

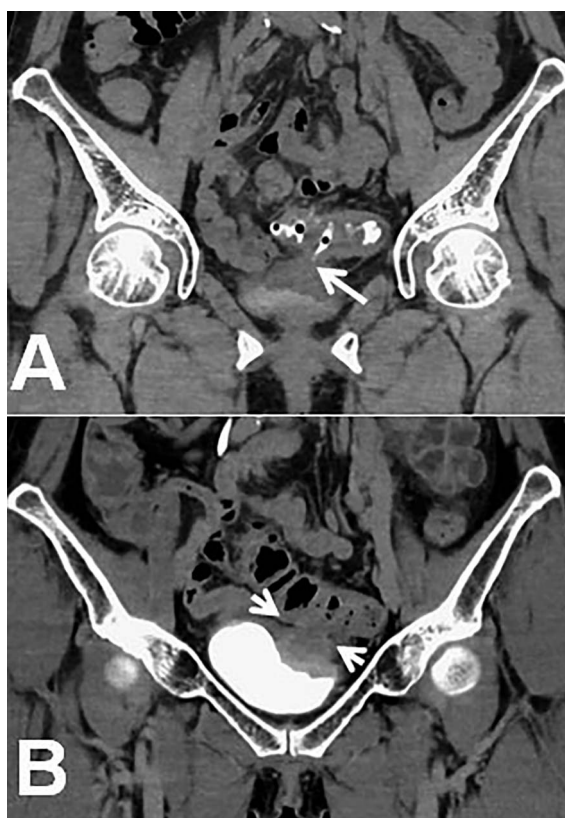
# Complete Colonic Diaphragm-Like Stricture After Ileostomy and Sigmoidectomy for Sigmoid Colon Perforation With Diverticulitis

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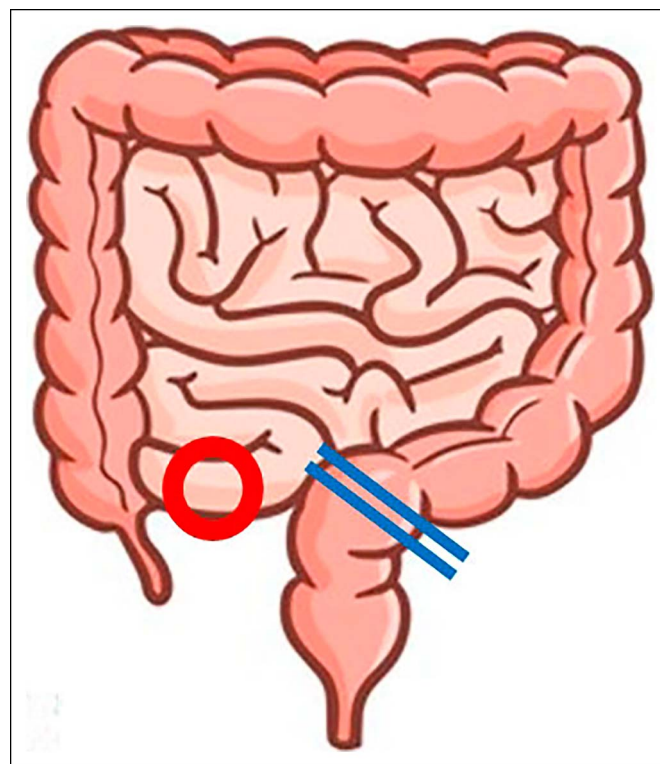
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## CASE REPORT

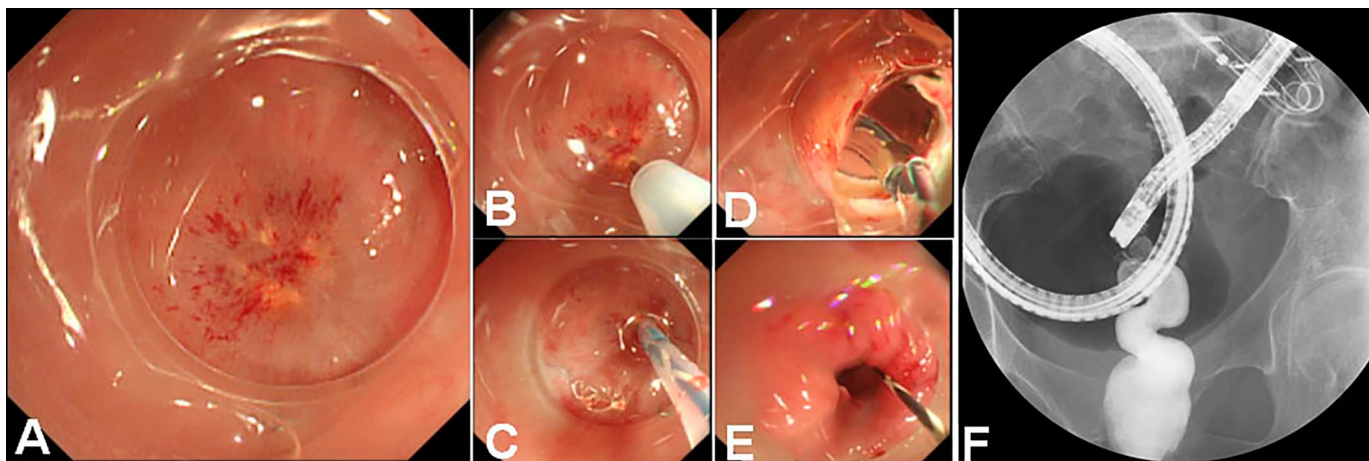
Anastomotic strictures occur in up to 22% of patients after colorectal resection, and up to 70% of them will eventually require surgical intervention.<sup>1,2</sup> Traditionally, the approach taken in such cases has included endoscopic balloon dilation, self-expandable metal stent insertion, or surgical intervention; however, balloon dilation remains the primary modality because of its efficacy and safety profile.<sup>1-3</sup>



**Figure 1.** Abdominal computed tomography showing (A and B) sigmoidovesical fistula (A; arrow) with an inflammatory fibrous tissue (B; arrowhead) because of sigmoid colon perforation with diverticulitis.



