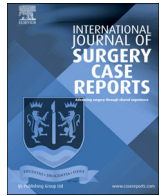




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A rare case of jejunogastric intussusception following gastric surgery



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ABSTRACT

INTRODUCTION: Jejunogastric intussusception (JGI) is an extremely rare complication of prior gastric surgery. Fewer than 200 cases have been reported in the literature.

CASE PRESENTATION: We present a case of an elderly male who presented with typical abdominal pain, hematemesis and a palpable epigastric mass. Ultrasonography and upper endoscopy diagnosed jejuno-gastric intussusception. Emergent laparotomy with manual reduction of the efferent loop intussusception resulted in successful treatment.

DISCUSSION: We report this case of efferent loop JGI, developing 40 years after the primary Billroth II gastrectomy. This is the longest interval from the initial gastric surgery for gastric cancer to be reported.

CONCLUSION: Maintaining a high index of suspicion is paramount in early diagnosis and treatment of this condition, which is associated with high mortality rates if surgery is delayed.

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1. Introduction

Jejunogastric intussusception is an extremely rare complication of gastric surgery, with fewer than 200 cases reported in the literature till date. Among the cases previously described, it usually follows gastrojejunostomy or Billroth II reconstruction, and can occur almost 20 years following the primary procedure [1]. It is associated with high mortality rates, upto 50% if the diagnosis and treatment are delayed [2]. We present a case of acute efferent limb jejuno-gastric intussusception, placing emphasis on timely diagnosis and surgical intervention. This work has been written in accordance with the SCARE criteria [3].

2. Case presentation

A 65-year-old male presented to the emergency department of our hospital with complaints of severe, acute onset upper abdominal pain with multiple episodes of vomiting and hematemesis. He had a history of Billroth II procedure performed for gastric cancer 40 years ago.

On assessment in the emergency department, he was dehydrated. There was marked tachycardia. Physical examination showed severe epigastric tenderness with voluntary guarding, but no rigidity. There was a vague mass palpable in the epigastrium.

Laboratory values revealed leukocytosis and a low hemoglobin level of 7.3 g/dl. The rest of the parameters was within normal limits. An emergency ultrasound showed the typical target sign

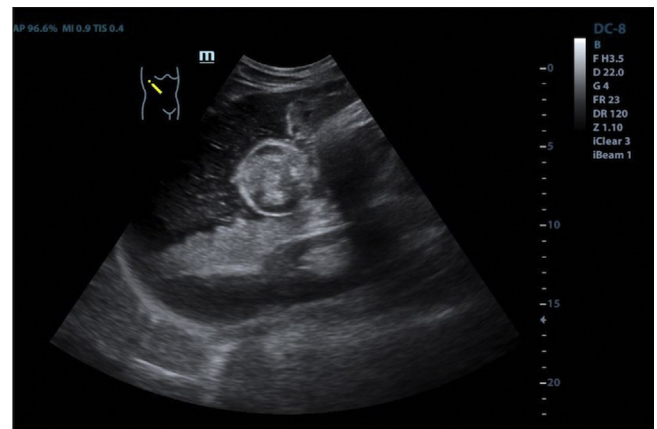


Fig. 1. Ultrasound abdomen showing intussusception.

suggestive of intussusception (Fig. 1). An upper endoscopy revealed the intussusception with features of hyperemic and congested bowel loop (Fig. 2). There were however, no signs of strangulation.

Following adequate preoperative resuscitation, the patient underwent urgent laparotomy. The efferent loop intussusception was noted without signs of bowel ischemia (Fig. 3). Manual reduction was performed successfully, the efferent loop fixed to the transverse mesocolon and completion vagotomy done. The post-operative course was uneventful and the patient was discharged on the sixth postoperative day.

