

Case Report

An Unusual Cause of Colonic Perforation in Ulcerative Colitis Accompanying with Fissuring Ulcer

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ABSTRACT

A 35-year-old woman who had received 5-aminosalicylic acid for ulcerative colitis for 17 years was referred to our hospital with severe abdominal pain in May 2012. She had not required dietetic food and had no food allergy. Computed tomography revealed a megacolon with full contents in the abdomen due to acute aggravation of the ulcerative colitis. On the second hospital day, severe local peritonitis in the left upper quadrant and a high fever developed, and emergency surgery was performed because perforation of the transverse colon was suspected. Because the colitis including the perforation site was near the splenic flexure of the transverse colon and because a rectal lesion was absent, total colectomy and ileoproctostomy were performed. The patient had an uneventful postoperative course and was discharged 11 days after surgery. Pathological examination of the resected specimen revealed the perforation site in the stenosis of the transverse colon near the splenic flexure. A knife-like defect due to fissuring ulcer was found in the colonic wall, and the fissuring ulcer was lined by actively inflamed granulation tissue and surrounded by chronic inflammation and fibrosis. Although deep fissuring ulcers, which may extend to perforate the colonic wall, are normally associated with Crohn's disease, the present patient was being treated for a case of ulcerative colitis that had no features suggesting a diagnosis of Crohn's disease. (Jikeikai Med J 2015 ; 62 : 95-8)

Key words : ulcerative colitis, fissuring ulcer, perforation

INTRODUCTION

Ulcerative colitis (UC) is a chronic disease with recurrent inflammation of the colonic mucosa. The goal of medical treatment is to rapidly induce a steroid-free remission while preventing complications of the disease and treatment. The choice of treatment depends on the severity, location, and course of the disease. Immediate surgical therapy is indicated for resistance to corticoids, perforation,

or toxic megacolon¹⁻³. We report on a patient who was being treated for UC that had no features suggesting Crohn's disease (CD) in whom peritonitis developed owing to perforation of the transverse colon.

CASE PRESENTATION

A 35-year-old woman with UC had been treated with 5-aminosalicylic acid for 17 years. She had not required

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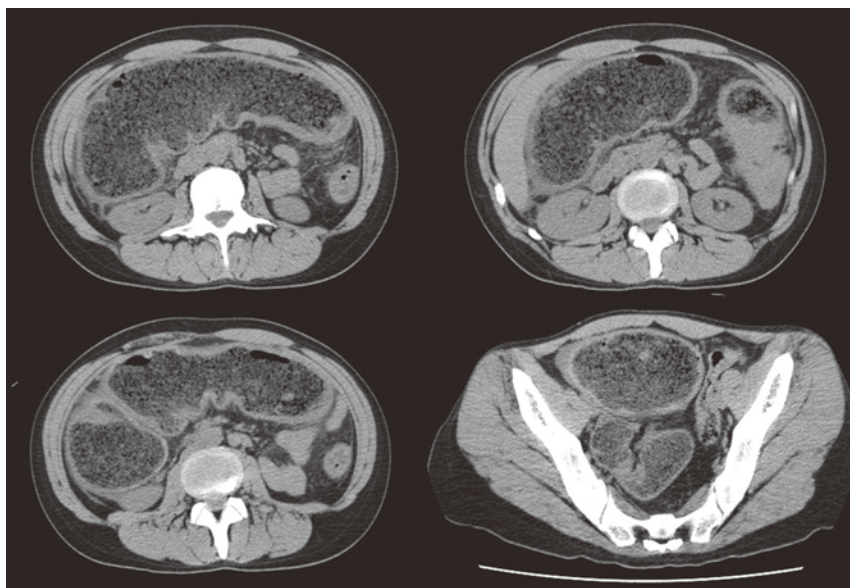


Fig. 1. Consecutive images of computed tomography at 5-cm intervals demonstrated a megacolon with full contents in the abdomen due to the acute exacerbation of ulcerative colitis.

