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CASE REPORT

Retrograde jejunogastric intussusception following Braun's jejunojejunostomy

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Abstract

Jejunogastric intussusception is a rare long term complication of Billroth Ⅱ gastrectomy. The case reported here is a 50 year old man with history of a Billroth Ⅱ gastrectomy and Braun's side-to-side jejunojejunal anastomosis who presented with hematemesis. On abdominal examination, there was a mass in the left iliac fossa. Computed tomography scan showed a retrograde jejunogastric intussusception across the gastrojejunostomy. On laparotomy, a retrograde intussusception of the distal jejunum through the jejunojejunal anastomosis and across the gastrojejunostomy with a gangrenous intussusceptum was found. The jejunojejunal anastomosis was taken down, the gangrenous segment was resected and bowel continuity was restored with two jejunojejunal anastomoses, proximal and distal to the gastrojejunostomy. The gastrojejunostomy was preserved. This case brings out an unusual type of retrograde gangrenous intussusception which occurred at two points of a previous anastomosis, *i.e.*, jejunojejunostomy and gastrojejunostomy simultaneously, which could be managed with jejunal resection.

Key words: Retrograde; Intussusception; Billroth Ⅱ gastrectomy; Jejunojejunostomy

Core tip: Retrograde jejunojejunal and jejunogastric intussusceptions are rare. The occurrence of retrograde intussusception across two anastomoses has not been reported in the literature. A high index of suspicion and timely investigations like an esophagogastroscopy or a computed tomography scan will help to clinch the diagnosis early. Emergency surgical intervention can help to prevent clinical deterioration and save the life of the patient. We would like to emphasize the fact that a high index of clinical suspicion should be maintained in patients with gastroenteric anastomosis who present with hematemesis for the possibility of a retrograde jejunogastric intussusception; the results can be gratifying.

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INTRODUCTION

Retrograde jejunogastric intussusception is a potentially fatal complication of Billroth Ⅱ gastrectomy[1,2]. It is a rare complication of this procedure, with only just over 200 cases reported[2]. Retrograde jejunogastric intussusception can present with varied clinical presentations, like abdominal pain, vomiting, hematemesis, gastric outlet or intestinal obstruction and gangrene gut[1,3-6]. There are limited case reports of jejunojejunal intussusception through a Braun's jejunojejunostomy in cases of total gastrectomy[7]. To the best of our knowledge, there are

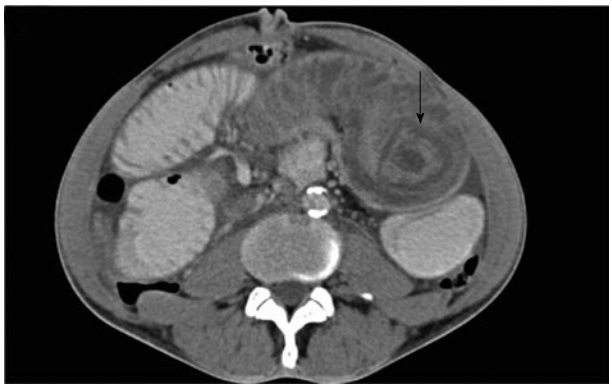

Figure 1 Computed tomography scan of the abdomen showing the intussusceptions of jejunum into the stomach *via* the gastrojejunostomy.

no reported cases of hematemesis presenting in a patient with retrograde jejunogastric intussusception through a Braun's jejunojejunostomy. We present a case that brings out an unusual type of retrograde gangrenous intussusception which occurred across two points of previous anastomosis, *i.e.,* jejunojejunostomy and gastrojejunostomy simultaneously, and presented with hematemesis.

