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Jejunogastric intussusception; case report of a rare long-term complication

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Case Report

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Abstract

Background

Jejunogastric intussusception (JGI) is a rare complication following gastrojejunostomy (GJ) with a reported incidence of < 0.1%. The clinical suspicion, early diagnosis, and prompt management, can prevent a potential mortality which can be > 50% for a delay in the management.

Case presentation

: A 60-years-old male presented with acute severe epigastric pain associated with hematemesis, and diagnosed to have irreducible jejunogastric intussusception on endoscopy and CT scan. He had history of GJ done 20 years back for benign gastric outlet obstruction. He was managed with intussusception bearing jejunal segment resection and anastomosis and discharged to home in stable condition.

Conclusion

JGI is a rare, potentially fatal complication following gastrojejunostomy, can be managed successfully, if managed timely.

Clinical significance

: The knowledge of such a life threatening complication is necessary, to suspect the diagnosis and manage timely to avert potential mortality.

Introduction

Gastric resection and gastrojejunostomy, is a fairly common surgical procedure; however, a potentially disastous jejuno-gastric intussusception (JGI) is extremely rare in clinical practice. There are only a few cases reported in the literature, with an incidence of 0.1%.[1] The key to successful management lies in early recognition and management to avert a potential bowel gangrene and rarely mortality. The risk of mortality increases from 10% if intervened within 24 hours up to 50% if the intervention delayed beyond 48 hours.[2] The classical triad of palpable epigastric mass, upper gastrointestinal bleeding, and pain is seen in 50% of patients.[3] We, herein, present a case of middle aged male presenting after 20 years post gastrojejunostomy with classical triad of JGI and managed surgically.

Case Presentation

A 60-years-old male presented with moderate to severe epigastric pain with hematemesis to the emergency department for the last 1 day. He had undergone a loop gastrojejunostomy, 20 years back for

gastric outlet obstruction for complicated acid peptic disease with antro-pyloric stricture. He was asymptomatic for the last 20 years. He had no co-morbidities or addictions. Examination revealed, a thin build middle aged male with body mass index of 24 kg/m2. He had dehydration, tachycardia, and hypotension (Pulse rate: 110/min, blood pressure: 98/56 mmHg) responded to intravenous fluid supplementation. The abdominal examination showed a palpable lump in the epigastric and left subcostal areas corresponding to the site of pain. The previous midline scar was healthy. There was no other lump palpable in the abdomen, and no free fluid. He was being evaluated with upper gastrointestinal (GI) endoscopy which showed a dusky jejunal mucosa with JGI and CECT abdomen showed a classical jejunogastric intussusception with decreased vascularity and edematous intussuscepted jejunum (Fig. 1&2). He was taken up for an emergency exploratory laparotomy, and a efferent limb intussusception was noted (combined jejuno-jejunal and jejuno-gastric intussusception). The intussusception could be reduced from the stomach, however, the jejuno-jejunal intussusception was not reducible (Fig. 3). Hence, a segmental resection and side to side hand-sewn anastomosis was performed (Fig. 3). In view of edematous bowel, a modified Witzel feeding jejunostomy was done 15 cm distal to the anastomosis. The post-operative course was uneventful, and he was allowed orally on POD 3 and discharged on POD 6. On 3 month, follow-up, he is asymptomatic.

Discussion

Gastrojejunostomy (GJ), is performed to maintain the enteric continuity following a gastric resection (benign or malignant diseases), or as a component bypass surgery in cases of unresectable benign or malignant gastric outlet obstruction. A jejunogastric intussusception (JGI), is a potentially fatal complication of GJ. There are four types of JGI (Type 1: afferent limb intussusception, Type 2: efferent limb intussusception, Type 3: both limbs intussusception, Type 4: Braun limb intussusception). Among all the intussusception types, type 2 is the commonest (76.5%) as in our patient.[4] The commonest anatomical reason for JGI is long afferent limb, wide anastomosis, increased intra-abdominal pressure, post-vagotomy gastric dilatation, retrograde peristalsis; however, an exact etiology remains elusive.[4] The proposed mechanism of retrograde peristalsis may be segmented motor activity, and hyperacidity due to limited antral resection. The clinical presentation can be acute or chronic.[5] In cases of chronic presentation, the symptoms can be subtle with spontaneous reduction of the intussusception. While, in an acute presentation, there is epigastric pain (moderate to severe), vomiting (+ hematemesis) as noted in our case. The duration between index surgery and intussusception varies from days to years, and even reports of JGI occurring after 55-years of GJ have been reported.[3] In our case, the patient reported GJ to be performed approximately 20-years back. The JGI is not limited to Billroth II reconstruction, it can happen following Roux-en-Y GJ.[6]

