

## Jejunogastric Intussusception: A Case Report

MM HUSSAIN<sup>a</sup>, A RAHMAN<sup>b</sup>, MR ABEDIN<sup>c</sup>, MA HABIB<sup>c</sup>

### Summary:

*Jejunogastric intussusception is an established complication following any type of gastroenterostomy. In its acute form it presents with abdominal pain and lump suggestive of obstruction. It is also a rare cause of haematemesis. Chronic and intermittent presentation has also been described. It is a surgical emergency in its acute form. Early diagnosis and*

*prompt treatment is required to avoid mortality. We report here a case that had a history suggestive of recurrent symptoms and ultimately presented as an acute emergency in the emergency department of Dhaka Medical College Hospital, Dhaka, Bangladesh.*

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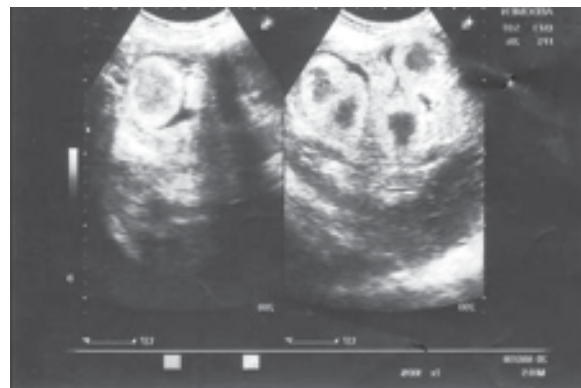
### Introduction:

Jejunogastric intussusception (JGI) is a rare but well recognized postoperative complication of any type of gastroenterostomy. It may occur any time and has been reported after 2 days up to 35 years<sup>1</sup>. In its acute form, it is a surgical emergency. Early diagnosis and prompt surgical intervention is crucial in such cases. Chronic and intermittent form has also been described. Here we present such a case that presented to us with abdominal pain, lump and haematemesis.

### Case Report:

A 40 year old male patient was admitted into a medicine unit of our hospital, and later transferred to the surgery department, with the complaints of severe upper abdominal pain, haematemesis and a lump over mid-abdomen for 6 hours. Pain was localized to upper abdomen, severe colicky at first and then became excruciating in nature. It was associated with several episodes of spontaneous, projectile vomiting and haematemesis. Patient underwent elective gastrojejunostomy bypass operation in 1994 in DMCH

for pyloric stenosis due to chronic duodenal ulcer. Over the period of last 10 years, patient had been experiencing moderate to severe abdominal pain associated with nausea and vomiting on and off. During this period he was hospitalized several times and managed conservatively.



**Fig 1:** Preoperative USG showed a large central abdominal mass containing encysted collection with thick walled bowel loops.

On examination, he was moderately anemic and dehydrated. Pulse was 96 /min, BP was 105/60 mm of Hg. There was a hemispherical lump, about 6x7cm in size, firm, slightly tender, mobile, free from anterior abdominal wall occupying umbilical and left lumbar region. There was no ascites. Bowel sound was absent. Per rectal examination was normal.

The routine biochemical profiles were within normal limit including serum amylase. Plain X-ray abdomen in erect posture was normal. Abdominal ultrasound revealed a fairly large mass containing encysted

- Prof Md. Margub Hussain, FCPS, FICS, MHPEd, Professor of Surgery, Dhaka Medical College & Hospital
- Dr Ashrafur Rahman, Indoor Medical Officer, Department of Surgery, Dhaka Medical College Hospital
- Dr Mohammad Raisul Abedin, Registrar, Department of Surgery, Dhaka Medical College Hospital
- Dr Md. Ahsan Habib, Assistant Registrar, Department of Surgery, Dhaka Medical College Hospital

**Address of Correspondence:** Prof Md. Margub Hussain, FCPS, FICS, MHPEd, Professor of Surgery, Dhaka Medical College Hospital

