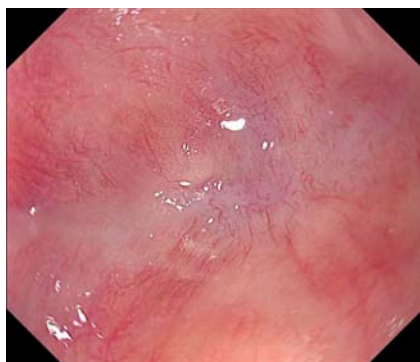


Gel immersion echoendoscope-guided puncture before radial incision and cutting for complete rectal anastomotic obstruction

OPEN
ACCESS

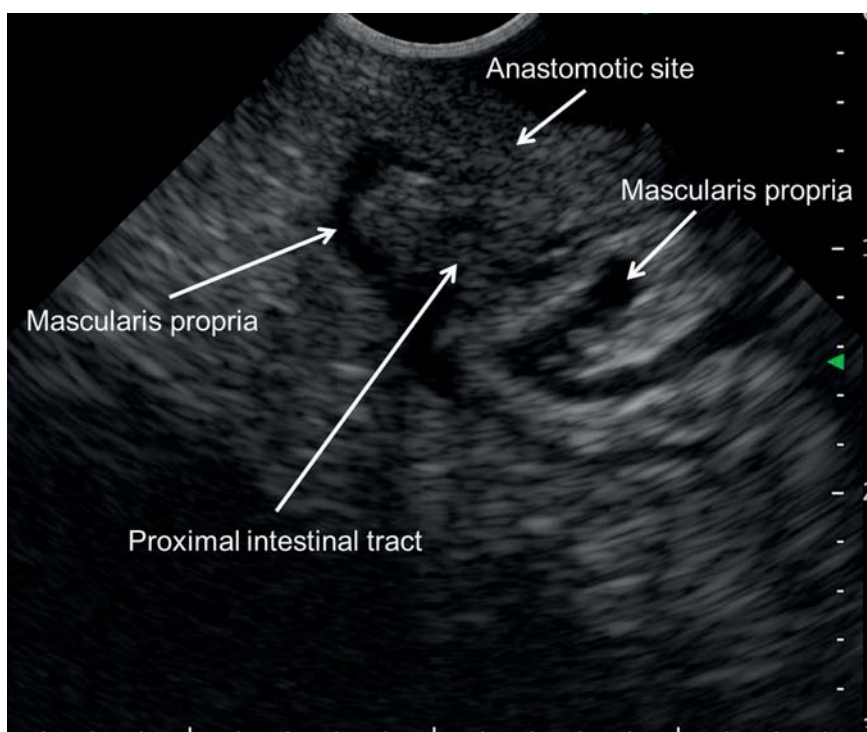


► **Fig. 1** The site of the lower rectal anastomosis at 2 cm from the anal verge.

Benign anastomotic complete obstruction rarely occurs after lower rectal cancer surgery [1]. The radial incision and cutting (RIC) method has been reported for complete rectal anastomotic obstruction [2]; however, it is important to penetrate the distal and proximal sides of the intestinal tract safely and accurately before RIC. A forward-viewing echoendoscope is useful for recanalizing post-operative biliary anastomotic atresia in endosonography-guided biliary drainage because it allows a more vertical approach and shortens the puncture distance [3, 4]. Furthermore, gel-immersion techniques have been reported for endoscopic procedures [5].

A 59-year-old man underwent intersphincteric resection and temporary ileostomy for lower rectal cancer. Ileostomy closure was scheduled for 12 months after the surgery. Endoscopic imaging revealed complete rectal anastomotic obstruction 2 cm from the anal verge (► **Fig. 1**). We attempted an endoscopic intervention to avoid a surgical procedure.

A forward-viewing convex echoendoscope (TGF-UCT260J; Olympus Medical Systems, Tokyo, Japan) and immersed gel (VISCOCLEAR; Otsuka Pharmaceutical



► **Fig. 2** Gel immersion endoscopic ultrasound view clearly showed the proximal intestinal tract.



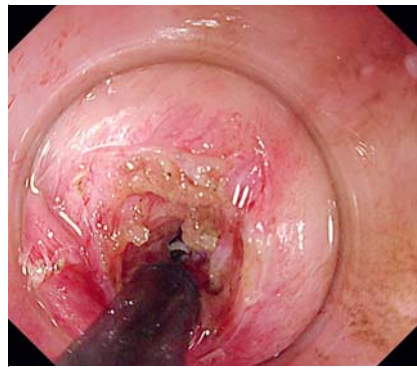
► **Video 1** Gel immersion forward-viewing echoendoscope-guided puncture before radial incision and cutting with endoscopic balloon dilation for complete rectal anastomotic obstruction.