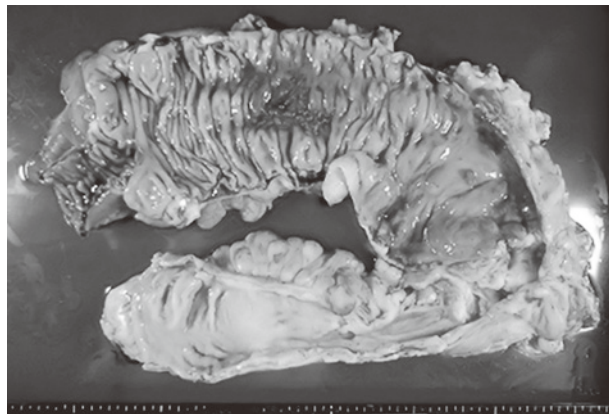


Fig. 2. Macroscopic examination of the resected large intestine from the oral side of the perforation site revealed an active colitis lesion in the ascending colon.

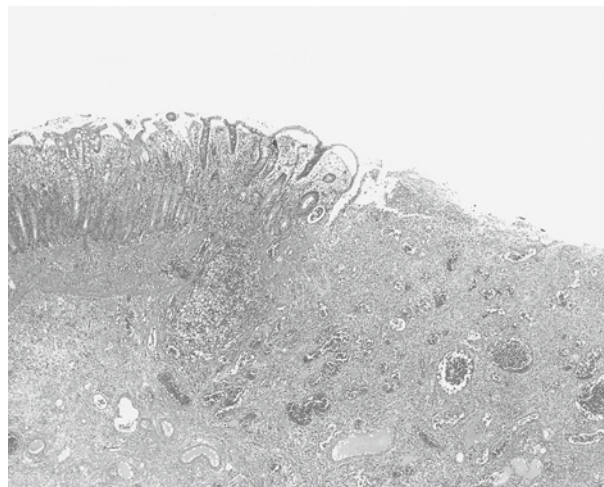


Fig. 3. Microscopic examination revealed a neutrophil-mediated epithelial injury with mucosal ulceration (hematoxylin and eosin stain, original magnification $\times 100$).

dietetic food and had no food allergy. Because of severe abdominal pain the patient was referred by a local clinic to our hospital in May 2012. And she was urgently hospitalized. Computed tomography (CT) demonstrated a megacolon with full contents in the abdomen due to acute aggravation of UC (Fig. 1). On the second hospital day, severe local peritonitis in the left upper quadrant and a high fever developed, and emergency surgery was performed because perforation of the transverse colon was suspected. Because the colitis including the perforation site was near the splenic flexure of the transverse colon and because the rec-

tum was spared, total colectomy and ileoproctostomy were performed. The patient had an uneventful postoperative course and was discharged 11 days after surgery.

Pathological examination revealed that the intestinal mucosa had changed like “lead pipe” colon without an active colitis lesion in the large intestine from the anal side of the perforation site. However, from the oral side of the perforation site of the large intestine, active colitis lesion of the ascending colon was observed during macroscopic ex-

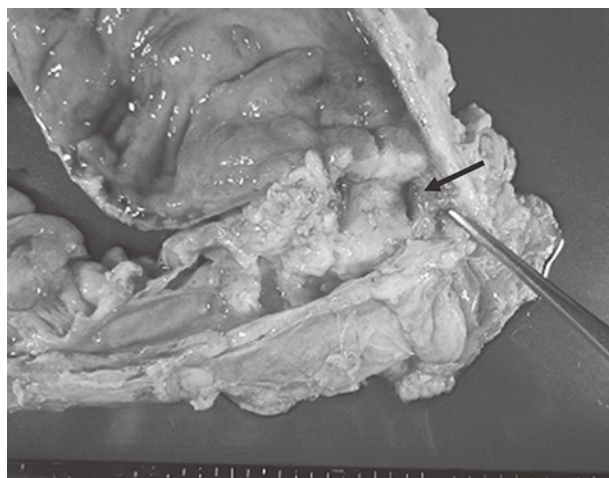


Fig. 4. In the resected specimen, the perforation was detected in the transverse colon near the splenic flexure (arrow).

