

Retrograde Jejuno-gastric Intussusception: A Case Report

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Jejuno-gastric intussusception (JGI) is a rare complication of gastrectomy or gastrojejunostomy, which can occur any time after the gastric operation. Early diagnosis of this condition and prompt surgical intervention is mandatory. We report a case of retrograde jejuno-gastric intussusception, who presented with a mass in the upper abdomen, abdominal pain and hematemesis. Patient had history of gastric bypass operation 11 years back. Diagnosis was made on the basis of clinical history, some limited investigations and per-operative findings. Treatment include reduction of the intussusception, resection of unhealthy segment of jejunum and restoration of continuity by roux-en-y.

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Key words: Jejuno-gastric, intussusception, retrograde

Introduction

Jejuno-gastric intussusception (JGI) is a rare but potentially very serious complication of gastrectomy or gastrojejunostomy. To avoid mortality, early diagnosis and prompt surgical intervention is mandatory. The imaging findings are diagnostic, in which contrast studies are very helpful. Endoscopy performed by someone familiar with this rare entity is certainly diagnostic. There is no medical treatment for Jejuno-gastric intussusception and surgical intervention is required for the definite treatment.¹ JGI can occur any time after the gastric operation.² A mortality of 10% and even as high as of 50% has been reported if operation has been performed 48 hrs or later after the onset of severe symptoms, respectively.^{3,4} Three anatomic types of JGI have been described - type I concerns the afferent loop, type II the efferent loop and type III represents a combined form.³ It has

been stated that type II or retrograde efferent loop intussusception is the most common (80%) with the two other types accounting for 10% each. In our case report type II of JGI was noticed.

Case Report

A fifty years old male cultivator was admitted under surgery department in Rangpur Medical College Hospital with the complaints of a mass in the upper abdomen for 6 days and vomitus mixed with blood for 4 days. Six days back the patient found a mass in the upper abdomen which was oval shaped about 3-4 inch length and 2-3 inch breadth, which was more prominent after taking meal. Two days after the formation of mass patient developed vomiting. Vomitus was copious in amount and was projectile not mixed with bile but was mixed with blood, later the vomitus contained only blood. Patient also develops upper abdominal pain. During this

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period his bowel habit was normal. With this complaints the patient admitted into a clinic and at that time patient received 6 unit of blood transfusion and some medication and without any significant improvement he was referred to Rangpur Medical College Hospital for better management. Patient had history of gastric bypass surgery 11 years back. He was a smoker but non alcoholic, non diabetic, no history of tuberculosis, bronchial asthma and hypertension. Patient had no significant family history.

At admission patient was moderately anaemic, anxious looking, mildly dehydrated, pulse rate was 92/min, BP 90/60 mm of Hg, temperature 98°F. On local examination abdomen was asymmetrical, upper abdomen was distended. Umbilicus was centrally placed. There was one upper right paramedian incisional scar mark. An intra-abdominal lump was found in epigastrium and left hypochondriac region which was circular in shaped and about 3-4 inch length and 2-3 inch breath, margin was ill defined, firm in consistency, moved slightly side to side and overlying skin was free. There was no organomegally. DRE reveals normal findings.

Investigations showed Hb 10 gm/dl, ESR 25 mm in first hour, with normal total and differential count of WBC, blood group AB positive, CXR normal, ECG normal, RBS - 165 mg/dl, serum creatinine 1.4 mg/dl, blood urea 30 mg/dl. USG of whole abdomen shows dilated intestinal coils mainly in the left upper abdomen feature consistent with chronic intestinal obstruction. Barium meal x-ray of stomach and duodenum showed filling defect at body of stomach may be due to intrinsic (growth) or extrinsic (Fig.1). Endoscopy of upper GIT showed polypoid masses in the stomach and feature of reflux oesophagitis. Biopsy done that reveals autolysed tissue.

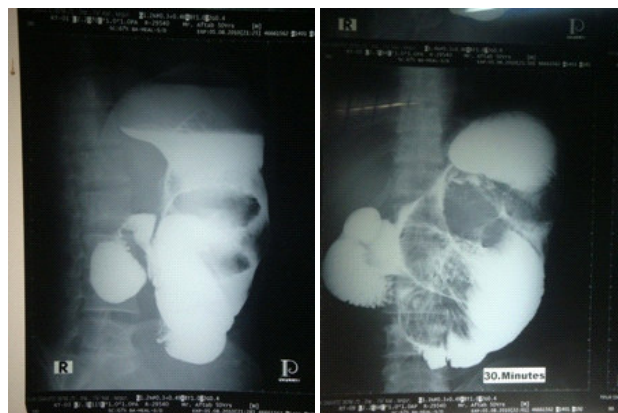


Figure 1. X-ray Ba meal of stomach and duodenum shows filling defects at body of stomach and dilated proximal jejunal loops.