CASE REPORT

A 50 year old gentleman who had undergone a Billroth Ⅱ gastrectomy and Braun's side-to-side jejunojejunal anastomosis five years ago for gastric outlet obstruction presented to our emergency department with a one day history of hematemesis. He had five episodes of vomiting altered blood. He gave no history of anything similar in the past. The patient was hemodynamically stable. Abdominal examination did not show any peritoneal signs. An 8 cm × 8 cm mass was palpable in his left iliac fossa. There was no palpable hepatosplenomegaly. An upper gastrointestinal endoscopy was attempted but visualization was poor due to the pooled altered blood. An emergency computed tomography (CT) scan of the abdomen revealed a retrograde intussusception of the jejunum into the stomach across the gastrojejunostomy (Figure 1). The patient was stabilized and taken up for emergency laparotomy. The findings of the CT scan were confirmed intraoperatively. The patient had a gastrojejunostomy and a diverting Braun's side-to-side jejunojejunal anastomosis. The efferent limb of the jejunum distal to the jejunojejunal anastomosis was seen telescoping across the jejunojejunostomy (Figure 2A) into the stomach through the gastrojejunostomy. Schematic representation of the normal anatomy and the retrograde intussusception is shown in Figure 3. The intussuscepted segment was gangrenous (Figure 2B) and there was around 500 mL of altered blood in the stomach but there was no obvious peritoneal contamination. The rest of the bowel, including the intussuscipiens segment, appeared viable. The jejunojejunal anastomosis was taken down and the contents reduced. The gangrenous segment of the jejunum was resected and the gastrojejunostomy was preserved. The bowel

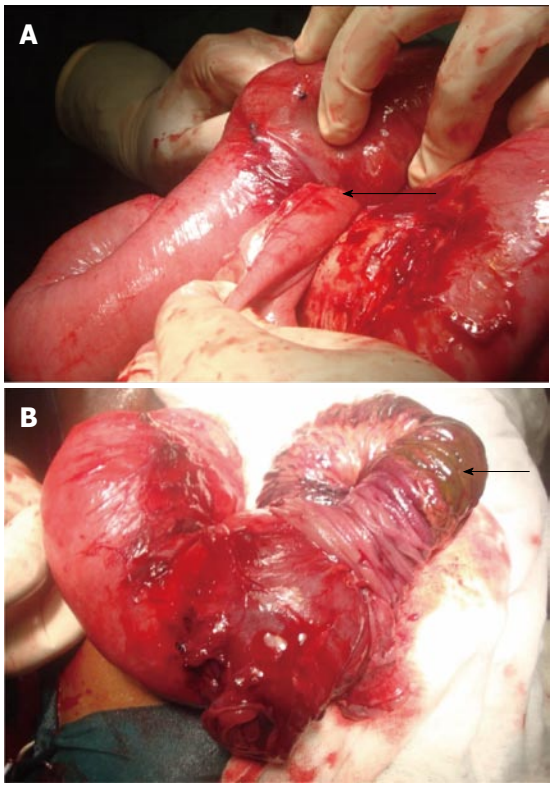

Figure 2 Intraoperative pictures. A: Showing the distal jejunum telescoping into the proximal limb across the Braun's jejunojejunal anastomosis; B: Showing the gangrenous intussusceptum after it was reduced from the proximal jejunum.

continuity was restored with two jejunojejunal anastomoses, one proximal and one distal to the gastrojejunostomy. A Witzel's type of feeding jejunostomy was placed distal to the second anastomotic line in the efferent loop. The postoperative period was uneventful. The patient's bowel activity returned to normal on the fourth postoperative day. He was initially started on jejunostomy feeds on the fifth postoperative day, on oral diet in the second postoperative week and discharged from hospital after removal of the feeding jejunostomy tube. The patient was asymptomatic at the first and second month follow-up visits.