The upper GI endoscopy, can be diagnostic and therapeutic. Often an contrast enhanced CT scan (CECT), can be useful to visualize the type of JGI, status of the intussusceptum, and any associated condition (recurrent malignancy).[7] In our case, the patient was evaluated with diagnostic upper GI

endoscopy for hematemesis, followed by CECT abdomen, to assess the anatomy and simultaneously resuscitated for dehydration.

Management of JGI depends upon reducibility of the intussusceptum (intussuscepted bowel) and viability of the bowel. If it is reducible and the intussusceptum is healthy, then a conservative management with endoscopic nasojejunal tube placement can be useful.[8] For an irreducible intussusception or compromised vascularity of the bowel, surgical exploration is needed. Intra-operatively, a gentle traction and reduction can be attempted. If it fails, then resection and reconstruction should be performed. To prevent further recurrence, fixation to surrounding structures (mesocolon, transverse colon, or stomach) can be performed.[7] In our case, the intussusception could be reduced from the stomach, however, the jejunojejunal intussusception was irreducible. Hence, resection of the intussuscepted segment was performed and side-to-side jejuno-jejunal anastomosis was fashioned. A feeding jejunostomy was fashioned 10 cm distal to the anastomosis, and which can act as an anchor to prevent future retrograde intussusception. We feel, a feeding jejunostomy during the primary surgery can prevent future efferent limb JGI as it can act as an anchor.

Conclusion

This JGI reiterates the very principle of early diagnosis and prompt management to prevent a potential catastrophic outcome.

Clinical significance

This case report provides insight to a potentially fatal complication, and will help to suspect and diagnose JGI timely. A prompt management can prevent a catastrophic outcome.

Abbreviations

CECT
Contrast enhanced computed tomography
GJ
Gastrojejunostomy
JGI
Jejunogastric intussusception

Declarations

Ethics approval: NA

Patient consent to participate: Obtained

Patient Consent for publication: Obtained

Author contributions: NKG, JN: conceptualized, NK, FA, DR, AV, JN: analyzed the data, NKG, DR, AV,FA, JN: prepared the manuscript, All authors read and approved the final manuscript

