

Retrograde jejunogastric intussusception in a patient with underlying history of gastrojejunostomy 20 years ago: Case report and literature review

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Abstract

Retrograde jejunogastric intussusception is a rare but potentially fatal complication, according to the time of diagnosis and intervention. Due to its low incidence, a high diagnostic suspicion is required, based on the clinical and surgical history. This study presents the case of a patient of 74 years old with a history of gastrojejunostomy and duodenal cerclage performed as part of duodenal ulcer treatment 20 years ago. The patient was admitted to the emergency unit, after 7 days of having symptoms such as pain, intolerance to oral intake, and hematemesis. Diagnosis was performed by upper digestive tract endoscopy and the final treatment by subtotal gastrectomy and transmesocolic *Roux-en-Y* reconstruction by laparotomy.

Keywords

Jejunogastric intussusception, Post operative complication of gastrectomy, Retrograde jejunogastric intussusception, Invagination, Gastric surgery.

INTRODUCTION

Postoperative intussusception in adults for gastric surgery has an incidence of less than 0.1%; thus, it is a rare complication. The most reported is jejunogastric intussusception. The first case reported in the literature was published in 1914 by Bozzy after a gastrojejunostomy^(1,2).

The time of diagnosis and resolution is crucial to its prognosis since different case reports available in the literature show mortality rates that reach up to 10% when the diagnosis is made early (before 48 hours) but increase to 50% when the diagnosis is made after that time^(1,2).

Only 50% of patients present the classic triad of symptoms, including epigastric pain, vomiting with or without

hematemesis, and a palpable mass. Once the diagnosis is made, the most common management method is laparotomy for reducing or resecting the intussusception. Reports of successful endoscopic and laparoscopic management have recently been documented⁽¹⁻³⁾.

CASE REPORT

This is a 74-year-old male patient with multiple morbidities of hypertensive and cerebrovascular origin, with a 20-year history of gastrojejunostomy and duodenal cerclage as part of the surgical management due to a perforated peptic ulcer of the gastric antrum. On admission, he reported epigastric pain for 7 days, loss of appetite, and occasional postpran-

dial vomiting treated empirically with antacids and home remedies. He arrived at the emergency department due to an 8-hour-long acute exacerbation of symptoms, including three occasions of fetid hematemesis. Upon physical examination, epigastric pain, distention, and mass sensation were identified in the right hypochondrium. Management with proton pump inhibitors (PPIs) in infusion and symptomatic medical management was initiated. The admission laboratory tests found mild leukocytosis, normal hemoglobin (13.9 g/dL), renal function, and clotting times. He presented new episodes of hematemesis associated with tachycardia, marked mucocutaneous pallor, which compromised his general condition during his stay. Therefore, he was transferred to the critical care unit for hemodynamic monitoring and initiation of vasopressor support.

An endoscopy of the upper digestive tract was performed, in which the intussusceptive jejunal loop was found in the gastric chamber with an ischemic appearance. Therefore, the patient was taken to the operating room to have an exploratory laparotomy performed for a subtotal gastrectomy and a transmesocolic Roux-en-Y reconstruction. The patient progressed torpidly during the postoperative period, requiring increasing doses of dual vasopressors, and eventually died despite the management provided. The anatomopathological study report of the surgical specimen reported ischemic changes and acute transmural inflammation.

DISCUSSION

Intussusception is more common in the pediatric population. Only 5% occur in adults, from which a triggering cause is found in the 70%-90%. The most common cause is malignant lesions out of these⁽⁴⁾. Intussusception after gastric surgery is a rare complication, with an incidence not greater than 0.1% and less than 200 cases reported^(1,2,5).

According to anatomy, there are three types of gastrojejunal intussusception: in type 1, the afferent loop is intussusceptive in the stomach; in type 2, the intussusceptive loop is the efferent one; and in type 3, the afferent and efferent loops are intussusceptive. It has been suggested that type 2 gastrojejunal intussusception is the most commonly reported (about 80% of cases, such as this case) due to increased morbidity when the compromised loop is the efferent versus the afferent⁽²⁾ (**Table 1**).

Several functional and mechanical pathophysiological theories have been postulated as triggers for this pathology, but none have been confirmed. They include antiperistalsis with emesis, presence of peritoneal adhesions, intestinal

Table 1. Anatomical classification

Type	Jejunal loop involved	Frequency
1	Intussusceptive afferent loop (anterograde)	16 %
2	Intussusceptive efferent loop (retrograde)	74 %
3	Combined shape	10 %

dilatation after gastrectomy, hyperacidity, jejunitis that causes retrograde peristalsis, shortening of the jejunal loop mesentery, and jejunal stenosis with obstruction that favors antiperistalsis⁽⁶⁾. Three types of clinical presentation have been described: The acute type usually occurs with the clinical triad of sudden onset of a terebrant pain in the epigastrium, vomiting with or without hematemesis, and epigastric palpable mass; the chronic recurrent type is characterized by intermittent abdominal pain and postprandial fullness, in which symptoms may resolve spontaneously; and the acute postoperative type usually presents toward the fourth or fifth postoperative day, manifests intermittently, and reduces spontaneously⁽¹⁾.

The timely diagnosis determines the prognosis so that patients diagnosed before 48 hours have mortality rates below 10%. On the contrary, those diagnosed after this time have mortality rates of 50%^(1,2,7). The most important diagnostic tools are the abdominal x-ray, in which occasionally, mass can be found in the upper left quadrant corresponding to intussusception of the small intestine into the stomach; the abdominal computed tomography (CT), and the upper digestive tract endoscopy, which allows direct visualization of the intussusceptive loop, evaluation of its viability, and diagnosis of associated intraluminal lesions. Some reports of endoscopic reduction of intussusception have been described with an increased risk of recurrence. Applying these endoscopic management techniques is proscribed in cases where peritoneal irritation is suspected^(1,2,4).

In view of the diagnosis of jejunogastric intussusception, medical management has little value; thus, surgery remains the treatment of choice. The type of procedure to be performed depends on the endoscopic and intraoperative findings of intestinal viability. Among them, resection, reduction of the intussusceptive loop, and its adhesion to adjacent tissues have been described to reduce the risk of recurrence, such as in the stomach, colon, mesocolon,⁽²⁻⁷⁾ and falciform ligament⁽¹⁾.

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