

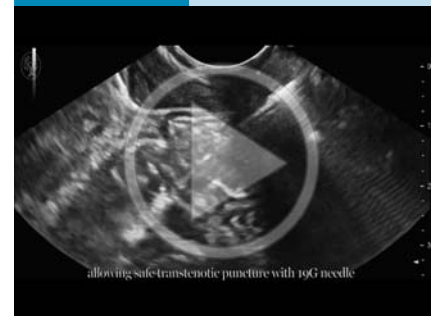
## Successful recanalization of complete anastomotic stricture using colorectal endoscopic ultrasound-guided rendezvous thus allowing stoma reversal: two cases

Anastomotic stricture frequently occurs with colorectal surgery [1]. Endoscopic dilation or stenting may be used to avoid surgical reintervention [2]. If this fails, endoscopic ultrasound (EUS)-guided stent placement has been proposed [3]. We report two cases of successful EUS-guided colorectal stricture recanalization made possible by two methods of filling the colon with water (● Fig. 1; ● Video 1). The two patients underwent resection for colorectal cancer with end-to-end colorectal anastomosis. In both patients, early anastomotic leakage was treated by surgical drainage and stoma creation (one transverse colostomy and one ileostomy), and this resulted in complete anastomotic stricture. Conventional endoscopic dila-

tion was impossible because the guidewire could not pass through the stricture. The decision was made to use EUS-guided treatment.

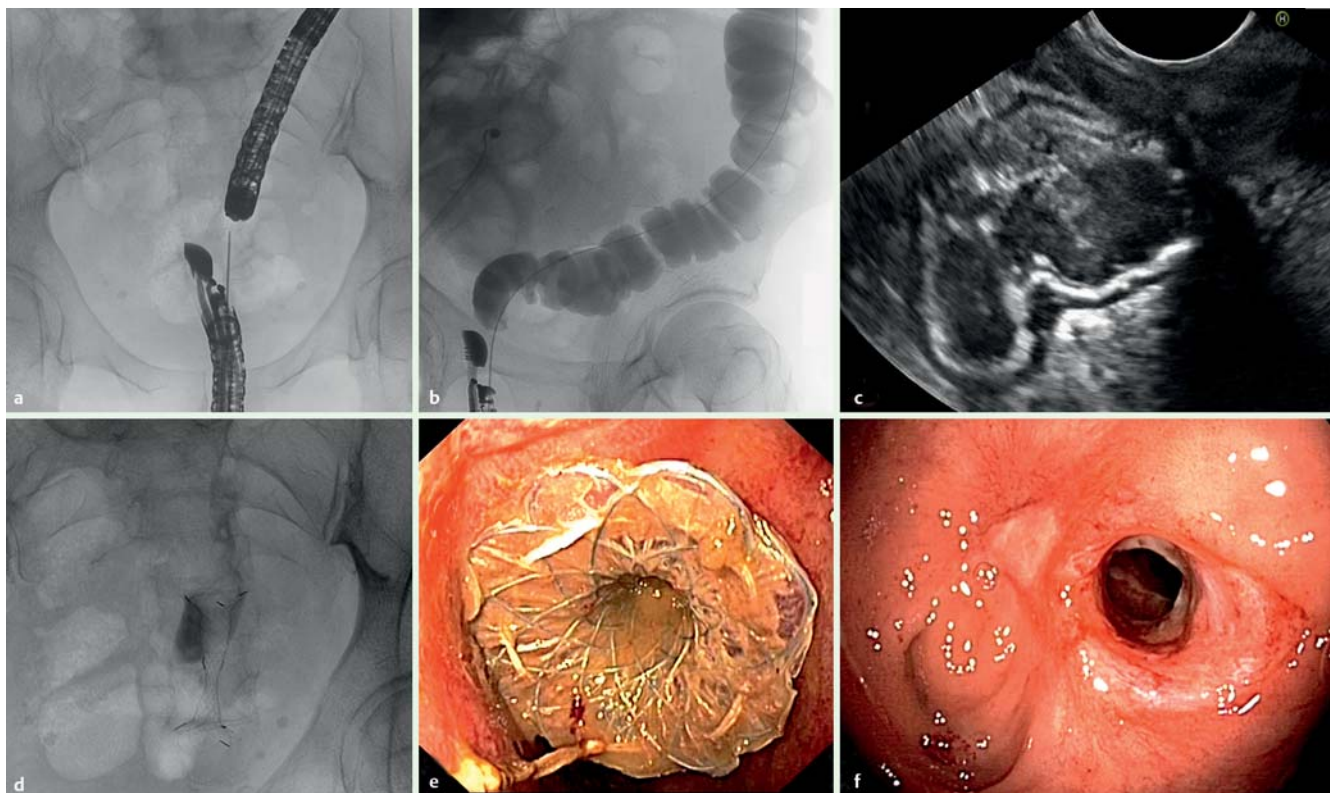
The patient with a colostomy was treated using a double antegrade endoscope-guided and retrograde EUS-guided rendezvous technique: a colonoscope was advanced through the colostomy to the proximal site of the stenosis while an echoendoscope was positioned in the rectum. The proximal colon was filled with water via the working channel of the colonoscope, providing a target for safe transtenotic puncture with a 19-gauge needle under EUS guidance (● Fig. 1a). The guidewire was advanced through the needle and grasped in the proximal colon.

### Video 1



Recanalization of complete colorectal anastomotic stricture by endoscopic ultrasound-guided rendezvous technique after filling the proximal colon with water.

The fistula tract was dilated using a 6-Fr cystotome, and then a lumen-apposing metal stent (LAMS; Nagi 10×30 mm; Tae-woong Medical, Seoul, South Korea) was deployed across the fistula. At day 10, this stent was exchanged for a larger, covered self-expandable metal stent (CCI 24×50 mm; MI-Tech, Seoul, South Korea), which was removed 8 weeks later.



**Fig. 1** Endoscopic ultrasound (EUS)-guided recanalization of colorectal anastomotic stricture using colon water-filling techniques. **a** Fluoroscopic view of the proximal colon filled with water through the colostomy via the colonoscope's working channel, and the EUS-guided puncture with a 19-gauge needle. **b** Fluoroscopic view of the proximal colon filled with contrast medium through the ileostomy, and guidewire placement. **c** EUS view of the proximal colon filled with water or contrast medium, allowing safe puncture. **d** Fluoroscopic view of the lumen-apposing metal stent (LAMS) deployed across the anastomotic stricture. **e** Endoscopic view of the LAMS immediately after placement. **f** Endoscopic view of the fistula tract after LAMS removal on day 10.

In the second patient, the colonoscope could not reach the stricture when it was advanced through the ileostomy. The colon was then filled under fluoroscopy with contrast medium via the ileostomy. This allowed visualization and transtentotic puncture of the proximal colon lumen (► **Fig. 1 b**) under endorectal EUS guidance, deployment of a LAMS, and then placement of a larger stent, using the same procedures.

In both patients the stricture resolved after stent extraction, allowing stoma reversal 3 months later. There was no recurrence of the stricture after 18 months of follow-up.

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**Competing interests:** None

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## Bibliography

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