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Figures

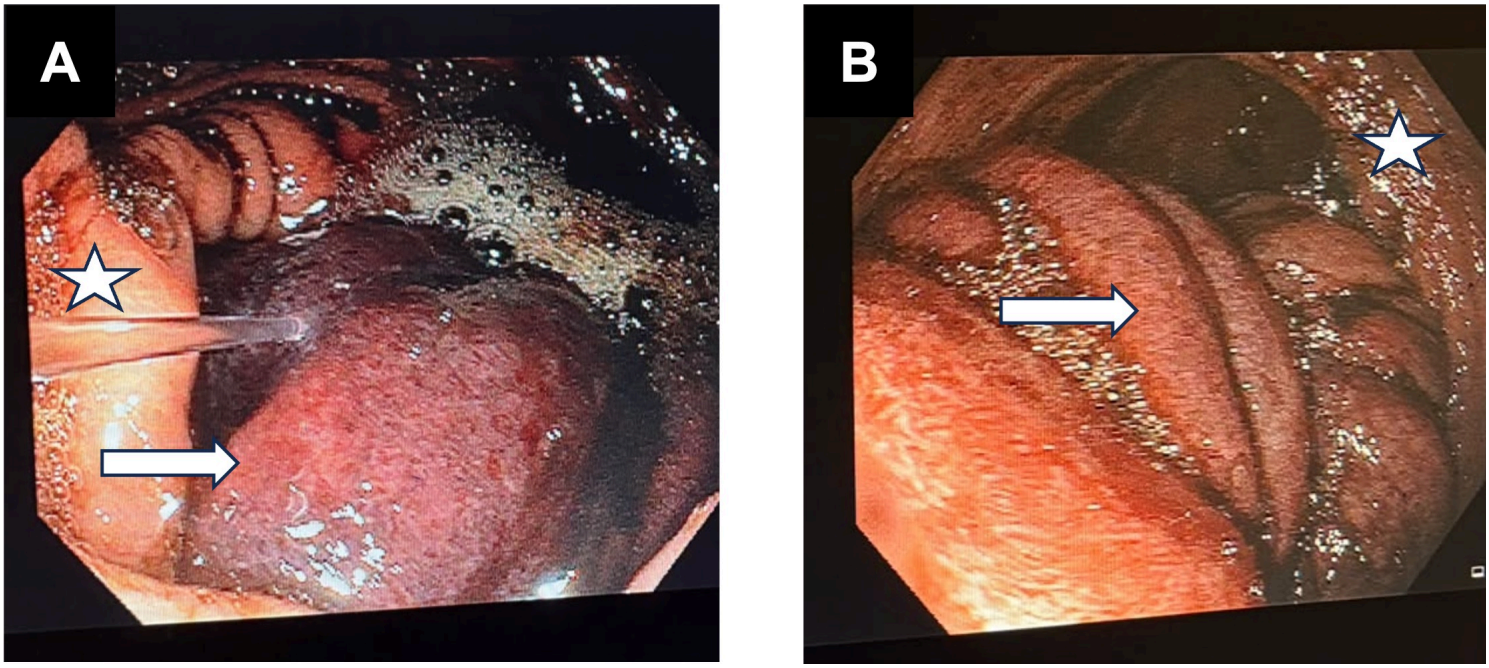


Figure 1

Diagnostic endoscopy showing the intussuscepted jejunum (arrow) and gastric mucosa (star)

