



A rare complication of Crohn disease: Duodenocolic fistula

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ABSTRACT

Crohn disease (CD) is a chronic inflammatory disease that may be observed in random areas of gastrointestinal tract. Fistula formation is common during the course of CD, whereas duodenocolic fistulas are very rare. It is possible to safely perform surgical resection in patients who have severe symptoms of duodenal fistula. In this study, we report a rare case of CD with duodenocolic fistula that has emerged from the previous surgical resection.

Keywords: Crohn disease fistula, Crohn fistula, duodenocolic fistula

INTRODUCTION

Crohn disease (CD) is a chronic inflammatory disease that may be observed in random areas of gastrointestinal tract. Inflammation can cause strictures (obstructions), hemorrhage, abscess, fistulas, or perforations. Many patients who undergo this disease may need surgical operations such as resection or other therapeutic procedures (1). Fistulas are frequently seen in the CD, whereas duodenocolic fistulas are rare. In the study conducted by Wei et al. (2), the rate of fistula has been observed as 24.6%. Feculent vomiting and foul-smelling eructation are characteristic, whereas weight loss, abdominal pain, and diarrhea are uncharacteristic symptoms of the disease (3).

In this study, we report a rare case of CD with duodenocolic fistula that has emerged from the previous surgical resection.

CASE PRESENTATION

A 31-year-old male patient with a 14-year history of CD had referred to our clinic in October 2016 with complaints of diarrhea, weight loss, abdominal pain, feculent vomiting, and foul-smelling eructation. Earlier in 1995, the patient had undergone open cystectomy due to hydatid cyst and in 2012 right hemicolectomy

due to the stricture of ileocecal valve. In 2014, he was diagnosed with gastrocolic fistula and was prescribed salazopyrin and azathioprine. The patient did not respond to the medical treatment so the prescription was changed to adalimumab in 2015, but the patient needed to abandon the treatment due to newly emerged neuropathy.

On admission, the patient was afebrile but appeared to be ill. His body weight was 60 kg (weight loss reported was 50 kg in 2 years). In the physical examination of the abdomen, a median laparotomy scar associated with previous operations was seen. However, no abdominal distension, rebound tenderness, or muscle rigidity was found. The abnormal findings of laboratory tests included elevated serum level of C-reactive protein (0.86 mg/dL; normal range, 0-0.3 mg/dL) and decreased serum level of hemoglobin (12.4 g/dL; normal range, 13.7-17.5 g/dL). Other laboratory parameters were normal.

In endoscopy, there was no active inflammation in any part of lower and upper gastrointestinal systems observed except in the area of ileotransverse anastomosis and in the last 20 cm of ileum. There was a fistula between the third portion of duodenum and ileotransverse anastomosis (Figure 1). We also performed barium

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Figure 1. a,b. Endoscopic appearance of fistula orifice and duodenum, (b) and transition from fistula orifice to transverse colon

study to confirm the localization of the fistula, which only aided about the existence of fistula; the radiopaque passed quickly to the distal ileum segment. In order to confirm the existence of any other complications, radiological scanning (CT and MRI) was performed. The scanning only demonstrated a dilated small intestine and transverse colon (Figure 2). In October 2016, after obtaining the prior written informative consent, the patient was operated. A fistula between the third portion of duodenum and ileotransverse anastomosis and a stricture on terminal ileum 30 cm before anastomosis was observed. Strictered ileal segment

