

Gangrenous Jejunogastric Intussusception

S Prasad, L Ramachandra, S Deepak

Citation

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Abstract

Jejunogastric intussusception is a rare, serious complication following gastric surgery. The acute form of jejunogastric intussusception is particularly dangerous, wherein a delay in diagnosis results in gangrene of the involved jejunal segment. A favorable outcome depends upon a high index of suspicion accounting for early diagnosis and urgent intervention. We report on a case of gangrenous jejunogastric intussusception presenting with hematemesis, diagnosed by pre-operative endoscopy and successfully treated by surgery.

ABBREVIATIONS

JGI – jejunogastric intussusception,

GJ – gastrojejunostomy

INTRODUCTION

JGI is a rare life-threatening complication that can occur after partial gastrectomy or gastrojejunostomy [1]. A delay in diagnosis significantly increases the risk of mortality [23]. The aim of this report is to highlight the possibility of JGI as a cause of upper GI symptoms in a patient in post-gastric-surgery status. The study also serves to emphasize the need for early diagnosis and prompt intervention in JGI.

CASE REPORT

A 51-year-old male patient presented with severe colicky epigastric pain and vomiting for 4 days and hematemesis for 1 day. There was a past history of vagotomy and GJ done 11 years ago for intractable duodenal ulcer. The patient was asymptomatic since then till 4 days ago. On examination, the patient was hemodynamically stable. Abdominal examination revealed mild epigastric fullness, epigastric tenderness and a vague epigastric mass. An emergency upper gastrointestinal endoscopy was performed which showed a gangrenous bowel mass with altered blood in the gastric lumen. The adjacent gastric mucosa, pyloric opening and duodenum were normal. A diagnosis of gangrenous JGI was made and the patient was promptly taken up for emergency exploratory laparotomy. Operative findings confirmed the telescoping of the efferent loop of the GJ into the stomach. The intussusceptum was gangrenous on reduction and accounted for about 30cm of proximal

jejunum. The GJ was dismantled and the gangrenous segment was resected. The gastrotomy was closed and bowel continuity was restored by jejunojejunostomy. Post-operative recovery was uneventful and the patient was discharged on the eighth post-operative day.

Figure 1

Figure 1: Gastroscopy revealing a gangrenous bowel loop within the gastric lumen.

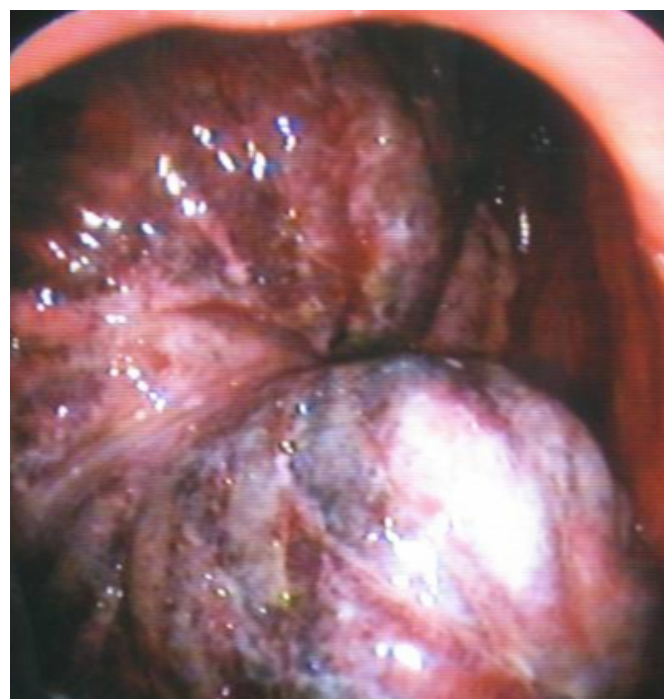
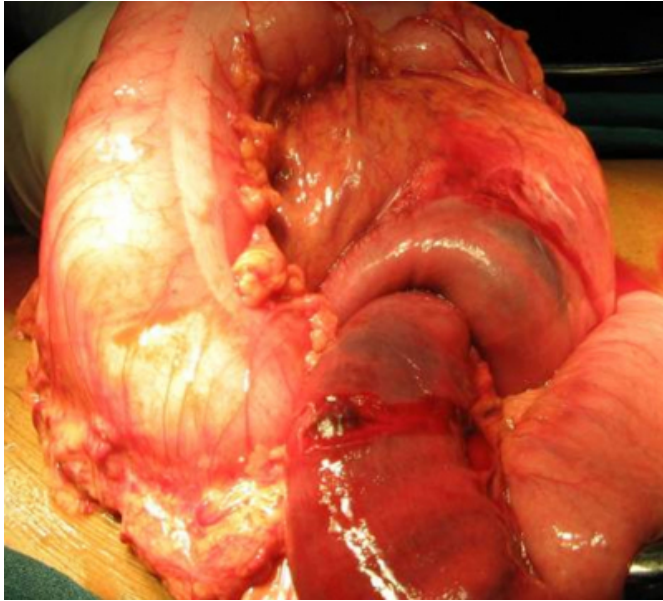


Figure 2

Figure 2: JGI as seen per-operatively.



DISCUSSION

GI was first described by Bozzi in 1914 in a patient with gastrojejunostomy [4]. The fact that only 16 cases of JGI were documented at the Mayo Clinic, Rochester, Minn., in a 72 years' time span (1907-1980) underscores the rarity of the entity [1]. JGI commonly occurs following GJ and partial gastrectomy [5].