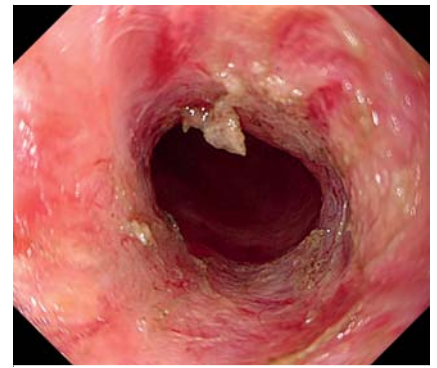
► **Fig. 3** Fluoroscopic view of endoscopic dilation using a 4-mm biliary dilation balloon catheter until the notch disappeared.

Factory, Tokushima, Japan) was inserted through the anus. Gel immersion provided a clear endoscopic ultrasound view and helped identify the puncture line (► **Fig. 2**). We inserted a 19-gauge needle (EZ Shot 3 plus; Olympus Medical Systems) toward the proximal intestinal tract (► **Video 1**). We confirmed patency of the proximal lumen using contrast enhancement and placed a 0.025-inch guidewire (VisiGlide 2; Olympus Medical Systems). Dilation was performed using a 4-mm biliary dilation balloon catheter (REN; Kaneka Medix Corp., Osaka, Japan) until the notch disappeared (► **Fig. 3**), and performed RIC using an ITknife nano (KD-611L; Olympus Medical Systems) (► **Fig. 4**). After the procedure, an endoscope with a 9.9mm diameter could penetrate the anastomotic site (► **Fig. 5**). Forward-viewing echoendoscope-guided puncture using gel immersion before RIC with endoscopic balloon dilation is a safe and effective procedure for resolving anastomotic obstructions after lower rectal surgery.

Endoscopy_UCTN_Code_TTT_1AS_2AZ



► **Fig. 4** The radial incision and cutting method using an ITknife nano (KD-611L; Olympus Medical Systems, Tokyo, Japan).



► **Fig. 5** After the radial incision and cutting procedure, an endoscope with a 9.9mm diameter could pass through the anastomotic site.

Competing interests

The authors declare that they have no conflict of interest.

The authors

Shozo Osera¹, Takeshi Hisa¹, Gaku Akiyama², Akiharu Kudo¹, Takahiro Yamada¹, Hideki Fukushima¹, Akihisa Tomori¹

- 1 Department of Gastroenterology, Saku Central Hospital Advanced Care Center, Nagano, Japan
- 2 Department of Colorectal Surgery, Saku Central Hospital Advanced Care Center, Nagano, Japan

Corresponding author

Shozo Osera, MD, PhD

Department of Gastroenterology, Saku Central Hospital Advanced Care Center, 3400-28, Nakagomi, Saku, Nagano 385-0051, Japan
shou0122@hotmail.com

References

- [1] Lefevre JH, Bretagnol F, Maggiori L et al. Redo surgery for failed colorectal or colo-anal anastomosis: a valuable surgical challenge. *Surgery* 2011; 149: 65–71
- [2] Osera S, Akiyama G, Tomori A et al. Successful radial incision and cutting for complete anastomotic obstruction after inter-

sphincteric resection – a video vignette. *Colorectal Dis* 2023; 25: 339

- [3] Shimizu T, Sato K, Abe T et al. Forward-viewing echoendoscope is useful for recanalization of postoperative biliary anastomotic atresia in endosonography-guided biliary drainage. *Endoscopy* 2020; 52: E437–E438
- [4] Hara K, Yamao K, Hijioka S et al. Prospective clinical study of endoscopic ultrasound-guided choledochoduodenostomy with direct metallic stent placement using a forward-viewing echoendoscope. *Endoscopy* 2013; 45: 392–396
- [5] Ishii T, Hayashi T, Takahashi K et al. Forward-viewing echoendoscope plus gel immersion technique in a patient with Billroth II reconstruction. *Endoscopy* 2022; 54: E867–E868

Bibliography

Endoscopy 2023; 55: E852–E853

DOI 10.1055/a-2106-1744

ISSN 0013-726X

© 2023. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution License, permitting unrestricted use, distribution, and reproduction so long as the original work is properly cited.

(<https://creativecommons.org/licenses/by/4.0/>)

Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