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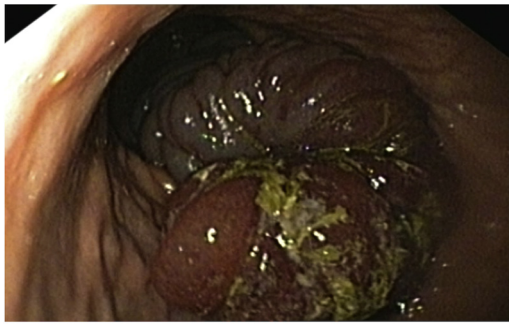


Fig. 2. Upper endoscopy with the congested intussuscepted bowel loop.

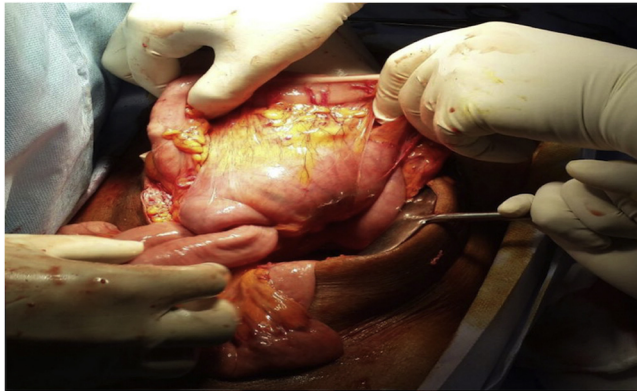


Fig. 3. Intraoperative picture showing efferent loop intussusception.

3. Discussion

Jejunogastric intussusception (JGI) is an extremely rare condition, occurring in less than 0.1% patients following gastric surgery [4]. The first such case was described by Bozzi in 1914 [5]. The patient had a prior gastrojejunostomy performed. There have been fewer than 200 cases reported since this initial description.

The duration between occurrences of JGI following the primary surgery is variable. Our case is the longest interval (40 years) to be reported following gastric surgery for gastric cancer, the previous being 25 years [1].

Why JGI occurs has been a subject of debate, with only theories suggested. According to some, there are functional factors causing increased peristalsis due to hyperacidity or spasm [6]. Some attribute this condition to mechanical factors such as adhesions, increased intra-abdominal pressure, post-vagotomy dilation and atony of the stomach with retrograde peristalsis [7]. However, the exact mechanism is still unknown.

JGI has been classified into four major types based on the intussuscepted loop. Type I is antegrade intussusception, also termed afferent loop JGI, and occurs in around 5.5% cases. Type II is retrograde intussusception, or efferent loop JGI, and is the most commonly seen JGI. It accounts for 75.5% cases. Type III is a combination of the former two types. Type IV JGI occurs through a Braun side-to-side jejunojunction [8].

Depending on the nature of presentation, JGI can be acute or chronic. The former is characterized by a more severe presentation with the classic triad of severe epigastric pain, hematemesis, and a palpable, tender epigastric mass. The chronic form is usually milder and may result in spontaneous improvement [9].

Endoscopy is the initial diagnostic modality of choice. The condition of the intussuscepted bowel can be assessed, and ischemia or strangulation diagnosed. Imaging tests such as ultrasonography (USG) or CT scan can also provide diagnostic clues. Typical fea-

tures include the doughnut or target sign on ultrasonography, or the sausage sign on CT scan [10].

However, prompt surgical intervention is most important in obtaining successful outcomes. Both laparoscopic and open techniques may be used. Delay in surgery increases mortality rates, from 10% for surgery performed within 48 h to upto 50% if delayed for 96 h [11].

4. Conclusion

Though similar conditions have been reported in the literature, the diagnosis may be delayed if not suspected at initial presentation. Maintaining a high index of suspicion is paramount while assessing patients who present with this triad of symptoms. This condition must be considered in the differential diagnosis of patients who have had prior gastric surgery.

Consent

Informed consent was obtained from the patient for presentation of the details of this case, along with the images for the purposes of publication. No personal identification information has been displayed in the images.

Conflict of interest

There are no conflicts of interest to report.

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None.

Ethical approval

Ethical approval obtained.

Authors contribution

Both the authors namely, Dr. Yash Vaidya and Dr. Rajan Vaithianathan, were involved in the management of this patient. This manuscript has been drafted by both authors.

Registration of research studies

Not applicable.

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