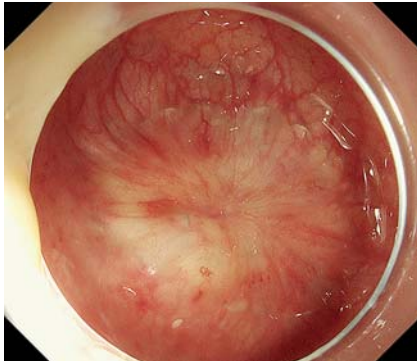
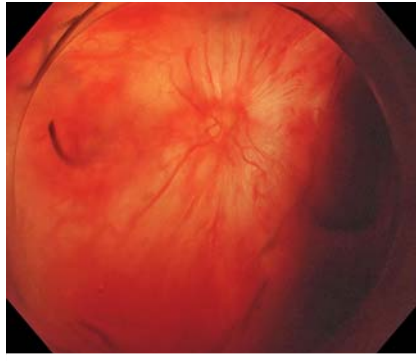


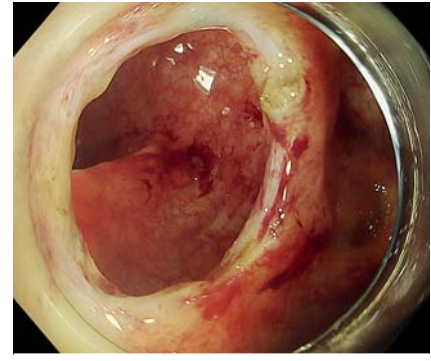
Endoscopic incision and balloon dilation using the rendezvous technique for complete anastomotic obstruction after rectal low-anterior resection



► **Fig. 1** Colonoscopic view before planned surgical stoma closure showing complete anastomotic obstruction after rectal low-anterior resection.



► **Fig. 3** Endoscopic image from the anal side of the obstruction showing evidence of transillumination from the trans-stomal endoscope across the septum, suggesting that the obstruction was membranous.



► **Fig. 5** Endoscopic view showing complete recanalization of the obstruction following endoscopic balloon dilation.



► **Fig. 2** Fluoroscopic image showing the use of two endoscopes, one passed through the distal loop ileostomy site and the other inserted transanally, to approach the obstruction site, with no evidence of flow of contrast agent sprayed from the trans-stomal endoscope to the anorectal side.



► **Fig. 4** Photograph during the procedure showing the endoscopist on the left making an incision at the obstruction site from the anal side, while the endoscopist on the right confirms the incision site from the oral side.

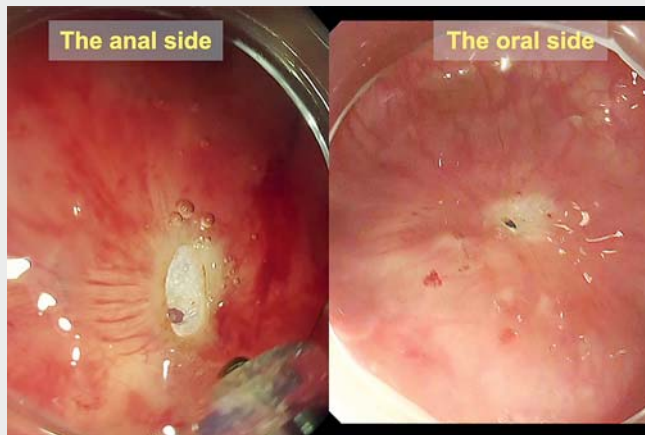
Anastomotic stenosis, a major complication after low-anterior resection, can usually be treated by endoscopic balloon dilation [1,2]. However, endoscopic management is challenging in the presence of a complete obstruction because an endoscope and other devices cannot be passed through the obstruction. Com-

bined endoscopic incision and balloon dilation has reportedly been useful for treating complete rectal anastomotic obstruction [3]. If the patient has a stoma with double orifices, a simultaneous antegrade-retrograde approach to the

obstructed anastomosis using two endoscopes may be feasible, a method known as the “rendezvous technique”[4].

A woman in her 60s underwent laparoscopic rectal low-anterior resection and a diverting loop ileostomy after previous endoscopic submucosal dissection (ESD) for early rectal cancer. Stoma closure was scheduled to be performed 7 months post-surgery, but a colonoscopy performed for preoperative evaluation revealed complete obstruction of the rectal anastomosis (► **Fig. 1**). Accordingly, endoscopic intervention was attempted for this obstruction.

An endoscope (PCF-H290TI; Olympus Co., Tokyo, Japan) with a distal attachment (D-201-11804; Olympus) was passed through the distal loop ileostomy site until it reached the oral side of the obstruction site. Simultaneously, another endoscope (PCF-H290ZI; Olympus) with a distal attachment (D-201-13404; Olympus) was inserted transanally. Although contrast agent sprayed through the trans-stomal endoscope did not flow to the anorectal side (► **Fig. 2**), transillumination from the trans-stomal endoscope could be seen across the septum (► **Fig. 3**), suggesting the obstruction was membranous. The obstruction site was incised from the anal



▶ Video 1 The rendezvous technique is used to treat a complete anastomotic obstruction after rectal low-anterior resection, with the obstruction site being incised from the anal side, while being observed with a trans-stomal endoscope.

side using an electrosurgical endoknife (ISSEN; Kaneka Co., Tokyo, Japan) while the incision site was confirmed from the oral side using the rendezvous technique (▶ **Fig. 4**). After a small aperture was created, a controlled radial expansion balloon (Boston Scientific, Marlborough, Massachusetts, USA) was inserted and endoscopic balloon dilation was performed. The obstruction was completely recanalized without adverse events (▶ **Fig. 5**; ▶ **Video 1**).

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Competing interests

Yoji Takeuchi received honoraria from Olympus.

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Bibliography

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