

Case Report

Case Report of a Crohn's Disease (CD) Patient with Anastomotic Stenosis Unrelated to Postoperative Recurrence of CD

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Abstract: Crohn's disease (CD) is an idiopathic inflammatory bowel disease that can involve any part of the gastrointestinal tract. It frequently involves the ileum, colon, and anorectum. A 66-year-old man with CD had undergone a partial intestinal resection of the ileum for CD 27 years previously, and had been hospitalized several times, including two months prior to referral. The patient was admitted to our hospital with abdominal pain and distension. A computed tomography (CT) scan demonstrated an anastomotic stenosis with active inflammation and proximal intestinal extension. Colonoscopic examination revealed no abnormalities in the colon or rectum. A contrast Gastrografin enema revealed a stenosis in the ileum and a tight stricture at 3 cm with inflammation. We performed an ileocecal resection for an anastomotic stenosis due to possible recurrence of CD. Pathological examination showed no evidence of CD activity at the anastomotic region, indicating no recurrence of CD.

Key words: anastomotic stenosis, Crohn's disease, recurrence

Introduction

Postoperative recurrence of Crohn's disease is common, with endoscopically evident disease occurring in 70–90% of patients within 12 months of surgery^{1,2)}. Approximately 50% of patients will have a clinical recurrence of Crohn's disease within five years of surgery^{1,3,4)}. Typically, by the time symptoms manifest, the disease has progressed to the point where secondary complications have developed, and often requires additional surgery. Up to 70% of patients require an additional surgical resection within 10 years of their initial surgery^{5,6)}. We report here a case of anastomotic stenosis unrelated to recurrent CD activity 27 years after initial surgery for CD.

Case Report

A 66-year-old male with CD was referred to our hospital. The patient had undergone a partial intestinal resection of the ileum for CD 27 years previously, and had been hospitalized several times, including two months prior to referral. The patient was hospitalized in our hospital with abdominal pain and distension. According to an endoscopic examination performed at another hospital, these symptoms were caused by an ileal anastomotic stenosis. His daily medications included an elemental diet (Elental 1200 ml daily), Prednisolone (5 mg daily), and Mesalazine (3,000 mg daily). Upon physical examination, his body mass index was 17.6 kg/m², and his abdomen was minimally tender to palpation. Laboratory studies were notable only for an AST result of 61 U/l (normal range: 13–33 U/l) and an ALT result of 87 U/l (normal range: 8–42 U/l).

A colonoscopic examination revealed no abnormalities in the colon or rectum, and double-balloon enteroscopy could not detect an anastomosis (Fig. 1). A CT scan showed the beak sign at the obstructed site (arrow) and proximal intestinal extension (Fig. 2). A contrast Gastrografin enema revealed a stenosis in the ileum and a tight stricture at 3 cm with inflammation (Fig. 3). A conservative surgical option was preferred to avoid an extensive bowel resection. Given the chronicity and severity of the patient's symptoms and the presence of an obstruction that would decrease the efficacy of medical management, we proceeded with operative intervention. The patient underwent an ileocecal resection and hand-sewn anastomotic suture. Intra-operatively, the small bowel was slightly inflamed and edematous. The cecum and colon were also slightly inflamed, but otherwise normal. The omentum and ileum had adhered densely to the anastomotic region. The resected ileum was markedly thickened and stiff at the anastomotic region. Examination of the surgical specimen showed a stenosis at the anastomotic region (Fig. 4). Pathological examination revealed no evidence of CD recurrence at the anastomotic region, but did reveal the presence of active transmural inflammation with granulomatous lesions in the cecum (Fig. 5). The patient was discharged from hospital on postoperative day 12 as the postoperative course was uneventful with clinical and biological parameters of inflammation.

Discussion

Inflammation may cause irreversible changes in intestinal architecture, and the development of fibrotic strictures may lead to intestinal obstruction, which requires surgical intervention in 70% of patients⁷⁾. The underlying pathophysiological processes are still poorly understood, especially the recurrence of intestinal strictures after resection. The management of symptomatic Crohn's strictures is challenging, because of the poor response to medical therapy and the high rate of recurrence after surgery⁷⁾, with a reoperation rate of 3–6% per year^{8,9)}. Repeat surgery is necessary in 33–82%²⁾ of patients within 15 years of initial surgery, the highest rate being in patients who have undergone a resection with a concomi-

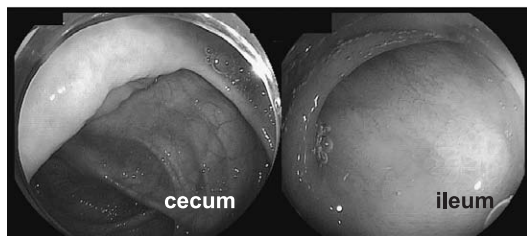


Fig. 1. Colonoscopic examination
A colonoscopic examination revealed normal findings of colon and rectum, which could not be reached due to anastomosis with the double-balloon enteroscopy.

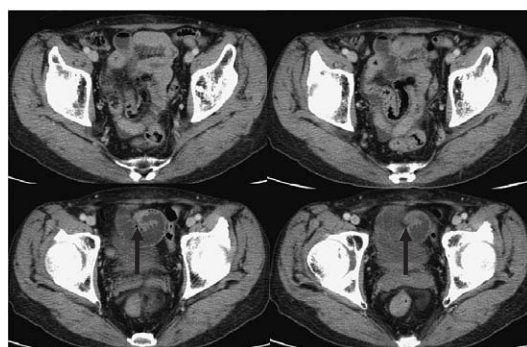


Fig. 2. Computed tomography
CT scan demonstrated the beak sign at the obstructed site (arrow) and proximal intestinal extension.



