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CASE REPORT | STOMACH

Gastrocolic Fistula Management in a Pregnant Patient

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ABSTRACT

We present a case of a pregnant woman admitted for malnutrition secondary to a large gastrocolic fistula (GCF). She has a history of perforated duodenal ulcer that required surgical pyloroplasty 6 years ago. This fistula was diagnosed on the gastrointestinal barium series showing direct transit of barium from the stomach to the colon. An upper endoscopy showed a large gastrocolonic fistula with stool leaking to the stomach. Her nutrition was optimized, then she underwent surgical repair. GCF is suspected in the patient presenting with malnutrition with a history of intra-abdominal surgery.

INTRODUCTION

Gastrocolic fistula (GCF) is a rare complication of peptic ulcer disease (PUD) and of other gastric pathology. GCF was first described in 1,755 as a complication of gastric malignancy by Haller.[1] GCF was common in the past when surgical treatments were the mainstay of treatment for peptic ulcers. This condition can present weeks to years after the intervention with symptoms of malnutrition. We report a case of a pregnant woman presenting with malnutrition who was found to have a large GCF related to a past surgery for PUD; clinical management was especially challenging given her pregnancy.

CASE REPORT

A 38-year-old woman in her 17th week of gestation presented with a 3-month history of anorexia, nausea, vomiting, diarrhea, and 30 pounds of weight loss, at which time the gastroenterology service was consulted for consideration of percutaneous endoscopic gastrostomy tube placement. She denied abdominal pain. Her medical history was significant for hypothyroidism and a duodenal ulcer 6 years earlier, which required exploratory laparotomy with duodenotomy and oversewing of a visible vessel with concurrent pyloroplasty for recurrent bleeding refractory to endoscopic therapy. Her ulcer was attributed to the use of nonsteroidal anti-inflammatory drugs, and *H. pylori* was excluded.

The patient was unable to maintain her weight because of decreased oral intake caused by nausea and vomiting. The patient had initially been seen by an obstetrician during her first trimester, and then was lost to follow-up because of social circumstances until she was referred to our hospital. Her medications were pantoprazole and levothyroxine. Physical examination was significant for cachexia, muscle wasting, and gravid abdomen. Her body mass index was 14.03 kg/m^2.

Laboratory investigations on presentation were significant for hypoalbuminemia, hypomagnesemia, hypophosphatemia, hyponatremia, and anemia. An upper gastrointestinal series was performed, which showed direct transit of a large amount of barium from the stomach to the colon (Figure 1). At this time, esophagogastroduodenoscopy was performed under propofol sedation and showed a large diffuse ulcerated mucosa noted in the body and antrum of the stomach with surrounding mucosa with nodularity, granularity, and erythematous mucosa.

A previous pyloroplasty was noted with staples that lead to a normal small intestine (Figure 2).

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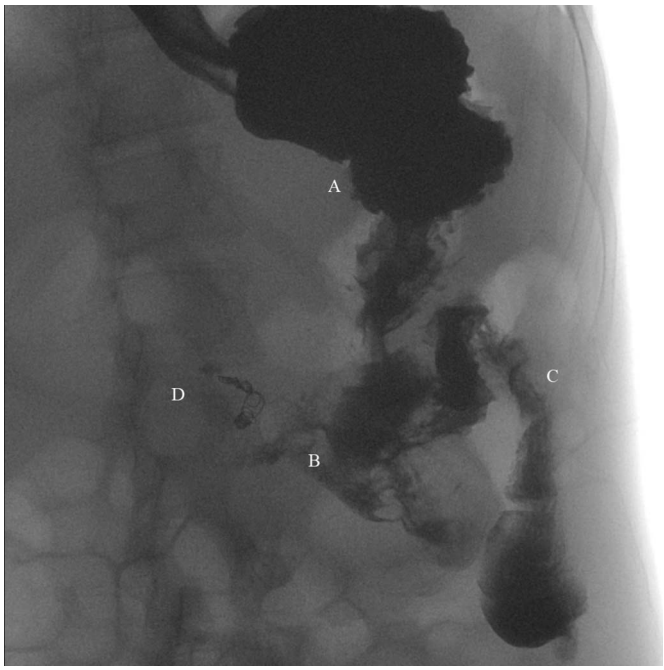

Figure 1. Upper gastrointestinal series showing the abnormal direct transit of the contrast from the stomach to the colon: A—the stomach, B—the gastrocutaneous fistula, C—the descending colon, and D—the pyloroplasty.

There was another opening in the body of the stomach along the posterior wall that was consistent with gastrocolonic fistula and led to the colon (Figure 3). The stool was noted seeping out into the stomach. The fistula opening was approximately 4 cm in size and was surrounded by granular mucosa. Biopsies obtained from the ulcerated mucosa were negative for malignancy. Colonoscopy was performed to exclude colonic lesions. Colon was normal in appearance until the descending colon, at which point the fistula was noted. The pediatric colonoscope could not traverse the colon at this point but rather preferentially entered the stomach through the large fistula tract.

