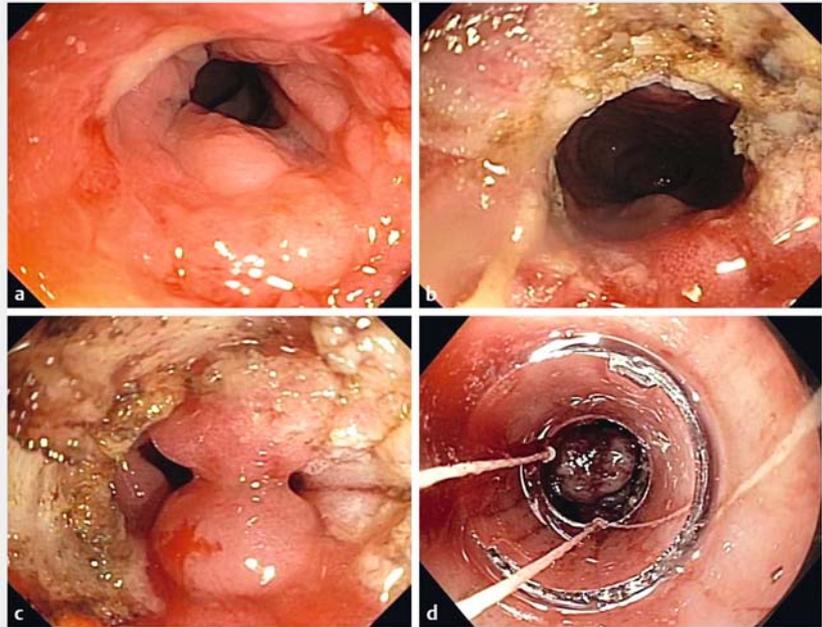


## Endoscopic treatment of concurrent colorectal anastomotic stricture and prolapse

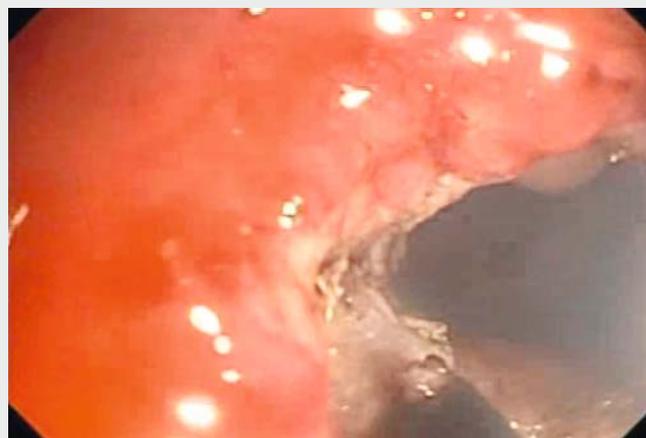
A 47-year-old man presented to our Interventional IBD Unit with dyschezia, bloating, fecal incontinence, fecal urgency, and frequent bowel movements. He had been diagnosed with stage IV rectosigmoid cancer (T4aN0MX) in 2014. He underwent palliative low anterior resection of the rectum and sigmoid with end colostomy, resection of colostomy, Hartmann reversal operation with colorectal anastomosis. He had been receiving capecitabine since 2017.

Colonoscopy 6 months prior to presentation showed a stricture at the colorectal anastomosis, 5 cm proximal to the anus. Repeat colonoscopy again identified a severe stricture, 2 cm in length, at the colorectal anastomosis, which the gastroscoposcope could not traverse (► **Fig. 1 a**). The stricture was successfully treated with endoscopic needle-knife stricturotomy during endoscopic retrograde cholangiopancreatography (Monopolar receptacle, mode: ENDO CUT 1, Effect 2, Upmax 550Vp, cut duration 2, cut interval 3, Coag mode off; Erbe Elektromedizin GmbH, Tübingen, Germany) (► **Fig. 1 b**, ► **Video 1**).

After orienting the strictured area to front view, needle-knife stricturotomy was performed in a radial fashion, targeting the size of the patent anastomosis to 2 cm in diameter. The depth of the cut was largely empiric. In the past, we have attempted to use endoscopic ultrasound guidance. However, ischemic stricture typically does not have a normal 5-layer structure of bowel wall. The efficacy and risk (perforation) of needle-knife stricturotomy has to be carefully balanced. The key concept is to avoid perforation by performing a shallow stricturotomy. A cut, 2 cm deep, may be sufficient, and the procedure often needs to be repeated. The alternative is balloon dilation, which is not as effective as needle-knife stricturotomy [1], or surgery, which is more invasive than endoscopic therapy and carries a risk of stricture recurrence.



► **Fig. 1** Endoscopic treatment of concurrent colorectal anastomotic stricture and prolapse. **a** A severe stricture was seen at the colorectal anastomosis, 2 cm in length and 5 cm from the anus, which the gastroscoposcope could not traverse. **b** The stricture was successfully treated with needle-knife stricturotomy. **c** A mucosal prolapse blocked the anastomosis. **d** The mucosal prolapse was treated with banding ligation ( $\times 2$ ).



► **Video 1** Endoscopic treatment of concurrent colorectal anastomotic stricture and prolapse.

Following needle-knife stricturotomy, the scope was passed without resistance. However, we then found a mucosal prolapse from prestenotic bowel blocking the anastomosis (► Fig. 1 c). The mucosal prolapse was treated with banding ligation (×2) (► Fig. 1 d).

The patient tolerated the procedure well without any complications. The procedure took about 25 minutes to complete. He was discharged home after observation for 30 minutes. He was followed up 4 weeks postprocedure, and reported resolution of symptoms and much improved quality of life.

Endoscopic treatment of concurrent colorectal anastomosis stricture and prolapse can be challenging. Reported treatments for colorectal anastomosis strictures include radiographically guided dilation by a modified Seldinger technique and endoscopic balloon dilation [2]. Up to 28% of patients require a surgical correction resulting into permanent colostomy [3].

This case report illustrates a unique endoscopic technique in which the colorectal anastomosis stricture was successfully treated with needle-knife stricturotomy and the prolapse was subsequently banded. This is the first case report in the literature to describe the endoscopic procedure to treat colorectal anastomo-

sis stricture and prolapse simultaneously.

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### Competing interests

None

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