

CASE REPORT

대장절제술 후 발생한 대장 협착에 전기 소작술을 이용한 치료 2예

권장훈, 한군희, 김문호, 장우성, 윤정호, 송윤아, 박종규, 천갑진

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Two Cases of Electrocautery Incision Therapy Using an Insulated-tip Knife for Treatment of Symptomatic Benign Short-segment Colonic Stenosis Following Colonic Resection

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Anastomotic stenosis of the colon is not an uncommon finding; however, its frequency varies from one study to another. Traditionally, postoperative colonic stenosis is managed surgically. However, endoscopic therapy has recently become the preferred treatment modality over traditional surgery. Good short-term success has been achieved with use of endoscopic balloon dilation; however, restenosis may occur over time in 14% to 25% of patients. The current report showed the effectiveness and usefulness of an insulated-tip knife (IT-knife) for electrocautery therapy of a patient with symptomatic anastomotic colonic stenosis. (*Korean J Gastroenterol* 2014;64:164-167)

Key Words: Colon; Stenosis; Electrocautery

INTRODUCTION

According to recently published series, postoperative colonic stenosis can occur in 5% to 46% of patients.¹ Endoscopic therapy with balloon dilation and temporary stents offers a minimally invasive method for surgical revision of benign anastomotic colonic stenoses.² Balloon dilation of stenotic segments of the gastrointestinal tract has been proven to be a convenient and less invasive treatment method for most patients, however, repeated dilation may be required.^{2,3} Complications associated with endoscopic therapy, including perforation, bleeding, technical failure, and stent migration, have been reported. A recent series suggested a long-term success rate of 70%, with a complication rate as

low as 2%.³ In addition, a few cases of anastomotic colonic stenosis treated by electrocautery therapy have been reported.^{4,5} In the current case report, we describe two cases of post-operative symptomatic anastomotic stenosis successfully treated by electrocautery incision therapy using an insulated-tip knife (IT-knife).

CASE REPORT

1. Case 1

A 66-year-old man with rectosigmoid colon cancer underwent low anterior resection. Seven months later, he complained of severe constipation, and at eight months, he presented with recurrent abdominal pain. Simple abdominal ra-

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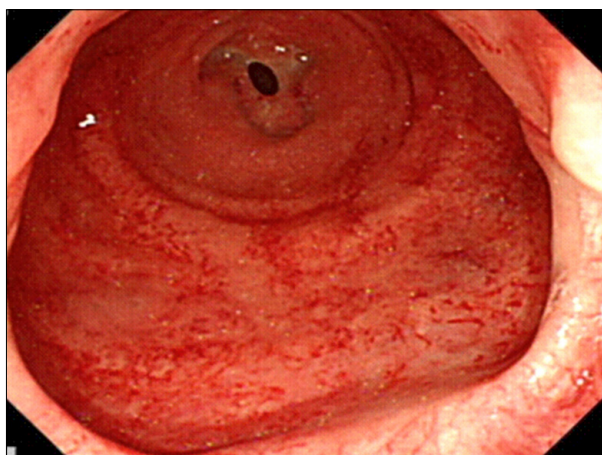


Fig. 1. Case 1: Endoscopic appearance of colorectal stenosis.

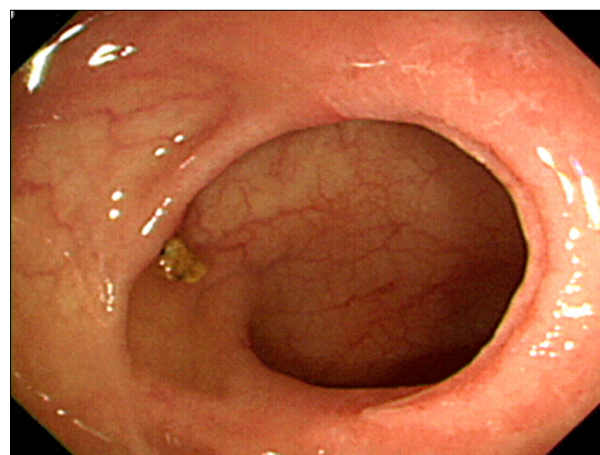


Fig. 3. Case 1: An endoscopic finding at 12 months after dilatation.

