CASE REPORT

Cologastric Fistula with a Foreign Body in a Patient with Crohn’s Disease

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Although the medical management of fistulizing Crohn’s disease is improving, a subset of patients does not respond to maximal medical therapy and is referred for surgical consultation. We report a case of Crohn’s colitis with an ingested foreign body resulting in a cologastric fistula. The patient underwent segmental colectomy and takedown of the cologastric fistula. At the time of laparotomy, the foreign body was found in the fistulous colonic segment. The presence of an ingested foreign body likely contributed to a rare fistula that was refractory to medical management.

INTRODUCTION

Crohn’s disease may present in many unique ways, including fibrostenotic (strictureing) disease, nonperforating-nonstricturing (inflammatory) disease, and perforating (fistulizing) disease. Patients with fistulizing Crohn’s disease tend to have a more aggressive disease course [1,2]. Although antibodies to TNF-alpha are important adjuncts in the therapy of fistulizing Crohn’s disease, many fistulae recur and anti-TNFα preparations may be poorly tolerated [3-5]. We present a patient with fistulizing Crohn’s disease complicated by the presence of a long-standing ingested foreign body.

REPORT OF CASE

A 23-year-old male with Crohn’s disease was referred to our surgical clinic. The patient was diagnosed with Crohn’s disease at age 7 and had been hospitalized several times, including one month prior to referral, with acute Crohn’s disease exacerbations. Infliximab therapy was attempted on two occasions but subsequently aborted due to infusion reactions and infectious complications. At the time of presentation, the patient described daily bouts of severe cramping abdominal pain and frequent episodes of diarrhea. He noted poor oral intake secondary to chronic abdominal pain.

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Of note, the patient had swallowed a coin 15 years prior to this presentation, and this coin was visible in subsequent radiographic studies (Figure 1). He had no previous surgical history. His daily medications included ciprofloxacin, metronidazole, a prednisone taper, methadone (65 mg daily), and 6-mercaptopurine (75 mg daily). He smoked half a pack of cigarettes daily. On physical exam, his body mass index was 17.9 kg/m², and his abdomen was minimally tender to palpation. Laboratory studies were notable only for a hemoglobin of 11.4 g/dL (normal range 14-18 g/dL) and a platelet count of 484,000/uL (normal range 150-300,000/uL). A colonoscopic examination at this time revealed ascending and transverse colonic ulceration and a tight stricture at 60 centimeters, which could not be traversed with the colonoscope. A subsequent single contrast barium enema revealed strictures in the ascending and transverse colon and a fistula between the distal transverse colon and the stomach (Figure 2).

Given the chronicity and severity of the patient’s symptoms and the presence of an ingested foreign body that would decrease the efficacy of medical management, we proceeded with operative intervention. The patient underwent an open extended right hemicolectomy, partial gastrectomy, and fistula takedown. Intra-operatively, much of the small bowel was inflamed and edematous, with creeping fat present. The resected colon was markedly thickened and nodular with enlarged mesenteric lymph nodes. The stomach and the omentum were densely adhered to the transverse colon in the area of the known fistula. A coin was present in the strictured transverse colon distal to the fistula tract. The final pathology revealed colonic erythema and edema, skip ulcerations, the previously described strictures, and a dime (Figures 3 and 4). Post-operative pain control was challenging, given the patient’s history of long-term narcotic use. He was discharged from the hospital on post-operative day seven, following resolution of an ileus.

The patient noted significant improvement in his symptoms post-operatively. He reported decreased abdominal pain and continued medical management with 6-mercaptopurine. His BMI six months post-operatively was 18.4 kg/m² (from 17.9 kg/m² at the time of operation).

**COMMENT**

Pediatric-onset Crohn’s disease is characterized with increased rates of colitis and...
less ileitis compared with adult onset Crohn’s disease [6,7]. Although many authors have emphasized small bowel sparing techniques when surgical intervention is necessary, there are fewer studies addressing Crohn’s colitis [7,8]. With the progressive nature of Crohn’s disease pathophysiology, surgical intervention for diffuse Crohn’s colitis or the complications of Crohn’s colitis can become unavoidable after maximal medical management has failed. Some authors advocate an aggressive approach with distal or diffuse Crohn’s colitis, including total proctocolectomy in properly selected patients [9].

Enteric fistulae are a well-described entity in Crohn’s disease, as the transmural, chronic nature of enteric inflammation results in tissue erosion into contiguous structures [10]. Although it is estimated 50 percent of Crohn’s disease patients develop some variation of a fistula, gastrocolic fistulae are rare. A review of the literature revealed only 27 examples of gastrocolic fistulae in Crohn’s disease, with this case the only example of a distal foreign body contributing to fistula patency [10]. Gastrocolic fistulae are more likely to develop as a result of percutaneous endoscopic gastrostomy tube placement, benign gastric ulcers, or gastrointestinal malignancy [11-14]. Typical symptoms at presentation include abdominal pain, weight loss, and diarrhea, but...
these are not sufficient to make the diagnosis. Feculent vomiting is considered pathognomonic but is present in only one-third of patients. The most reliable diagnostic tool for the detection of a gastrocolic fistula is the barium enema, because retrograde contrast administration increases intraluminal pressure, leading to augmented filling of any fistulous tracts [11]. Interestingly, intra-abdominal fistulae in Crohn’s patients can take years or even decades to develop [15]. Although the presence of a foreign body would likely accelerate fistula formation, there is a paucity of data available.

Undoubtedly, the goals of management of internal Crohn’s disease fistulae include permanent closure of fistulous tracts. In the past, symptom intractability and the lack of any effective medical therapy resulted in a high rate of surgical intervention for internal Crohn’s disease fistulae, with surgery rates as high as 83 percent. Medical therapy has recently evolved, and oral antibiotics (ciprofloxacin and metronidazole) remain a first line therapy, followed by mercaptopurine and azathioprine. The current standard to induce and maintain remission for fistulizing Crohn’s disease, however, is anti-TNFα antibody therapy [4,16]. The randomized, multi-center, placebo-controlled ACCENT II study evaluated the efficacy of repeated infusions of infliximab in maintaining fistula closure among patients who previously responded to infliximab. After 54 weeks of therapy, a complete response (fistula closed) was observed in 36 percent of the infliximab group and 19 percent of the placebo group (p = 0.009) [5].

Despite advances in the medical therapy, general and colorectal surgeons continue to play a vital role in the care of the patient with fistulizing Crohn’s disease. A subset of patients does not respond to anti-TNFα preparations, and it is important to note the ACCENT II trial included only patients who previously responded to infliximab infusions. Additionally, long-term treatment with anti-TNFα antibodies in patients with rheumatoid arthritis was associated with increased risk of serious infections (odds ratio 2.0) and malignancies (odds ratio 3.3). Furthermore, up to 61 percent of patients develop antibodies to infliximab and other anti-TNFα compounds, necessitating changes in therapy that may not be cost effective. Finally, with regard to this particular patient, it is well recognized that the presence of a foreign body promotes fistula patency [17,18].

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