Fig. 3. Contrast gastrografen enema
A contrast gastrografen enema revealed a stenosis in the ileum and a tight stricture at 3 cm with an inflammatory.

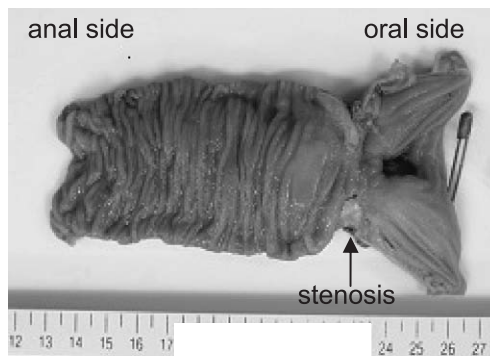


Fig. 4. Surgical specimen
Surgical specimen showed a stenosis at the anastomotic region (arrow).

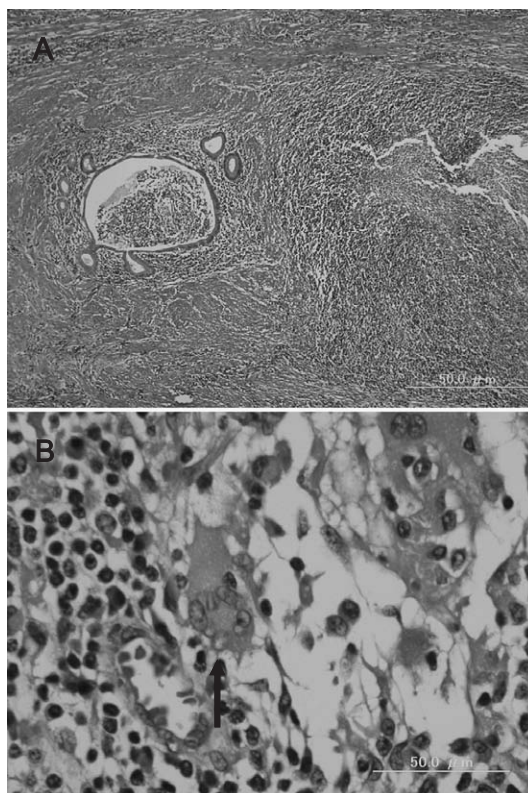


Fig. 5. Pathological examination
Pathological examination revealed no CD recurrence at anastomotic region, and the presence of an active transmural inflammation (A) with granulomatous lesions (B, arrow) in cecum.

tant ileocolonic anastomosis¹⁰). Patients under 30 years of age have a significantly higher cumulative recurrence rate after a 5-year follow-up than patients over 50 years of age (25% vs 0% ; $P < 0.01$)¹¹).

CT scans are extremely useful for determining the site, level, and cause of small bowel obstruction secondary to CD. Small bowel wall thickening and luminal narrowing may be seen. During the acute, non-cicatrizing phase of CD, the small bowel shows mural stratification and often has a target-like or "double halo" appearance. Inflamed mucosa and serosa may show marked enhancement following bolus intravenous administration of iodinated contrast media, with the intensity of enhancement correlating with the clinical activity of the disease¹²). During the chronic phase of CD, mural stratification disappears, and CT scans typically show homogenous attenuation of the affected bowel wall. In addition, fat deposition in the bowel wall indicates inactive disease in CD patients¹²). In the present case, the CT scan demonstrated the beak sign at the obstructed site and proximal intestinal extension. However, pathological examination showed no recurrence of CD in the region of the intestinal stenosis. Several factors such as age, onset of disease, gender, site of disease, number of resections, symptomatic status at the time of surgery, length of small bowel resection, proximal margin length, microscopic margin histology, type of anastomosis, type of surgery, blood transfusions, family history, and prophylactic treatment, were investigated for their supposed influence in this phenomenon¹³). In the advanced, stenotic phase of CD, patients frequently present with recurrent episodes of partial small bowel obstruction. High-grade obstructions are rare¹⁴). Symptomatic strictures resistant to medical therapy usually require surgery. In recent years, endoscopic balloon dilation has offered a therapeutic alternative to surgery^{15, 16}). This procedure has the advantages of being minimally invasive and preserving intestinal length. Data published recently demonstrated that hydrostatic balloon dilation of Crohn's strictures is safe and effective with immediate success rates ranging from 71–100%^{17–24}). As we did not observe any stenosis during double-balloon enteroscopy, we performed an ileocecal resection for an anastomotic stenosis.

The recurrence of anastomotic stenosis is clinically silent in most cases, meaning that most patients do not experience symptoms of inflammation until their disease has progressed to the point where secondary complications necessitate another surgery. The use of inflammatory markers for predicting or monitoring recurrence is appealing, but C-reactive protein and sedimentation rate testing are probably of limited value, as these tests may detect only a small percentage of recurrences. Thus colonoscopies must be performed to monitor disease recurrence even if a patient is asymptomatic, and the mucosa at and above the anastomotic site must be visually examined.

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