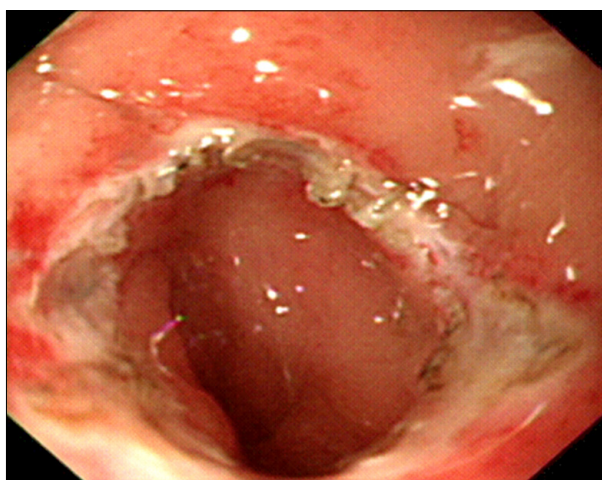


Fig. 2. Case 1: Radial incision of the stenosis using an insulated-tip knife.

diograph showed gaseous distension of the colon. Sigmoidoscopy showed a severe stenosis on the anastomotic site, which could not be penetrated with the sigmoidoscope (Fig. 1). CT image showed the presence of less than 1 cm length of anastomotic stenosis without evidence of tumor recurrence. After the patient provided written informed consent, we decided to perform electrocautery incision therapy using an IT-knife for dilation of the stenosis. A 12-mm diameter colonoscope (CV-260 SC; Olympus Optical Co, Tokyo, Japan) with a 3.2-mm operative channel was used for management of the colonic strictures. The IT-knife (KD-612U; Olympus), with a 1.7-mm diameter tip and a needle with a 3.5-mm length, was positioned under direct visualization. A bimodal electrocautery current was supplied by an ERBE instrument (300D; ERBE Elektromedizin GmbH, Tübingen, Germany) set on a

cutting wave (Endo Cut Q, Effect 2, Duration 4). Radial incisions were made using the IT-knife (Fig. 2). The length and depth of the incision were gauged by the endoscopist according to the length of the stricture and its caliber, which were verified in advance by CT and colonoscopy. Damage to the colon muscular layer during radial incision could result in increased risk of perforation; therefore, the depth of the incision, estimated by comparison with the known width of the open biopsy forceps, was not deeper than the muscular layer. The electrocautery therapy lasted approximately 5-10 minutes. There was no occurrence of immediate or delayed procedure-related complication such as bleeding or perforation. After an 18-month follow-up period, there was no evidence of re-stenosis (Fig. 3).

2. Case 2

A 56-year-old man with rectal cancer underwent a low anterior resection. Eight months later, the patient complained of intermittent abdominal pain and constipation that progressively worsened; however, simple radiography showed no specific findings. Colonoscopy showed a narrow diameter at the anastomotic site, which could not be penetrated by the colonoscope. Thus, a gastroduodenoscope was passed through the anastomosis site and a short-segment anastomotic stenosis was revealed (Fig. 4). Therefore, we achieved dilation of the stenosis with electrocautery incision therapy using an IT-knife (KD-612U; Olympus) following the same procedure used in case one. After the incision, the endoscope passed easily through the stenosis (Fig. 5). There was no immediate or delayed occurrence of procedure-related compli-

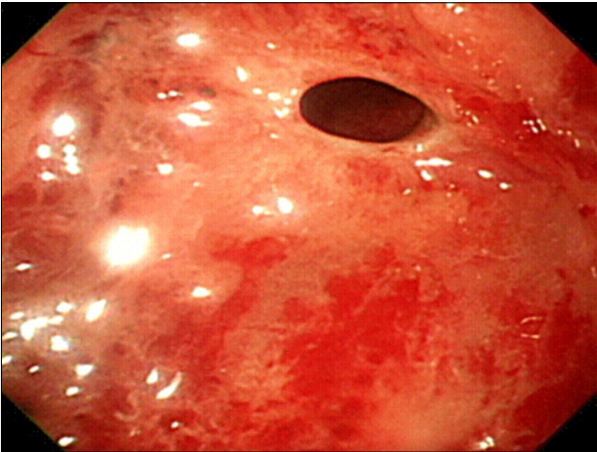


Fig. 4. Case 2: Endoscopic appearance of colorectal stenosis.