**Figure 2.** The schema of operation site of this patient. Red circle is loop ileostomy as first operation, and blue slashes are sigmoidectomy as secondary operation.



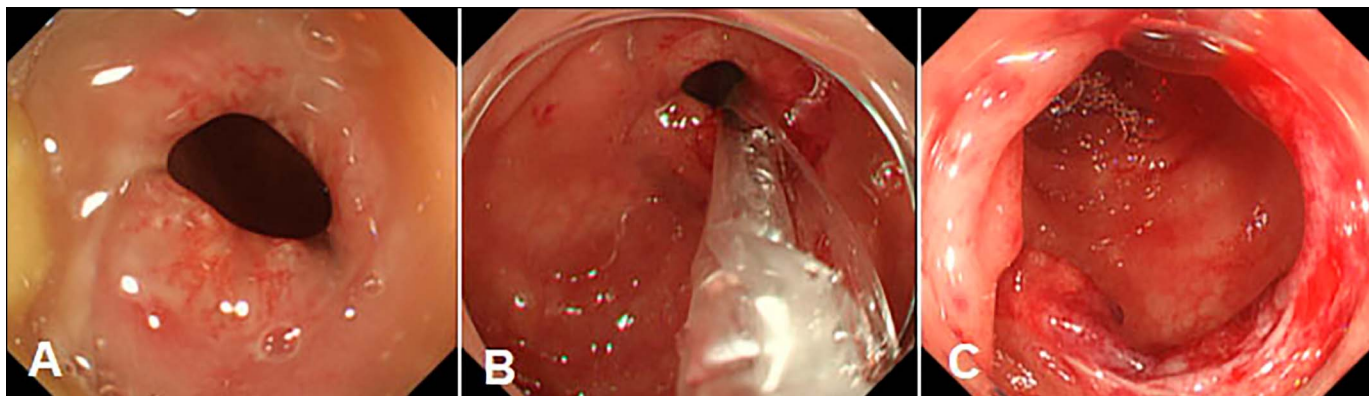
**Figure 3.** (A) Colonoscopy from both the anal and oral sides revealing a complete diaphragm-like stricture in the sigmoid colon. (B) An endoscopic injection needle was used to penetrate the contralateral oral side of the colon. (C) An endoscopic catheter was used to investigate the opposite site with a 0.025-inch guidewire. (D and E) A through-the-scope sequential balloon dilator (8 mm) was used to dilate the stricture, and (F) Amidotrizoic acid was advanced into the opposite anal side.

A 61-year-old Japanese woman underwent loop ileostomy creation and then sigmoidectomy for refractory sigmoidovesical fistula because of sigmoid colon perforation with diverticulitis (Figures 1 and 2). We performed a colonoscopy from both the anal and oral stoma sides before ileostomy closure surgery. We identified a complete diaphragm-like stricture in the sigmoid colon that was similar to the end of a blind loop during colonoscopy, and the region of complete construction was whitish and surrounded by a few xanthomas (Figure 3). Therefore, we performed an endoscopic intervention to treat the complete colonic stricture.

First, a 23-G endoscopic injection needle was used to penetrate the center of the blind lumen from the oral side, and then, a pinhole was made in the stricture (Figure 3). The contrast medium was then injected through the needle. After the position of the proximal lumen was confirmed, an endoscopic catheter was inserted into the pinhole that had been made in the stricture, with a 0.025-inch guidewire (Figure 3). Finally, a through-the-scope sequential balloon dilator (8 mm) was used to dilate the stricture, and Amidotrizoic acid was advanced into

the opposite site (Figure 3). This intervention led to positive outcomes. Eight days later, the colonic stricture improved. However, the endoscope could not pass through; therefore, we performed balloon dilatation (12.5 mm) again (Figure 4). After 2 sessions, the patient showed improvement and underwent ileostomy closure (Figure 4).

We encountered a colonic diaphragm-like stricture after performing a sigmoidectomy because of perforated colonic diverticulitis. Although anastomotic strictures of the colon are common complications after colorectal surgery, such a complete diaphragm-like membrane stenosis is rarely seen.<sup>4</sup> In this case, we considered that because the loop ileostomy did not allow the passage of stool to the anastomotic site, a complete membrane stenosis had formed. Despite improvements in technology and surgical techniques, the incidence of colorectal anastomotic complications remains stable and substantial, and the detection and treatment of anastomotic complications remain a challenge.<sup>5</sup> Our endoscopic intervention was effective in treating a diaphragm-like stricture characterized by complete circular stenosis.



**Figure 4.** Endoscopy showing (A) the colonic stricture had improved but the endoscope could not pass through the site of the stricture. (B) A balloon dilator (12.5 mm) is used to dilate the stricture. (C) After 2 sessions, the patient improved.

## DISCLOSURES

Author contributions: K. Soga wrote the manuscript and is the article guarantor. H. Mukai and N. Akamatsu edited the manuscript.

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Informed consent was obtained for this case report.

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