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SEVERE GASTRIC STENOSIS SECONDARY TO REFRACTORY CROHN'S DISEASE IN A 34-YEAR-OLD FEMALE RESISTANT TO MULTIPLE BIOLOGIC THERAPIES: CLINICAL PRESENTATION, SURGICAL TREATMENT WITH GASTROENTEROANASTOMOSIS, AND FOLLOW-UP OUTCOMES

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ABSTRACT

Gastric involvement in Crohn's disease (CD) remains an uncommon manifestation, with stenotic complications leading to significant morbidity. This report presents the case of a 34-year-old female with a 5-year history of CD complicated by severe gastric outlet obstruction secondary to antral stenosis. The patient demonstrated resistance to multiple biologic agents, including anti-TNF therapy and ustekinumab, necessitating surgical management. She underwent laparoscopic gastroenteroanastomosis, resulting in substantial symptomatic relief, weight gain, and improved quality of life during a six-month postoperative follow-up. This case highlights the challenges in managing refractory gastric Crohn's disease and underscores the role of surgery as a viable treatment modality when medical therapy fails.

KEYWORDS

Crohn's disease; gastric stenosis; refractory Crohn's disease; biologic therapy resistance; gastroenteroanastomosis; upper gastrointestinal Crohn's; surgical treatment

MAIN ARTICLE

Introduction

Crohn's disease is a chronic, idiopathic inflammatory bowel disease characterized by transmural inflammation that can affect any portion of the gastrointestinal tract from the oral cavity to the anus. While the terminal ileum and colon are most commonly involved, the upper gastrointestinal tract—including the stomach and duodenum—is rarely affected, reported in only 0.5% to 4% of cases [1,2]. Gastric Crohn's disease often presents diagnostic challenges due to its nonspecific clinical manifestations and the rarity of its occurrence. The disease may manifest with mucosal inflammation, ulcerations, and in severe cases, the development of strictures leading to gastric outlet obstruction [3].

Stricture formation in gastric Crohn's disease is thought to result from chronic transmural inflammation leading to fibrosis and luminal narrowing. Patients typically present with symptoms consistent with gastric outlet obstruction such as persistent nausea, vomiting, early satiety, epigastric pain, and subsequent weight loss [3,5]. Management of gastric Crohn's disease involves medical and surgical strategies. Medical treatment includes corticosteroids, immunomodulators, and increasingly, biologic agents targeting inflammatory pathways, such as anti-TNF therapies and interleukin inhibitors [7]. However, a subset of patients demonstrate primary non-response or secondary loss of response to these therapies [8], posing a significant therapeutic dilemma.

In such cases, surgical intervention remains a critical option, particularly when obstruction causes significant morbidity or complications such as perforation or severe malnutrition arise. Surgical approaches vary and include strictureplasty, partial gastrectomy, and bypass procedures such as gastroenteroanastomosis [9,10]. The latter allows bypassing of the obstructed gastric segment, preserving gastric function and anatomy.

This case report details a young female patient with refractory gastric Crohn's disease complicated by antral stenosis, resistant to multiple biologic agents, successfully treated with laparoscopic gastroenteroanastomosis.

Case Presentation

A 34-year-old female with a five-year history of ileocolonic Crohn's disease presented to the gastroenterology clinic with progressively worsening upper gastrointestinal symptoms over three months. Her chief complaints included persistent postprandial nausea and vomiting, early satiety, epigastric pain, and an unintentional weight loss of approximately 7 kilograms. Her prior treatment history was notable for induction with corticosteroids and maintenance on azathioprine, followed by escalation to infliximab due to disease progression. After an initial good response, she developed secondary loss of response to infliximab. Subsequently, treatment was switched to ustekinumab, but symptoms continued to worsen. She reported frequent hospitalizations for obstructive symptoms and was nutritionally compromised at presentation.

On physical examination, the patient was cachectic with a body mass index (BMI) of 18.2 kg/m². Vital signs were stable. Abdominal examination revealed mild tenderness in the epigastric region without palpable masses or signs of peritonitis. No peripheral lymphadenopathy or extraintestinal manifestations were noted.

Laboratory investigations showed normocytic anemia (hemoglobin 10.8 g/dL), elevated inflammatory markers (C-reactive protein 18 mg/L, erythrocyte sedimentation rate 40 mm/hr), hypoalbuminemia (30 g/L), and mild electrolyte disturbances consistent with vomiting.