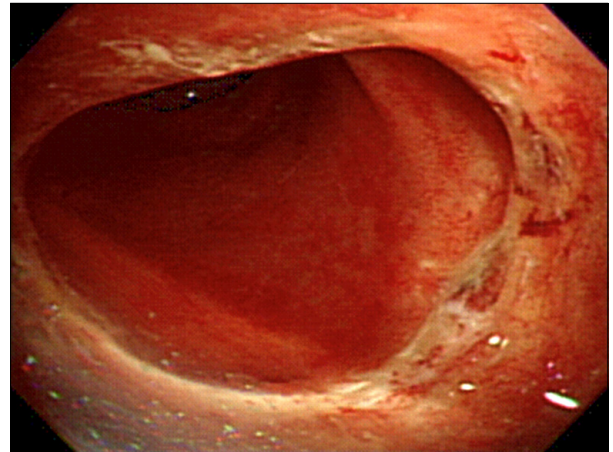


Fig. 6. Case 2: An endoscopic finding at seven months after dilatation.

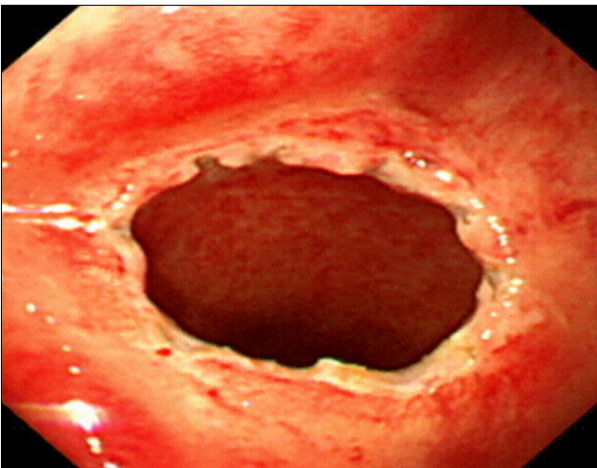


Fig. 5. Case 2: Radial incision of the stenosis using an insulated-tip knife.

ation. No evidence of restenosis was observed at nine-month follow-up (Fig. 6).

DISCUSSION

Postoperative colonic stenosis usually develops within six to 12 months after surgery. However, stenosis can develop as early as three months or as late as a decade or more after surgery.^{5,6} Benign stenoses are usually a result of the proliferation of fibroblasts and cross-linking of collagen fibers.^{6,7} Endoscopic dilation using the Savary bougies or a balloon catheter has become the preferred first-intention treatment for postoperative colonic stenosis.² Although balloon dilation is a relatively safe technique, it may be complicated by bleeding and perforation in less than 5% of patients.⁷⁻⁹ However,

in some cases, the anastomotic stenosis site is too hard for dilation by balloon, and excessive pressure is needed in order to dilate such a hard fibrotic anastomotic stenosis site. In such cases, the risk of complication, such as bleeding or perforation, increases considerably. Thus, we suggest that electrocautery incision therapy using an IT-knife could be a suitable alternative method. Benign short-segment stricture on a portion of the digestive tract also appears to be a suitable indication for electrocautery therapy. Balloon dilation usually causes a mucosal tear in one direction,^{10,11} whereas electrocautery therapy creates a radial incision on stenotic mucosal tissue. Thus, the latter therapy using an IT-knife can achieve an effective and safe dilation in several directions without excessive tearing in one direction. During a long-term follow-up period, we have not observed recurrence of the stenoses in either case or any immediate or delayed procedure-related complications after electrocautery incision therapy using an IT-knife. We assume that the lower incidence of restenosis achieved by use of the IT-knife incision dilation is attributable to the radial incision of mucosal fibrotic tissue at the stenosis site rather than balloon dilation by compression of mucosal fibrotic tissue. Because there are no reports indicating whether the IT-knife or the isolated-tip needle-knife papillotome (Iso-tome knife) is the best instrument for the procedure, both knives could be used in electrocautery incision therapy. The tip of the IT-knife consists of a ceramic sphere; therefore, the possibility of perforation during electrocautery therapy using the IT-knife seems much lower than with the Iso-tome knife. In the cases reported herein, we performed

the procedure using an IT-knife. Because of its efficacy, safety, and lower cost compared to other procedures, we consider that electrocautery incision therapy using an IT-knife should be the first choice of treatment for symptomatic short-segment postoperative colorectal stenosis.

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