After resuscitation and gut preparation laparotomy was done and efferent jejunal loop found to be intussuscepted within the gastric lumen causing stomal obstruction (Fig. 2). Reduction of the intussusceptum was done. As the portion of jejunum was unhealthy resection of the gangrenous part of jejunum was done (Fig. 3) and bowel continuity was made through roux-en-y.

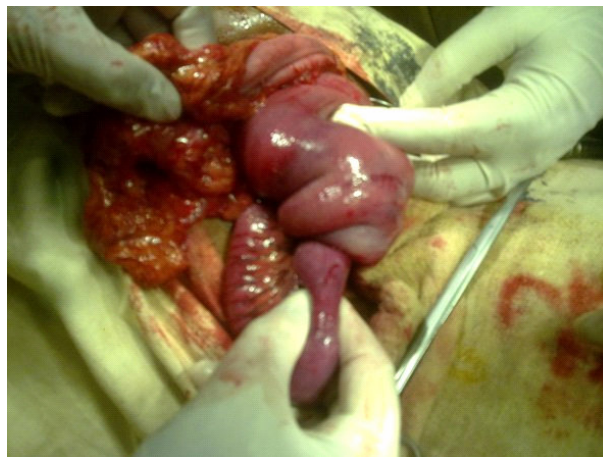


Figure 2. After laparotomy shows retrograde jejuno-gastric intussusception

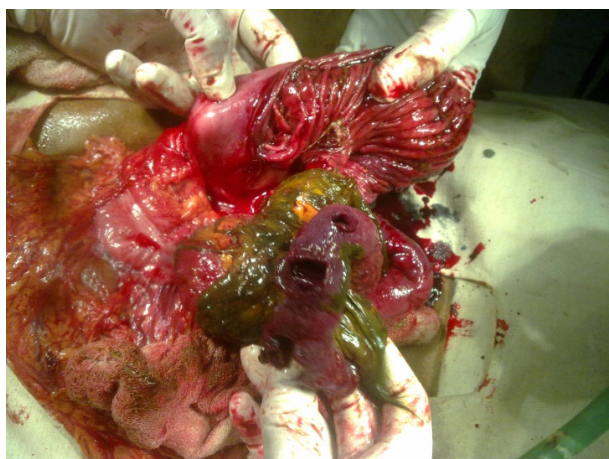


Figure 3. After reduction of the intussusceptum the gangrenous part of the jejunum that was resected.

Discussion

Jejunogastric intussusception (JGI) was described in 1914 by Bozzi in a patient with gastrojejunostomy.⁵ Eight years later this complication was also reported in a patient with Billroth II resection.⁶ Subsequently, a large number of isolated cases and small series have been published and the reviews of the literature showed that less than 200 cases have been reported.^{1,2,7,8,9,10} Thus, JGI seems to be a rare complication after gastrojejunostomy or Billroth II gastrectomy; it also has been described rarely in association with previously placed gastrostomy tubes.¹¹

Occasionally, jejunojejunal or jejunoduodenal intussusception have been observed after total gastrectomy^{12,13,14} and one case of duodenogastric intussusception after Billroth I gastrectomy.⁷ It is interesting to point out that only 16 well-documented cases have been recognized at the Mayo Clinic in a period of 72 (1907-1980) years.¹ There is a wide variation in the lapse time between the gastric operation and the JGI to occur: 6 days to 20 years and 8 days to 19 years in patients with gastroanastomosis and partial gastrectomy respectively.² Eleven years was the lapse time in the present case. The cause(s) of JGI is

poorly understood.¹ Various factors have been incriminated such as hyperacidity, long afferent loop, jejunal spasm with abnormal motility, increased intra-abdominal pressure, retrograde peristalsis etc. Probably, retrograde peristalsis, which can occur in normal people prior to gastric surgery, seems to be accepted as the cause of type II JGI by most authors.^{1,16}

Two forms of JGI have been clinically recognized: an acute and a chronic form. In the acute form, incarceration and strangulation of the intussuscepted loop generally occur whilst spontaneous reduction is usual in the chronic type. Thus, the acute form is characterized by acute severe colicky epigastric pain, vomiting and, subsequently, hematemesis. Epigastric tenderness and a palpable abdominal mass can be observed in about 50% and signs of high intestinal obstruction can also be found.^{1,17,18} It should be pointed out that a sudden onset of epigastric pain, vomiting and subsequent hematemesis, and a palpable epigastric mass in a patient with a previous gastric surgery are thought as the classic triad of JGI.¹⁸ The picture was absolutely typical in the case described here. In the chronic form, the symptoms may be roughly similar to the acute form but milder, transient and subside spontaneously.¹⁹