Upper gastrointestinal endoscopy revealed a severely stenotic antral region with inflamed, friable mucosa and multiple superficial ulcers extending proximally toward the pylorus. The endoscope could not be advanced beyond the stenosis (Figure 1). Histopathological analysis of biopsy specimens demonstrated chronic active inflammation consistent with Crohn's disease, without evidence of dysplasia or malignancy.

Magnetic resonance enterography (MRE) demonstrated significant thickening of the gastric antral wall with marked luminal narrowing and no fistulous tracts or abscesses identified. No active disease was noted in the small bowel or colon at this time.

Given the severity of symptoms, the degree of obstruction, and failure of optimized medical therapy, a multidisciplinary team comprising gastroenterologists, colorectal surgeons, and nutritionists recommended surgical intervention. The patient underwent a laparoscopic gastroenteroanastomosis, creating a bypass between the stomach and jejunum distal to the stenosis.(Figure 2)

The surgery was uneventful. The patient was started on clear liquids on postoperative day 3 and advanced to a soft diet by day 5. She was discharged on postoperative day 7 with nutritional counseling and scheduled follow-up.

At six months post-surgery, the patient reported complete resolution of nausea and vomiting, improved appetite, and weight gain of 5 kilograms. Laboratory parameters normalized, and repeat endoscopic evaluation showed a patent gastroenteric anastomosis with no active inflammation in the residual stomach.

Discussion

Upper gastrointestinal involvement in Crohn's disease, while uncommon, presents unique diagnostic and therapeutic challenges. The transmural inflammation characteristic of CD predisposes patients to complications such as strictures, fistulas, and abscesses [3,6]. Gastric strictures, especially in the antrum or pylorus, are particularly rare and often require high clinical suspicion for timely diagnosis.

Symptomatology in gastric Crohn's disease is often nonspecific, including abdominal pain, nausea, vomiting, and weight loss, which may be mistaken for peptic ulcer disease or functional dyspepsia [5]. Endoscopic and radiological assessments remain key diagnostic modalities, with histology confirming active inflammation and excluding malignancy [14]. Medical management remains first-line, with corticosteroids used for induction of remission and immunomodulators for maintenance [7]. The advent of biologic therapies, particularly anti-TNF agents (infliximab, adalimumab) and interleukin inhibitors (ustekinumab), has markedly improved disease outcomes [7,8]. Nonetheless, primary nonresponse and secondary loss of response to biologics remain significant clinical issues, reported in up to 30% of patients [8,12]. The management of refractory gastric Crohn's disease thus often necessitates consideration of surgical options.

Surgery is indicated for complications such as strictures causing obstructive symptoms, fistulas, abscess formation, or failure of medical therapy. Procedures range from conservative strictureplasty to more extensive resections or bypasses [9]. Gastroenteroanastomosis offers a surgical bypass of the obstructed gastric segment while preserving gastric function and preventing extensive gastric resections [10]. Studies have shown favorable postoperative outcomes, including symptom relief and improved nutritional status, especially when coupled with continued medical therapy to control residual inflammation [11].

Our patient's case illustrates the complexity of managing refractory gastric Crohn's disease. Despite the use of multiple biologics, the persistence of gastric stenosis and associated

morbidity necessitated surgical bypass. The successful outcome reinforces the importance of a multidisciplinary approach combining medical and surgical expertise.

Moreover, nutritional optimization before and after surgery is critical, as malnutrition negatively impacts wound healing and overall prognosis [15]. In this case, the patient's nutritional status improved significantly after relief of obstruction, underscoring the role of surgery in reversing disease complications.

Further research is needed to better understand the pathogenesis of gastric Crohn's strictures and to develop targeted therapies to prevent progression to fibrosis and obstruction.

Conclusion

Gastric stenosis due to Crohn's disease is an uncommon but severe complication associated with significant morbidity. When medical therapy, including biologics, fails to control symptoms or disease progression, surgical gastroenteroanastomosis provides an effective means of symptom relief and functional restoration. Early diagnosis, multidisciplinary management, and postoperative care including nutritional support are paramount to optimize outcomes.

FIGURES:

Figure 1: Endoscopic image depicting severe antral stenosis with inflamed, ulcerated mucosa obstructing passage.



Figure 2: Intraoperative view during a gastrojejunostomy showing mobilization of the jejunal loop and mesentery preparation prior to the creation of the anastomosis

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