CASE REPORT

Retrograde jejunogastric intussusception: A case report and review of the literature

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Summary Retrograde jejunogastric intussusception (JGI) is a rare but potentially fatal complication after previous gastrectomy or gastric bypass surgery. Because of the prevalence of bariatric surgery, the number of cases of postoperative intussusception has increased markedly. Here, we present the case of a patient with retrograde jejunogastric intussusception, having a previous history of subtotal gastrectomy and gastrojejunostomy for peptic ulcer disease. Correct preoperative diagnosis was made by plain abdominal film, upper gastrointestinal series, computed tomographic scan, and esophagogastroduodenoscopy. The diagnosis was confirmed by laparoscopic examination.

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1. Introduction

Postoperative intussusception is a rare complication in adults, especially in gastric surgery, and the incidence is <0.1%.1 The most common type is jejunogastric intussusception (JGI).2 Early diagnosis is crucial for early surgical intervention. When the operation is performed within 48 hours, the mortality rate is about 10%. By contrast, operation delayed beyond 48 hours may be associated with a mortality rate of up to 50%.3 The classic triad of acute JGI includes epigastric pain, vomiting with or without hematemesis, and a palpable epigastric mass. However, it presents in only 50% of patients.4 Emergency surgery is the treatment of choice for acute JGI. Traditionally, laparotomy for reduction or resection of the intussusception is the main surgical method.5 Here, we present an elderly patient with JGI manifesting as a palpable epigastric mass and associated with poor tube feeding. We performed laparoscopic examination and successful reduction of the intussusception via a minilaparotomy wound.

2. Case Report

An 83-year-old man who had undergone subtotal gastrectomy and Billroth II anastomosis for peptic ulcer disease 30
years ago and had a ventriculoperitoneal shunt for hydrocephalus 3 years ago presented to the emergency department with conscious disturbance and mouth twitching. His initial Glasgow Coma Scale was E1M4V1, and his vital signs were stable. Because of suspicion of a seizure attack with conscious disturbance, endotracheal intubation was performed, and antiepileptic medication was prescribed. He was admitted to the intensive care unit for further management. During admission, poor tube feeding and drainage of a large amount of bile content via a nasogastric tube were noted. A physical examination revealed a palpable mass without tenderness in the left upper abdominal quadrant. His laboratory data were unremarkable.

A plain abdominal film showed a soft-tissue mass over the lesser curvature of the stomach and prominent stomach gas (Fig. 1). An upper gastrointestinal series with water-soluble contrast revealed a space-occupying lesion in the lower part of the stomach and proximal small bowel obstruction (Fig. 2). Esophagogastroduodenoscopy showed a congested intestinal loop protruding through the previous anastomosis site (Fig. 3). Abdominal computed tomographic (CT) scan showed prolapse of the gastrojejunostomy into the gastric remnant and swelling of the prolapsed jejunum with enhanced mesenteric vessels (Fig. 4).

The patient underwent emergency surgery for retrograde JGI. Laparoscopic examination revealed that the efferent loop of the jejunum intussuscepted into the remnant stomach, without evidence of gangrenous changes of the intussusception (Fig. 5). We attempted to reduce the intussusception via the laparoscopic technique but failed because of the fear of bowel injury. A 5-cm minilaparotomy wound was required for successful manual reduction of the intussusception. The reduced jejunum was fixed to the falciform ligament to prevent potential recurrence (Fig. 6). The patient resumed tube feeding after the operation.

3. Discussion

Intussusception is common in children and infants, and only 5% of cases occur in adults. About 70%–90% of intussusception cases in adults have a leading point lesion, and about 50% of the lesions are malignant. Postoperative intussusception after gastric surgery is a rare complication.
in adults, and the incidence is only 0.1%. The most common type is JGI. However, less than 200 cases have been reported in the literature.8

There are three anatomic types of JGI: in type 1, the afferent loop is intussuscepted into the remnant stomach; in type 2, the efferent loop is intussuscepted; and in type 3, both afferent and efferent loops are involved. The most common anatomic type is type 2, as in our case; it accounts for 80% of cases.3 There are also three clinical types of JGI.9 The acute type usually presents a clinical triad of sudden onset of cramping epigastric pain, vomiting with or without hematemesis, and a palpable epigastric mass.9 The chronic recurrent type presents recurrent, intermittent abdominal pain and postprandial fullness. The symptoms may relieve spontaneously. The acute postoperative type, usually occurring on the 4th or 5th postoperative day, presents intermittently and reduces spontaneously.

Early diagnosis is important but difficult for acute JGI.8 The most important diagnostic tool is upper gastrointestinal endoscopy for direct visualization of the anastomosis and intraluminal lesions.10 CT scans are also useful.11 A plain abdominal film occasionally shows a mass lesion in the left upper abdominal quadrant, representing small bowel intussusception into the stomach.9 In the present case, the classic imaging studies, including plain abdominal film, an upper gastrointestinal series, CT scan, and endoscopy, led to the correct preoperative diagnosis.

Medical treatment has only a limited role in acute JGI. Endoscopic reduction had been reported in some case reports.12,13 However, endoscopic reduction of JGI is contraindicated when peritoneal signs are suspected.11 Furthermore, endoscopic reduction of JGI has a significant risk of recurrence.14 Therefore, surgery remains the treatment of choice for JGI. For acute JGI, emergency surgery within 48 hours can lead to a better prognosis, and the mortality rate is about 10%. When the surgery is delayed beyond 48 hours, the mortality rate may rise up to 50%.3 The operative method, including reduction of the limb, resection, takedown, and revision of the anastomosis, depends on the intraoperative findings.15 Fixation of a reduced jejunum to the adjacent tissue, such as the mesocolon, colon, or stomach, may be considered to prevent recurrence.16 In the present case, we fixed the reduced jejunum to the falciform ligament of the liver.

We reported a case of acute retrograde JGI presenting with obstruction after gastric surgery. JGI is a rare but potentially fatal disease. Early diagnosis and surgical treatment are crucial. Therefore, JGI should be considered in the differential diagnosis of high-level gastrointestinal obstruction after partial gastrectomy.

References