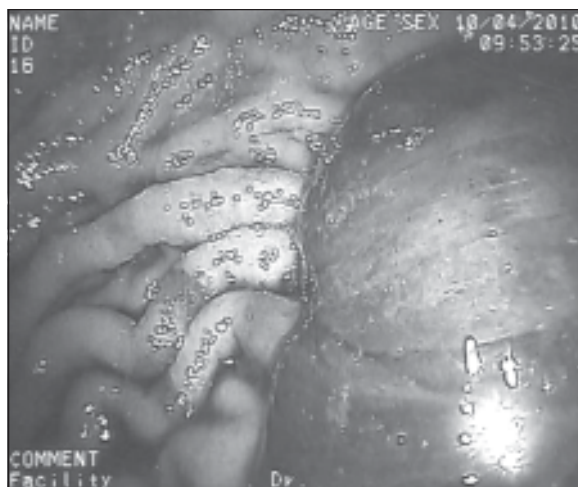
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**Fig 2:** Water soluble contrast x-ray – filling defect within the stomach. The contrast medium failed to pass beyond the stoma.

collection with thick walled bowel loop in the upper part of central abdomen and in the left side. Water soluble contrast x-ray of stomach and duodenum showed filling defect inside the stomach and absence of contrast medium beyond the stoma. Upper GI endoscopy showed intussusception of jejunum into the stomach through gastrojejunostomy stoma. Mucosa of the protruded intestinal loop (intussusceptum) was black due to



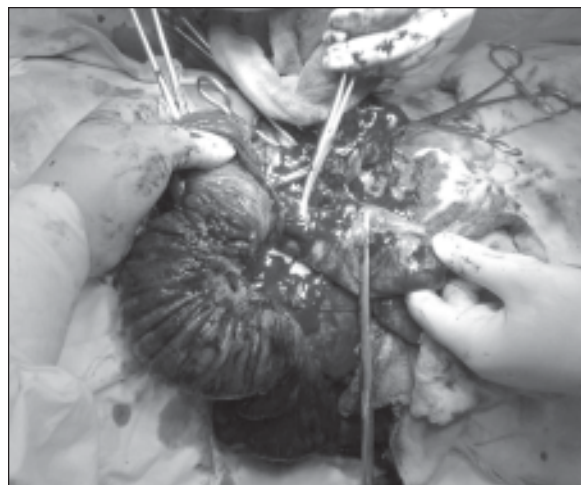
**Fig 3:** Preoperative endoscopy revealed gangrenous jejunal loop (intussusceptum) within the stomach.

ischaemic necrosis. The diagnosis of JGI was established and an emergency laparotomy was performed.

At laparotomy, the efferent loop was found intussuscepted in a retrograde way into the gastric lumen. Reduction of the intussusception was performed. The gangrenous segment was resected followed by jejunojeunal anastomosis. A feeding jejunostomy tube was placed distal to anastomosis. Postoperative recovery was uneventful.



**Fig 4:** Intraoperative photograph demonstrating the JGI



**Fig 5:** Intra operative photograph showing gangrenous jejunal segment after dismantling

#### Discussion:

Retrograde JGI was first described in a case of gastrojejunostomy by Bozzi in 1914<sup>1</sup>. Later it was also reported after partial gastrectomy and other operations.

It is a rare entity and just over 200 cases have been reported till 2008<sup>2</sup>.

Commonly held anatomical classification proposed by Shackman distinguishes three categories of JGI:

- Type I – where afferent loop is the intussusceptum constituting 15% cases;
- Type II – where efferent loop enters the stomach in a retrograde way. This is the commonest group (75-80%);
- Type III – represents a combined form in about 10% cases

Recently a fourth type where intussusception occurs through enterostomy (Braun anastomosis) stoma has also been described<sup>3</sup>.

The exact cause or mechanism of JGI is poorly understood, but various factors have been implicated. These include: (1) long afferent loop, (2) jejunal spasm with abnormal motility, (3) increased motility of efferent loop, (4) adhesions leading to intussusception of a more mobile segment into fixed segment, (5) widening of upper jejunum, (6) hyperacidity, (7) increased intraabdominal pressure<sup>2,3</sup>. Retrograde peristalsis, seen in people prior to gastric surgery, seems to be accepted as a cause of retrograde JGI<sup>5,6</sup>.

Clinically two forms of JGI have been widely accepted: an acute and a chronic form. Again, there are two clinical types in an acute variety<sup>5,7</sup>. In the first type, the patient is suddenly seized with an acute attack of epigastric pain followed by a sensation of severe constriction of abdomen. A mass may be palpable in the central abdomen. Here, early operation has proved to be life saving in 90% of the cases. The second variety may be confused with a bleeding stomal ulcer, afferent loop syndrome or obstruction due to adhesions. Vomiting is frequent, being at first bloodstained and then frankly haemorrhagic. Since the medical line of treatment is usually tried first, a delay in surgery occurs causing more morbidity and mortality. In both types, however, spontaneous reduction is rare. It should be kept in mind that sudden onset of severe epigastric pain, vomiting and subsequent haematemesis and a palpable abdominal mass in a patient having a history of previous gastric surgery are thought as the classic triad of JGI<sup>8</sup>.

