

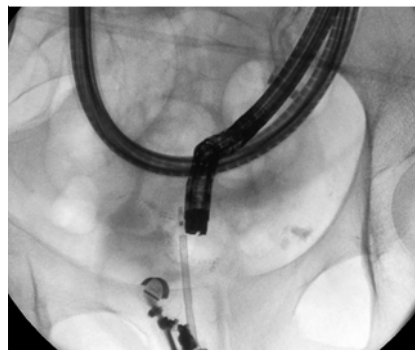
## Endoscopic sigmoidorectal reanastomosis using a dual endoscope technique: rendezvous single-balloon enteroscopy and endoscopic ultrasound

While therapeutic endoscopic ultrasound (EUS) has shown promising results as a new modality to create EUS-guided gastroenterostomy using a lumen-apposing metal stent (LAMS), little data exist on its use as a rendezvous technique. We present a case of endoscopic reanastomosis using rendezvous single-balloon enteroscopy and EUS in a patient with complete sigmoid obstruction.

A 70-year-old woman was admitted to our department for treatment of a benign sigmoid colon obstruction. In the past, she had undergone surgical treatment for pelvic organ prolapse. The procedure was complicated by mesh migration and rectal necrosis requiring several surgical interventions, including an anterior resection of the rectum with surgical colostomy formation. Because of massive postoperative adhesions and limited abdominal access, the patient was referred for potential endoscopic treatment. The rendezvous technique under fluoroscopic and endosonographic guidance was employed (▶ **Video 1**). The single-balloon enteroscope (Olympus, Japan) was advanced through the colostomy to the last part of the sigmoid colon while the echoendoscope (Pentax Medical, France; Hitachi Aloka ultrasound systems, Japan) was advanced through the anus into the rectal stump (▶ **Fig. 1**). Then, about 200 ml saline was injected into the rest of sigmoid through the single-balloon enteroscope. This allowed visualization of the fluid collection by EUS, and the optimal position was confirmed (▶ **Fig. 2**). When the distance between the walls of the rectum and sigmoid was below 10 mm, a 15-mm Axios self-expandable metal stent was implanted (▶ **Video 1**). The implantation was performed under EUS and fluoroscopy guidance (▶ **Fig. 3**, ▶ **Fig. 4**). The lumen of the implanted stent was dilated with a balloon (CRE RX biliary balloon dilatation catheter, Boston Scientific, USA). Four weeks later the stent was removed with



▶ **Video 1** Endoscopic sigmoidorectal reanastomosis using a dual endoscope technique: rendezvous single-balloon enteroscopy and endoscopic ultrasound.



▶ **Fig. 1** Rendezvous technique: the single-balloon enteroscope advanced through the colostomy to the last part of the sigmoid colon and the echoendoscope advanced through the anus into the rectal stump.

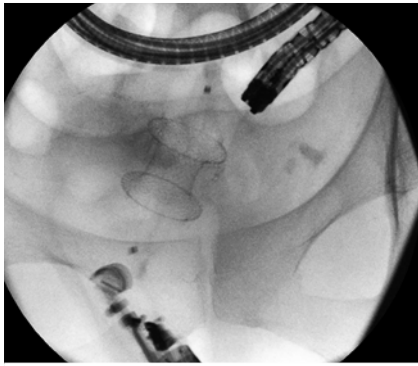


▶ **Fig. 2** Saline injection to create a fluid collection (blue arrow) for optimal visualization of the procedure site. The needle of the Axios stent system is visible (red arrow).

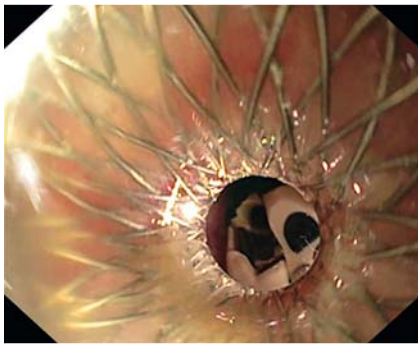
a visible lumen of the restored gastrointestinal tract. After 3 days the colostomy was closed. During the 1 year of follow-up, no obstruction was observed and the function of the gastrointestinal tract was normal. In control endoscopies, the anastomosis was observed with a stable diameter of 20 mm.

This case is interesting for several reasons. First, we show how simultaneous

utilization of two advanced endoscopic methods allows “roadmapping” of a complex intervention. Second, by filling the proximal sigmoid just above the stenosis, a practical puncture “cyst” was created to be accessed by endoscopic ultrasound. And, finally, easy placement of a metal stent was achieved using the rendezvous method.



► **Fig. 3** Placement of the Axios stent under fluoroscopic guidance.



► **Fig. 4** Echoendoscope visible from the rectum through the lumen of the Axios stent.

Based on current literature, EUS-guided procedures are associated with a lower risk of adverse events, shortened length of hospital stay, and lower general cost compared to surgical techniques. However, further studies are required to con-

firm their safety and long-term efficacy in the field of gastrointestinal tract restoration [1–3].

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### Competing interests

The authors declare that they have no conflict of interest.

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