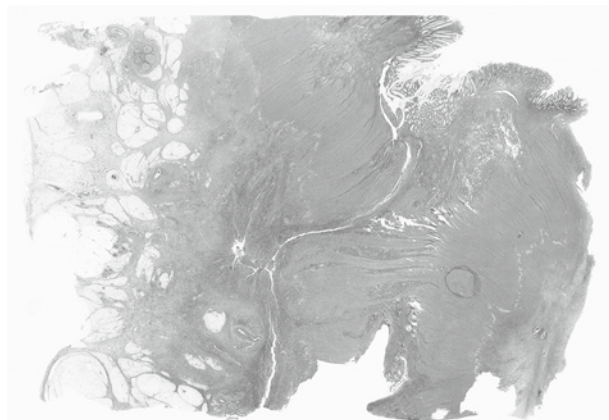


Fig. 5. Pathological examination of the surgical specimen revealed a knife-like defect due to fissuring ulcer in the perforation site of the colonic wall (hematoxylin and eosin stain, original magnification $\times 1$).

amination (Fig. 2). Microscopic examination detected a neutrophil-mediated epithelial injury with mucosal ulceration in the ascending colon which was diagnosed as UC (Fig. 3). The resected specimen showed a perforation in the transverse colon near the splenic flexure (Fig. 4). A knife-like defect due to a fissuring ulcer was observed in the perforation site of the colonic wall (Fig. 5), and the fissuring ulcer was lined by actively inflamed granulation tissue and surrounded by chronic inflammation and fibrosis (Fig. 6).



Fig. 6. The fissuring ulcer was lined by actively inflamed granulation tissue and surrounded by chronic inflammation and fibrosis (hematoxylin and eosin stain, original magnification $\times 200$).

DISCUSSION

When a patient is hospitalized with acute and severe UC, the primary decision is whether to proceed directly to surgery. In a Japanese registry of 981 patients with UC, 85 patients (7%) underwent colectomy for massive colonic hemorrhage (14 patients, 16%), for chronic intractability (50 patients, 59%), or for perforation (6 patients, 7%)⁴. Colonic perforation as an indication for surgery was rare in UC. However, perforation of the colon is a serious complication of UC and necessitates emergency surgery. Even if surgery is performed, such a perforation has an extremely high mortality rate because closing it in the friable diseased colon is extremely difficult, and despite the perforation being closed and the fecal stream being diverted with ileostomy, the involved bowel continues to act as a focus of infection, and the peritonitis may cause death⁵. The treatment of choice is primary resection of the colon and ileostomy⁶. The present patient underwent total colectomy and ileoproctostomy because the colitis including the perforation was near the splenic flexure of the transverse colon without rectal involvement; as of 1 year after the surgery, UC has not been found in the residual rectum.

Almost all patients in whom inflammatory bowel disease is diagnosed are readily determined to have either UC or CD after surgical specimens are examined. However, 5% to 20% of patients who have inflammatory bowel disease show overlapping histologic features and cannot be

readily placed into either of these specific disease groups⁷. Such patients are usually identified as having “indeterminate colitis,” and most have fissuring ulcers in the colonic wall⁸. Although deep fissuring ulcers are normally associated with CD, superficial fissuring ulcers that extend into the inner half of the colonic muscularis propria are considered in severe cases of UC⁹. The present patient was being treated for a case of UC that had no features suggesting a diagnosis of CD.

In this patient, the inflammation due to the ulcerative colitis around the perforation site was pathologically mild. Therefore, deep fissuring ulcers might not be associated with UC. The perforation site was adoral near the stenosis of colon. The large intestine from the oral side of the stenosis was expanded with many contents of the bowel. The intestinal pressure was increased by the large quantity of bowel contents, and fissuring ulcers may tear the entire compromised gut wall of the narrow segment by repeatedly increasing the bowel pressure.

Authors have no conflicts of interest.

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