The chronic variety is characterized by recurrent bouts of epigastric distress, nausea and colicky abdominal

pain. Intermittent and sometimes severe vomiting may also occur. This may be confused with nonspecific abdominal pain and postoperative adhesions. Our case was probably a chronic form for last 10 years, which this time presented as acute variety.

Early diagnosis of the acute form is of paramount importance. The clinical picture is almost diagnostic. It can be confirmed by an upper GI endoscopy which will reveal the jejunal segment migrating into the stomach through the gastrojejunostomy stoma. A water-soluble upper GI contrast study may reveal a “coiled-spring” appearance within the stomach<sup>4</sup>. CT scan is also helpful and findings are characteristic and similar to enteroenteric intussusceptions. The chronic form may pose a diagnostic dilemma simply because the upper GI endoscopy or contrast x-ray is avoided in the symptomatic period. 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<sup>9</sup>.

The treatment of acute JGI is surgical intervention as soon as possible. Most authors report a mortality of 10% if operation is performed within 48 hours after the onset of severe symptoms and as high as 50%, if operation is delayed<sup>10</sup>. Surgical options vary according to peroperative findings. 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 of small intestine or to the transverse mesocolon. Gangrenous JGI requires resection of the gangrenous segment of jejunum along with revision of anastomosis. The treatment of the chronic recurrent variety of JGI is symptomatic. If symptoms persist, revisional surgery is performed. The surgical options include reduction, resection, revision of the anastomosis and taking down the anastomosis<sup>11</sup>.

#### **Conclusion:**

Jejunogastric intussusception, though rare, is a surgical emergency and requires prompt diagnosis. Endoscopy remains the investigation of choice. Early surgical intervention significantly reduces morbidity and mortality. Therefore clinicians should be aware of this possibility in similar cases. For those with chronic intermittent form, endoscopy or imaging at the time of attack or recurrent symptoms may establish diagnosis.

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**References:**

1. Bozzi E: Annotation, Bull Acad Med 1914, 122:3.
2. Kshirsagar AY, Shinde SL, Langade YB, Pujari SG, Jeur AS. Retrograde Jejunogastric intussusception with strangulation after posterior gastrojejunostomy. MJAFI 2008; 64: 282.
3. Yamaguchi, Tetsuya, Takahashi, Hiroshi, Kagawa, Ryuzaburo, et al. Recurrent retrograde jejunogastric intussusceptions. The American Surgeon; 2008; 74, 12.
4. Tauro LF, Roshan M, Aithala PSM, Hegde BR, Anand IP, John SK. A rare cause of haematemesis: retrograde jejunogastric intussusception. JAPI 2006; 54: 333.
5. Archimandritis AJ, Hatzopoulos N, Hatzinikolaou P, Sougioultzis S, Kourtasas D, Papastratis G, et al. Jejunogastric intussusception presented with haematemesis: a case presentation and review of the literature. BMC Gastroenterol 2001; 1:1.
6. Shackman R. Jejunogastric intussusception. Br J Surg 1940; 27: 475.
7. Menezes LT, D'Cruz A. Retrograde Jejunogastric intussusceptions following gastric surgery. J Indian Med Assoc 1986; 84: 310.
8. Foster DG. Retrograde jejunogastric intussusception – a rare cause of haematemesis. Arch Surg 1956; 73(6): 1009.
9. Czeriak A, Bass A, Bat L, Shemesh E, Avigad I, Wolfstein I. Jejunogastric intussusceptions – a new diagnostic test. Arch Surg 1987; 122: 1190.
10. Rahman M, Hossain A, Amin R, Uddin N, Hossain T, Saha A, Rahman A, Hossain T, et al. Jejunogastric intussusception: an unusual cause of haematemesis. **Journal of Medicine** 2010; 11:86.
11. Prasad S, Ramachandra L, Deepak S: Gangrenous Jejunogastric Intussusception. The Internet Journal of Surgery 2009; 19, 1.