Thus, the patient complains for recurrent episodes of upper abdominal discomfort that is exacerbated by the food and usually subsides 1-1.5 hour after the meal. Nausea and vomiting can be also present but epigastric pain is the main patient's complaint.¹ Early diagnosis of the acute form is of paramount importance.^{3, 4} The clinical picture is almost diagnostic to the alert, sensitized physician. X-ray can be occasionally diagnostic.²⁰ Endoscopy performed by someone familiar with this rare entity, is certainly diagnostic.^{21, 22} In the chronic form, the diagnosis is difficult. In many of such patients, the correct diagnosis

has never been established. The main reason for this is that upper GI endoscopy must be performed during the symptomatic period for the diagnosis to be confirmed.²⁰ However, it has been suggested that in the asymptomatic period, the provocation of JGI during endoscopy by the use of a jet of water directed towards the anastomotic stoma may be diagnostic of the chronic form.²³ It is clear that there is no medical treatment for acute JGI and the correct treatment is the surgical intervention as soon as possible. Surgical options include reduction, resection, revision of the anastomosis and the take-down of the anastomosis, depending on the conditions found during the operation.¹ The best way to prevent recurrence, if any, has not been identified yet.^{1,23}

Conclusion

JGI is a rare condition and less than 200 cases have been published since its first description in 1914. The clinical picture is almost diagnostic. Endoscopy performed by someone familiar with this rare entity is certainly diagnostic and CT-Scan of the abdomen could also help. There is no medical treatment for acute JGI and the correct treatment is surgical intervention as soon as possible.

References

1. Waits JO, Beart RW Jr, Charboneau JW: Jejunogastric intussusception. *Arch Surg* 1980, 115:1449-1452.
2. Conklin EF, Markowitz AM. Intussusception-a complication of gastric surgery. *Surgery*. 1965;57:480-488.
3. Shackman R. Jejunogastric intussusception. *Br J Surg*. 1940;27:475-480.
4. Sibley WL. Chronic intermittent intussusception through the stoma of a previous gastro-enterostomy. *Proc Staff Meet Mayo Clin*. 1934;9:364-365.
5. Bozzi E. Annotation. *Bull Acad Med*. 1914;122:3-4.
6. Lundberg S. Retrograde Dunndarminvagination nach Gastroenterostomie. *Acta Chir Scand*. 1922;54:423-433.
7. Shiffman M, Rappaport I. Intussusception following gastric resection. *Am Surg*. 1966;32:715-724. [PubMed]
8. Salem MH, Coffman SE, Postlethwait RW. Retrograde intussusception at the gastrojejunal stoma. *Ann Surg*. 1959;150:864-871. [PMC free article] [PubMed]
9. Lopez-Mut JV, Cubells M, Campos S, Miranda V, Rivera P. Jejunogastric intussusception: a rare complication of gastric surgery. *Abdom Imaging*. 1998;23:558-559. doi: 10.1007/s002619900402. [PubMed] [Cross Ref]
10. Wheatley MJ. Jejunogastric intussusception diagnosis and management. *J Clin Gastroenterol*. 1989;11:452-4. [PubMed]
11. Gasparri MG, Pipinos II, Kralovich KA, Margolin DA. Retrograde jejunogastric intussusception. *South Med J*. 2000;93:499-500. [PubMed]
12. Christeas N, Sfinias G. Retrograde jejunojejunal intussusception. *Br J Clin Pract*. 1968;22:439-441. [PubMed]
13. Daniel P, Vieweg G. Retrograde Invagination des Jejunums nach Gastrektomie. *Zbl Chir*. 1974;99:57-59. [PubMed]
14. Freeman J, Bernatz P, Brown P. Retrograde intussusception after total gastrectomy. *Arch Surg*. 1966;93:586-588. [PubMed]
15. Reyelt WP, Jr, Anderson AA. Retrograde jejunogastric intussusception. *Surg Gynecol Obstet*. 1964;119:1305-1311. [PubMed]

16. Irons HS, Lipin RJ. Jejuno-gastric intussusception following gastroenterostomy and vagotomy. *Ann Surg.* 1955;141:541–546. [PMC free article] [PubMed]
17. White TT, Harrison RC. *Reoperative Gastrointestinal Surgery.* Little Brown and Company, 1973. p. 98.
18. Foster DG. Retrograde jejuno-gastric intussusception—a rare cause of hematemesis. *AMA Arch Surg.* 1956;73:1009–1017. [PubMed]
19. Olsen AK, Bo O. Intussusception as a complication of partial gastrectomy—a case report. *Acta Chir Scand.* 1978;144:405–408. [PubMed]
20. Jaaskelainen V. Retrograde intussusception after certain gastric operations. *Ann Chir Gynaecol.* 1954;5 (Suppl):129–135.
21. Kallen R, Graffner H, Jonsson Per-Ebbe J. Jejuno-gastric intussusception through the enteroanastomosis after gastric resection. Case report. *Acta Chir Scand.* 1986;152:637–640. [PubMed]
22. Truong SN, Tittel A, Schumpelick V. Die jejuno-gastrische Invagination—eine seltene Komplikation der Magen Chirurgie. *Z Gastroenterol.* 1992;30:798–800. [PubMed]
23. 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. [PubMed].