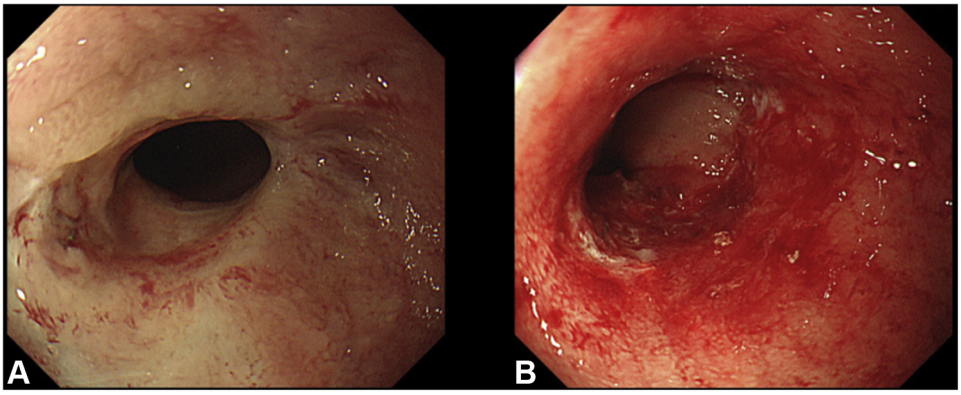

Figure 4. Endoscopic images. **A,** The anastomotic region 2 weeks after endoscopic fenestration. **B,** After additional balloon dilation and triamcinolone injection.

INITIAL APPROACH

Colonoscopies performed through the anal and ileal stoma showed complete anastomotic obstruction 8 cm from the anal verge (Fig. 1A and B). Fluoroscopy revealed an obstruction length of <1 cm (Fig. 2). Therefore, after the patient provided informed consent for endoscopic fenestration and surgical revision, respectively, endoscopic fenestration was performed.

TREATMENT

We used 2 scopes. The first was inserted from the anal aspect (ie, the retrograde approach), and the second was inserted via the ileostomy in an antegrade fashion to facilitate guidance and observation from the oral side of the obstruction. An assistant introduced a scope from the oral side to the center of the obstruction, and the surgeon performed fenestration from the anal side using an electrosurgical knife (Dual-Knife J,

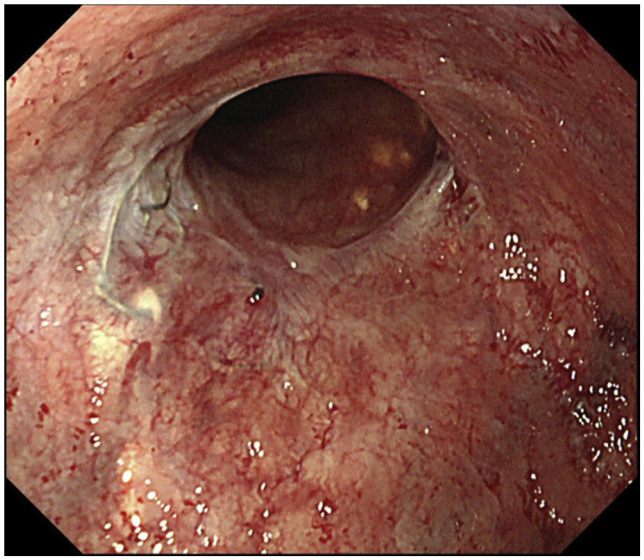

Figure 5. Endoscopic image obtained 1 month after the additional balloon dilation and triamcinolone injection showing scarring in the anastomotic region without restenosis.

KD-655Q; Olympus Optical Co, Tokyo, Japan) under the transmitted light from the oral scope as reference (Fig. 3A). After penetrating the obstruction, the hole was enlarged by cutting the fibrous tissue concentrically from the oral side under endoscopic guidance to ensure the safest possible area for incision (Fig. 3B). Subsequently, we performed balloon dilation to a diameter of 16 mm (Fig. 3C). Finally, the anastomotic region was enlarged to facilitate easy passage of the scope (Fig. 3D) (Video 1, available online at www.giejournal.org). We performed gastrografin enema and confirmed that there were no leaks.

POSTOPERATIVE COURSE

Two weeks later, we performed an additional balloon dilation and administered triamcinolone injection to prevent restenosis (Fig. 4A and B). Scarring was observed in the anastomotic region without restenosis 1 month later (Fig. 5). Ileal stoma closure was performed 4 months after endoscopic fenestration, and the patient then passed stool every day. At 12-month follow-up, no restenosis of the anastomosis was observed during colonoscopy.

CONCLUSIONS

Endoscopic fenestration under dual endoscopic view for correcting benign complete anastomotic obstruction occurring as an adverse event of rectal surgery can be an alternative to another procedure, such as an EUS-guided approach. However, this procedure should be performed with great caution in selected patients whose obstruction length is short enough that the transmitted light can be seen. It should be performed only by highly experienced endoscopists.

DISCLOSURE

All authors disclosed no financial relationships.

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