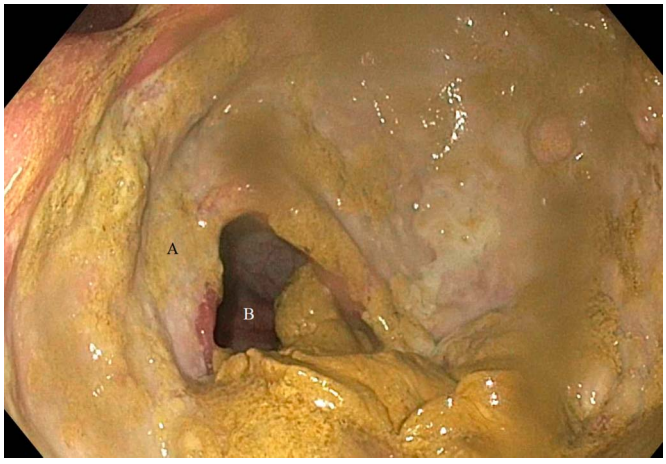

Figure 2. An endoscopic image showing the wide-mouthed gastrocolic fistula. A—The gastric mucosa inflamed and covered with stool and B—colonic mucosa.

Because of the large fistula size, endoscopic closure was not feasible, so surgery was planned. Given her poor nutritional status and current pregnancy, the surgery was postponed until after delivery and nutritional optimization. She was maintained on total parenteral nutrition (TPN) along with oral feeding as tolerated throughout her pregnancy; enteral nutrition was not used because of intolerance and concerns about the increasing burden of fecal flow back into the stomach. Her pregnancy was complicated by adherence issues with the TPN, fetal growth retardation, preterm delivery, and congenital anomalies in the fetus. After delivery, she underwent laparoscopic then converted to an open partial gastrectomy with takedown of GCF, Roux-en-Y gastrojejunostomy, tube duodenostomy, and partial transverse colectomy. The patient has been doing well postoperatively. She had weaned off of TPN and gained 5 pounds at the time of postoperative follow-up.

DISCUSSION

GCF is an abnormal connection between a segment of the large intestine and the stomach. It is a rare complication of multiple gastrointestinal diseases. Although malignancy is the most common cause of this complication, PUD previously was the most common when ulcer disease was commonly treated surgically. However, with improved medical management of PUD and decreased need for surgery, it became a less common cause of GCF.[2–6] Symptoms of GCF include diarrhea, weight loss, nausea, feculent vomiting, and loss of appetite.[7] On physical examination, the patient may show features of malnutrition, dehydration, and, in severe cases, cachexia.[8] In this case, our patient was also pregnant and had complications of malnutrition on her fetus, who had growth retardation and neurogenic anomalies.

GCF is diagnosed by an upper gastrointestinal series study that shows rapid transit of contrast from the stomach to the large intestine bypassing the small bowels. This imaging can

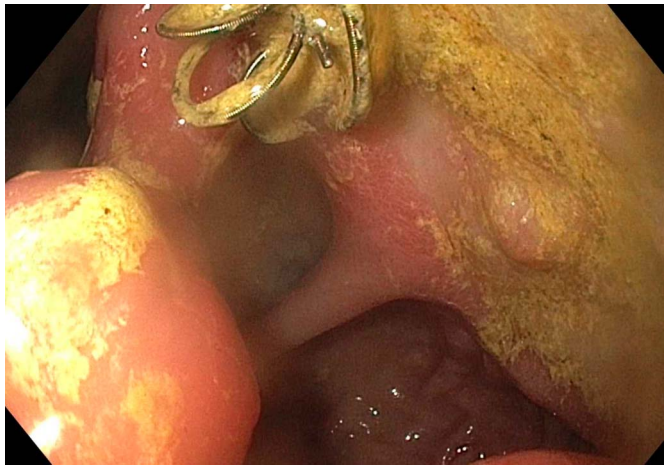

Figure 3. An endoscopic image showing the pyloroplasty.

diagnose the fistula in 95%–100% of patients.[6,9,10] However, it cannot define the underlying etiology of the fistula, and endoscopy is still needed for mucosal visualization and biopsy. Differential diagnosis includes most importantly malignancy, which needs to be ruled out with direct visualization and biopsy. Treatment of GCF is typically surgical, regardless of the underlying cause. Endoscopic therapy, including clip placement or endoscopic suturing, could be considered in select cases for small fistulas.[11] Because most patients present with severe malnutrition, they typically need nutritional support and correction of electrolytes, often requiring total parental nutrition or enteral nutrition preoperatively.[12] GCF caused by PUD is usually treated with partial gastrectomy and segmental colectomy.[13]

In review of the literature, there were multiple case reports for GCF with different underlying causes. Most case reports in recent years were related to malignancy, inflammatory bowel disease, diverticulitis, or history of intra-abdominal surgeries.[14–18] No case reports were found for a GCF caused by laparoscopic pyloroplasty in a pregnant patient. To the best of our knowledge, most of the literature reported is either case reports or case series. Prospective studies evaluating treatment outcomes are lacking likely because of the rare nature of this condition, so it is imperative that physicians continue to report treatment outcomes of patients with GCF.

DISCLOSURES

Author contributions: A. Qasim wrote and edited the manuscript, revised the manuscript for intellectual content, and is the article guarantor. H. Buaisha edited the manuscript and revised the manuscript for intellectual content. B. Abuhazeem wrote and edited the manuscript. E. Jenkins revised the manuscript for intellectual content and approved the final manuscript.

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