Endoscopic treatment using a knife to correct complete anastomotic obstruction following rectal cancer surgery

Anastomotic stenosis is a well-recognized and troublesome complication following colorectal surgery. Conventionally, cases of complete obstruction have been treated conservatively with a permanent stoma, or have been managed by reoperation with its accompanying risks of morbidity \[1 - 4\]. We report successful endoscopic treatment using a knife in a patient with complete anastomotic obstruction following rectal surgery.

A 77-year-old woman underwent laparoscopic surgery for rectal cancer, with a low anterior resection, colorectal anastomosis, and a diverting loop ileostomy to protect the anastomosis. Four months after the operation, digital rectal examination revealed anastomotic obstruction. Colonoscopy showed complete closure of the anastomotic site at 6 cm from the anal verge (\(\text{Fig. 1}\)). We attempted endoscopic management of the obstructed anastomotic site while preparing for surgery should it become necessary (\(\text{Video 1}\)).

First, a small incision was carefully made to create a hole at the center of the obstructed anastomosis, using the DualKnife (KD-650L; Olympus, Tokyo, Japan) in the Endocut-Q mode with effect 2 (VIO 300D; Erbe Elektromedizin GmbH, Tübingen, Germany) (\(\text{Fig. 2}\)). An insulation-tipped knife (ITknife2, KD-611L; Olympus) was then used to enlarge the hole. Following this, an ultrathin endoscope with a 5.0 mm diameter (GIF-XP260; Olympus) was inserted through the created hole to confirm continuity with the proximal colon. Further circumferential excision with the ITknife2 proceeded along the inner border of the surgical staples (\(\text{Fig. 3}\)). At the end of the procedure, the colonoscope was able to pass freely through the widened hole (\(\text{Fig. 4}\)). There were no complications, such as bleeding or perforation, either during or after the procedure. The ileostomy was closed 2 months later, and there was no disturbance in the patient’s stool passage. We were not able to achieve a “dual approach” using colonoscopy, reaching the anastomosis site through the ileostomy, because the bowel was too long. Although fluoroscopy can be helpful for establishing continuity with the proximal colon, direct observation using an ultrathin endoscope through a small opening might be another feasible method. We suggest that an endoscopic approach using a knife could be considered for the management of anastomotic obstruction following surgery.

Endoscopy_UCTN_Code_TTT_1AT_2AZ

Competing interests: None

Soon Man Yoon\(^1\), Taek-Gu Lee\(^2\), Joung Ho Han\(^1\), Hee Bok Chae\(^1\), Seon Mee Park\(^1\), Sei Jin Youn\(^1\), Sang-Jeon Lee\(^2\)

\[^1\] Department of Internal Medicine, Chungbuk National University Hospital, Chungbuk National University College of Medicine, Cheongju, Korea
\[^2\] Department of Surgery, Chungbuk National University Hospital, Chungbuk National University College of Medicine, Cheongju, Korea

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DOI http://dx.doi.org/10.1055/s-0034-1364949
Endoscopy 2014; 46: E145–E146
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

Corresponding author
Sang-Jeon Lee, MD, PhD
Department of Surgery
Chungbuk National University Hospital
Chungbuk National University College of Medicine
776, 1 Sunhawn-ro
Heungdeok-gu
Cheongju 361-711
Korea
Fax: +82-43-2666037
colon@chungbuk.ac.kr