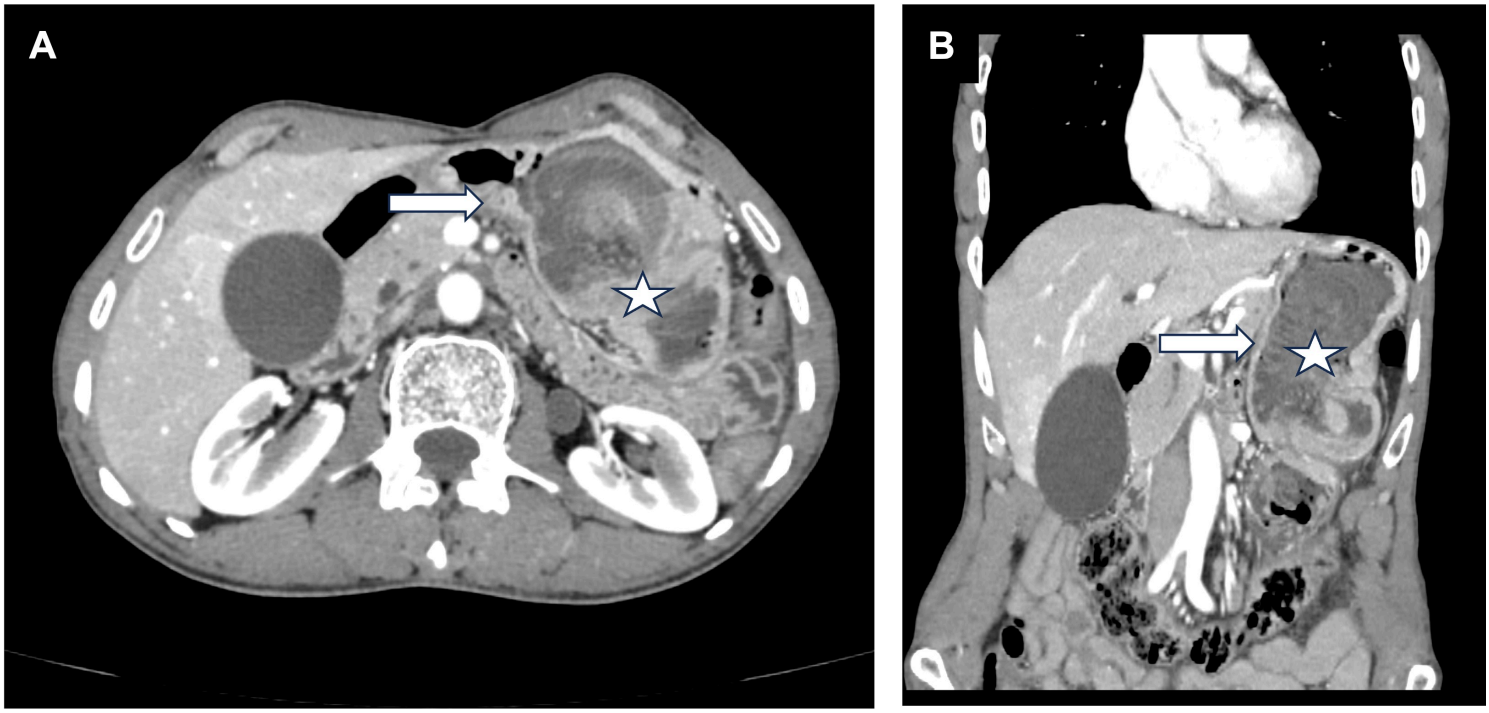


Figure 2

CECT images showing jejunogastric intussusception (arrow showing stomach, and star showing edematous jejunum)

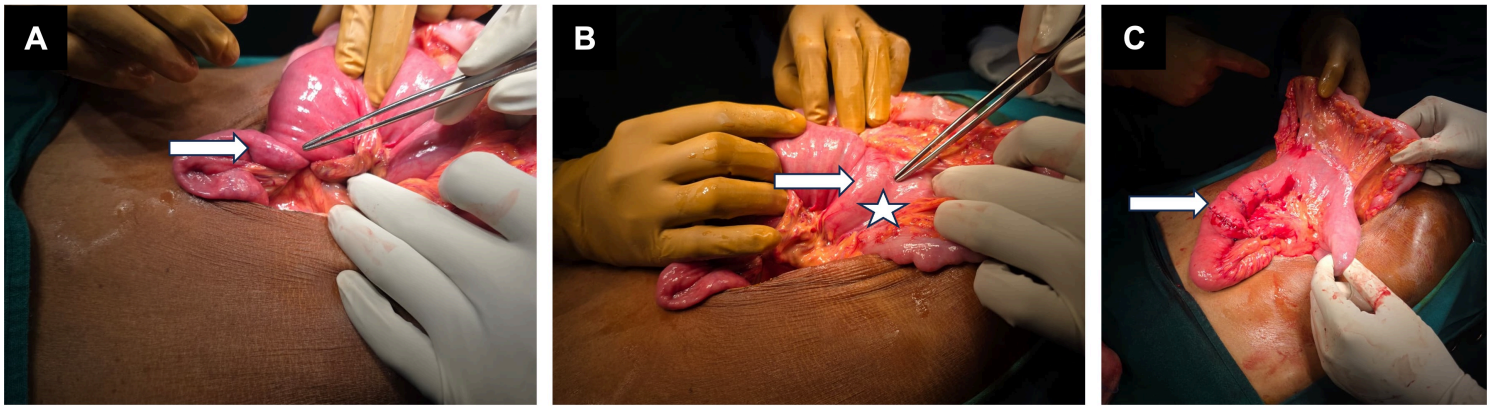


Figure 3

Operative pictures. A: Arrow showing jejuno-jejunal intussusception, B: Arrow showing jejuno-gastric intussusception and star showing stomach, C: Arrow showing side-to-side anastomosis.