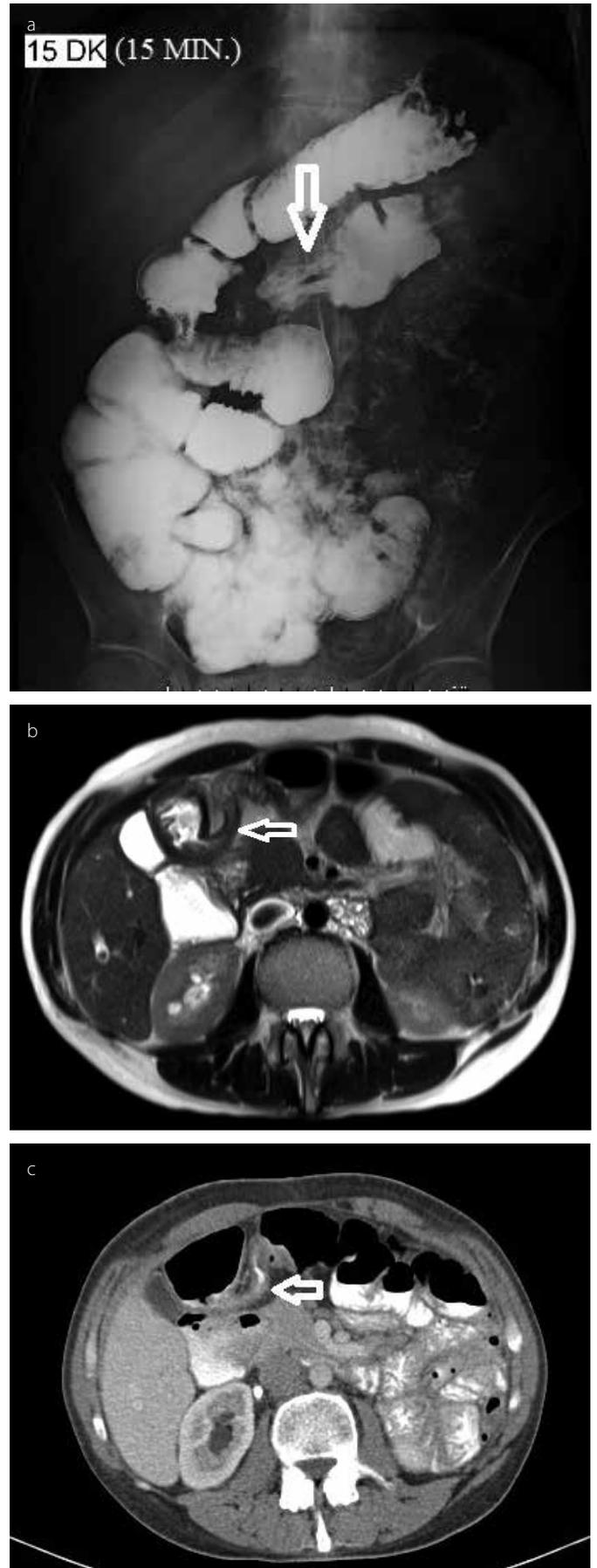


Figure 2. a-c. (a) Barium graphic, (b) MRI image, (c) and CT image

Case Report



Figure 3. a-c. (a) The area of fistula before the resection, (b) resection of ileum and transvers colon, (c) and closure of duodenal defect

and fistula area (including ileotransverse anastomosis) were resected with blue linear cutter. Duodenal component of fistula was resected as well, and the defect measured approximately 4.5 cm was closed primarily with 60-mm medium-thick stapler (Endo GIA Tri-staple technology). Re-anastomosis was made between the ileum and transverse colon (Figure 3). Nasogastric tube was inserted into the duodenum. A drain was placed along the area of anastomosis. The nasogastric tube was removed in the post-operative second day, and oral intake started on the third day. After 8 days, he was discharged without any complication. In the pathological examination of the resected specimen, recurrent CD at the ileotransverse anastomosis with the evidence of the fistula and stricture was seen. It also showed longitudinal ulcerations accompanied by nodular swelling of the intervening inflamed edematous bowel ("cobblestone" appearance). The histological report revealed transmural inflammation, fibrosis, non-caseating epithelioid cell granulomas, and narrow, deeply penetrating ulcers, all of which were compatible with CD. Currently, the patient is in his third month and healthy. He has gained 20 kg.

DISCUSSION

Most of enteroduodenal fistulas arise from the recurrent disease of the new terminal ileum on the anastomosis. Fistulas in CD can be external or internal (4). Due to nonspecific symptoms, the diagnosis of internal fistula is difficult (5).

Barium studies can be used with a sensitivity rate of 54% to 75% (4). CT and MRI (MR enteroclysis) can also assist us in the diagnosis, involvement, and complications of the disease together with the evaluation of CD activities (6). Our radiologic scanning led us to the existence of a fistula but did not guide us on the origin of it.

Endoscopy is more effective on imaging of the gastrointestinal system. Unlike radiological studies, it was only possible to determine the exact localization of fistula with endoscopy. The current treatments of fistulas include medical or surgical management. Operation is not always compulsory in patients with an isolated duodenal fistula, due to most of them being asymptomatic. While deciding the type of treatment modality,

some questions arise such as the type of the fistula (internal/external) and the disease being symptomatic or asymptomatic. Medical treatment is particularly suitable for external fistulas. Some immunosuppressive agents and anti-TNF- α therapy are commonly used in treatment. In some studies, anti-TNF- α has been commended vigorously (7). Surgical resection is required for symptomatic internal fistulas. Patients with symptoms of distal disease that cannot be medically controlled and show apparent symptoms related to the fistula-associated blind-loop syndrome (like fecaloid vomiting) usually undergo surgical treatment (8). Fibrin glue, endoscopic clipping, or endo-loop can be applied (9-11). There are various choices in surgical treatment of duodenal fistulas (4). Primary closure of duodenum has a high leak risk. A duodenojejunostomy may be an alternative procedure for large defects (12). Michelassi et al. (4) and Lee and Schraut (13) reported complication rates of 33.3% and 18.2% and mortality rates of 0% and 9.1% for duodenal fistulas surgical treatment. In our case, we did not experience any complications.

Duodenal fistulas are frequently secondary and seen at the second or third portion of duodenum, due to active inflammation and adhesions (14). Wilk et al. (15) emphasized that ileotransverse anastomosis overlying the duodenum holds a high risk for developing an ileocolonic-duodenal fistula.

Because of the rarity of the duodenocolic fistula cases, the reported data in literature with CD are limited. We believe that the ileocolonic anastomosis should be as far as possible from the duodenum or the omentum should be placed between the duodenum and anastomosis. It is possible to safely perform surgical resection in patients who have severe symptoms of duodenal fistula. In intraoperative exploration, even if the wall thickness of duodenum is increased, staplers can be used safely for closing the duodenal defect.

Informed Consent: Written informed consent was obtained from patients who participated in this study.

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