DISCUSSION

Retrograde jejunojejunal and jejunogastric intussusceptions are rare but dangerous long term complications of Billroth Ⅱ gastrectomy and gastrojejunostomy. Jejunogastric intussusception is more common than the jejunojejunal variety[8]. There have also been reports of retrograde intussusception in patients who have undergone Roux-en-Y gastrointestinal anastomosis after gastrectomy[9] but the occurrence of retrograde intussusception across two anastomoses has not been reported in the literature. A high index of suspicion and timely investigations like an esophagogastroscopy or a CT scan will help to clinch the diagnosis early. Emergency surgical intervention can help to prevent clinical deterioration and save the life of the patient[2]. All the reported cases of retrograde intussusceptions of jejunum into the stomach through a gastroje-

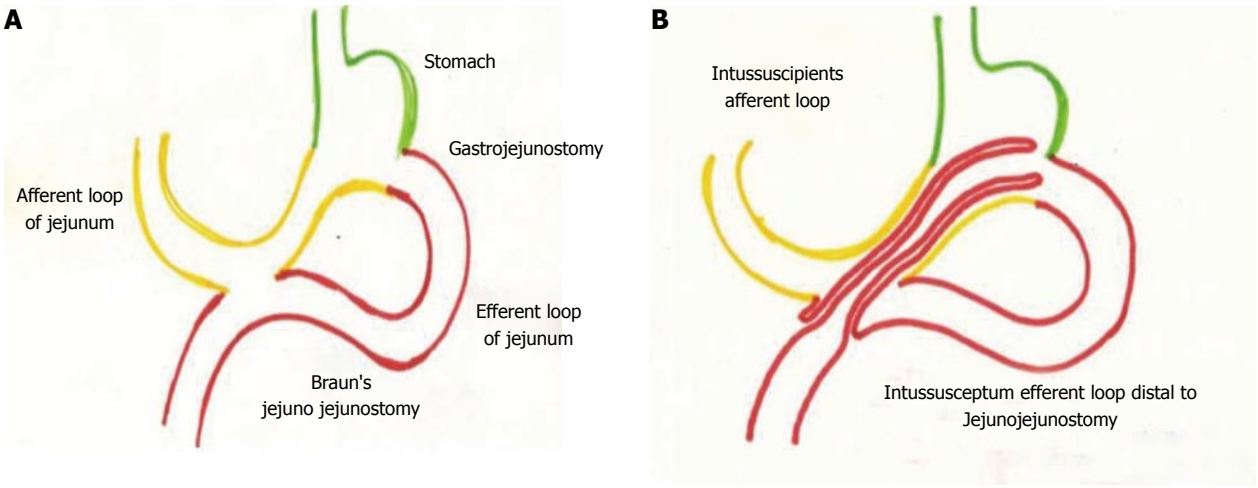

Figure 3 Schematic representation. A: The original anastomotic status of the patient; B: Intussusceptions across the jejunojejunostomy and the gastrojejunostomy.

junostomy have been managed by emergency laparotomy and appropriate resection procedures. In our case also, the relatively early presentation, the clinical suspicion and timely imaging helped in the early diagnosis and proper management and survival of the patient. We would like to emphasize the fact that a high index of clinical suspicion should be maintained in patients with gastroenteric anastomosis who present with hematemesis for the possibility of a retrograde jejunogastric intussusception; the results can be gratifying.

COMMENTS

Case characteristics

A 50 year old man with history of a Billroth II gastrectomy and Braun's side-to-side jejunojejunal anastomosis presented with hematemesis and mass in the left iliac fossa.

Clinical diagnoses

Unusual type of retrograde gangrenous intussusception which occurred at two points of previous anastomosis, *i.e.*, jejunojejunostomy and gastrojejunostomy simultaneously.

Differential diagnosis

Clinical examination, upper gastrointestinal endoscopy and imaging methods can help in arriving at the diagnosis.

Imaging diagnosis

Computed tomography scan showed a retrograde jejunogastric intussusception across the gastrojejunostomy.

Treatments

The jejunojejunal anastomosis was taken down, the gangrenous segment of jejunum was resected and bowel continuity was restored with two jejunojejunal anastomoses, proximal and distal to the gastrojejunostomy.

Term explanation

Braun's gastrojejunostomy: gastrojejunostomy with diverting jejunojejunal anastomosis.

Experiences and lessons

A high index of clinical suspicion should be maintained in patients with gastroenteric anastomosis who present with hematemesis for the possibility of a retrograde jejunogastric intussusception.

Peer review

This is an interesting subject with very good pictures.

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