The time interval between the gastric surgery and JGI is extremely variable. The shortest interval reported is 2 days and the longest 30 years with an average of 6 years [6]. Our patient presented with JGI 11 years after vagotomy and GJ. The factors held responsible for JGI include hyperacidity, long afferent loop, jejunal spasm with abnormal motility, increased intra-abdominal pressure and retrograde peristalsis. Among these factors retrograde peristalsis seems to be the most accepted factor precipitating JGI [1].

CLASSIFICATION OF JGI

Anatomically, JGI has been classified as [2]

Type I – where the afferent loop is the intussusceptum. Type II – where the efferent loop is the intussusceptum. Type III – which represents a combined form. Type II JGI is said to be the most common type accounting for 80% of all JGIs while Type I and Type III contribute to 10% each [7]. Our case was a type II GJI.

CLINICAL FEATURES

Clinically, JGI can be acute or chronic. The acute form is

characterized by sudden onset of symptoms which can progress to incarceration or strangulation of the intussusceptum. Symptoms of acute JGI include severe abdominal pain, vomiting and hematemesis. Epigastric pain and a palpable mass can be observed in about 50% along with features of high intestinal obstruction [18]. The characteristic triad of JGI includes sudden onset of epigastric pain, vomiting with or without hematemesis and a palpable epigastric mass in a patient with previous surgery [8]. Since the lesion is intraluminal, features of peritonitis and ileus are late signs. Lack of prompt urgent intervention may lead to incarceration and strangulation of the incarcerated loop. In our patient, a delayed presentation had probably resulted in gangrene of the involved segment of bowel.

The chronic form is characterized by milder, intermittent symptoms which are likely to resolve spontaneously. In the chronic form, the symptoms tend to be less severe and transient and resolve spontaneously. Thus, a patient with chronic JGI may present with recurrent episodes of abdominal discomfort which may be associated with nausea that is exacerbated by food and usually subsides after a couple of hours.

DIAGNOSIS AND TREATMENT

The need for early diagnosis and prompt treatment of JGI cannot be overemphasized. Awareness of the condition and a high degree of suspicion are essential prerequisites for early diagnosis. X-ray studies, endoscopy and CT scan have all been described as useful diagnostic tests. Upper GI endoscopy performed by an experienced endoscopist familiar with this condition can be diagnostic.

Diagnosis of chronic JGI can be difficult and challenging, the reason being the need to perform the relevant investigation during the symptomatic period. However, it has been suggested that JGI can be precipitated during upper gastrointestinal endoscopy by directing a jet of water towards the gastrojejunostomy stoma thereby confirming the diagnosis [9].

The treatment of acute JGI is urgent surgery. Delay in surgery beyond 48 hours is associated with an approximate 50% mortality [10]. Peroperatively, if the involved segment of jejunum is viable, simple reduction will suffice. Future recurrence of JGI can be prevented by anchoring the involved jejunal segment to either the neighboring jejunal limb or to the transverse mesocolon. Gangrenous JGI mandates resection of the gangrenous segment of jejunum. The treatment of the chronic recurrent variety of

jejuno gastric intussusception is symptomatic. If symptoms persist, revisional surgery is performed. The surgical options include reduction, resection, revision of the anastomosis and taking down the anastomosis.

CORRESPONDENCE TO

Dr. Prasad SS Asst. Professor Dept of Surgery Kasturba Medical College Manipal, Karnataka, INDIA Ph: 009845011626 +918202922965 Fax: 0820 2570061 Email: drprasadss@yahoo.co.in

References

1. Waits JO, Beart RW Jr, Charboneau JW. Jejuno gastric intussusception. Arch Surg 1980; 115:1449-1452.
2. Shackman R. Jejuno gastric intussusception. Br J Surg 1940; 27:475-480.
3. Sibley WL. Chronic intermittent intussusception through the stoma of a previous gastro-enterostomy. Proc Staff Meet Mayo Clin 1934; 9:364-365.
4. Bozzi E. Annotation. Bull Acad Med 1914; 122:3-4.
5. Gasparri MG, Pipinos II, Kralovich KA, Margolin DA. Retrograde jejuno gastric intussusception. South Med J 2000; 93:499-500.
6. Wolukau-Wanambwa, PP. An uncommon cause of haematemesis - retrograde jejuno gastric intussusception. Brit J Clin Prac 1979; 33:53-54.
7. Reyelt WP Jr, Anderson AA. Retrograde jejuno gastric intussusception. Surg Gynecol Obstet 1964; 119:1305-1311.
8. Foster DG. Retrograde jejuno gastric intussusception - a rare cause of hematemesis. AMA Arch Surg 1956; 73:1009-1017.
9. Czeriak A, Bass A, Bat L, Shemesh E, Avigad I, Wolfstein I. Jejuno gastric intussusception - a new diagnostic test. Arch Surg 1987; 122:1190-1192.
10. Gupta SS, Singh GG. Retrograde jejuno gastric intussusception: an unusual cause of hematemesis (a case report). J Postgrad Med 1986; 32:105.

Author Information

S.S. Prasad, MS, DNB, MRCSEd

Dept. of Surgery, Kasturba Medical College

L. Ramachandra, MS

Dept. of Surgery, Kasturba Medical College

Suvarna Deepak, MD, DNB

Dept. of Gastroenterology, Kasturba Medical College