

Retrograde Jejunogastric Intussusception

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ABSTRACT

Retrograde jejunogastric intussusception is a rare complication following gastric surgery. We present a case of retrograde jejunogastric intussusception in a 42-year-old female who presented with upper abdominal pain, vomiting and swelling in left hypochondrium. Intussusception was suspected on ultrasound of the abdomen and later confirmed with computed tomography scan. At laparotomy, efferent loop was intussuscepting into stomach. This was reduced and fixed to the abdominal wall and transverse mesocolon. It should be suspected in a patient with the previous history of gastric surgery as it is a rare complication. Early diagnosis and management can prevent further complications like bowel gangrene and its associated morbidity and mortality.

KEYWORDS: Gastrojejunostomy retrograde, jejunogastric intussusception

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INTRODUCTION

Retrograde jejunogastric intussusception is a rare complication of gastrojejunostomy and Billroth II reconstruction. About 200 cases of jejunogastric intussusception have been reported so far, in literature with the first case reported in 1914 by Bozzi after gastrojejunostomy.^[1,2] We report a case of retrograde efferent loop intussusception occurring 20 years after gastrojejunostomy.

CASE REPORT

A 42-year-old female presented with acute, severe continuous pain in the upper abdomen for 3 days. It was associated with multiple episodes of coffee colored vomiting and swelling in the left hypochondrium. Patient had similar complaints 1-year earlier for which she was hospitalized and was managed conservatively. She had open cholecystectomy 10 years earlier for cholelithiasis and some upper abdominal surgery 20 years ago, details of previous surgery were not available. She was poorly built and anemic. Patient had mild tachycardia, but blood pressure, and respiration rate was within normal limits. On abdominal examination, there were two well healed surgical scars, one in the upper midline and another in right the subcostal region. The abdomen was not distended, and there was a diffuse mass about 8 cm × 5 cm in the left hypochondrium. There was no tenderness and guarding. Bowel sounds were normal.

Abdominal X-ray showed dilated stomach with dilated small bowel loops on the left side of the abdomen. Ultrasound revealed hypochoic intragastric mass having irregular margins [Figure 1]. Contrast-enhanced computed tomography of the patient showed serrated intragastric mass of about 8.4 cm with intra gastric contrast around it giving a “claw sign” suggestive of the retrograde intussusception. The serrated margins were due to thickened mucosal folds of intussuscepted jejunal loops. The coronal view showed efferent jejunal loop with areas of central fat attenuation (-42 HU) suggestive of jejunal mesenteric fat along with vessels intussuscepting into stomach and dilated afferent jejunal loop. The sagittal view showed a “target type” intragastric lesion due to jejunogastric intussusception [Figures 2-4].

At laparotomy, there was retro colic, posterior gastrojejunostomy. The efferent jejunal loop was intussuscepting into the stomach, and afferent jejunal loop was dilated. The intussuscepted efferent loop was manipulated back to its normal position. The efferent loop was edematous, thick walled and viable having circumferential hyperemic ring on its serosa. The efferent loop was sutured to the anterior abdominal wall and transverse mesocolon to prevent recurrence. Postoperative course was uneventful. On follow-up after 3 months, patient is asymptomatic and doing well.

DISCUSSION

Jejunogastric intussusception is a rare complication following gastric surgery. It is anatomically divided into three types depending on afferent or efferent loop intussusception, type I: Afferent loop intussusception, type II: Efferent loop intussusception type III: Both efferent and afferent loop intussusception.^[3] Type II is observed in 80% of cases

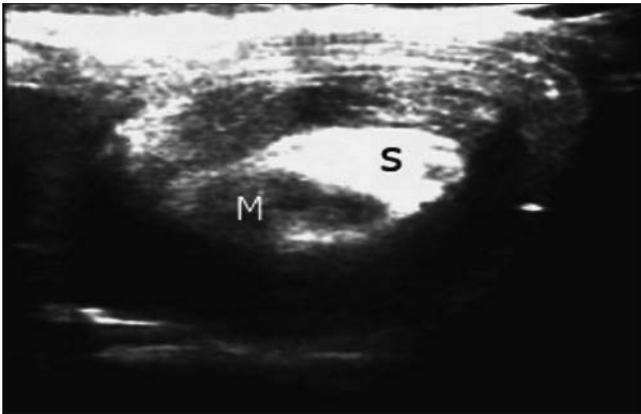


Figure 1: Abdominal ultrasound showing a hypoechoic intragastric mass (M) having irregular margins. The lumen of the stomach (S) is forming crescent around it

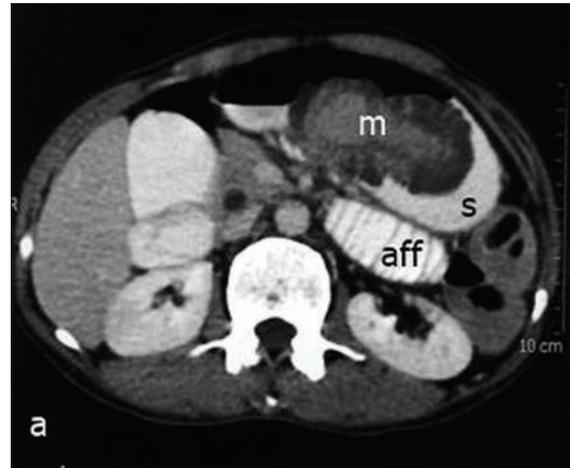


Figure 2: Axial contrast-enhanced computed tomography showing a large intragastric mass with serrated margins and contrast around it leading to "claw sign" suggestive of retrograde intussusception through the gastrojejunostomy

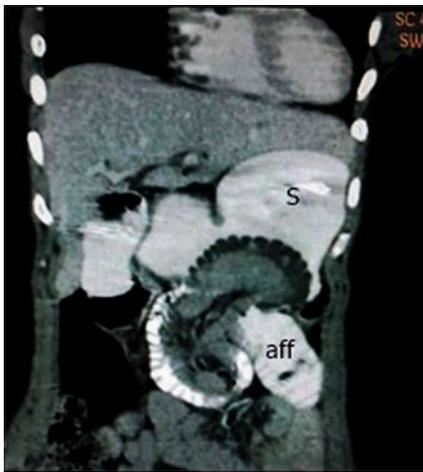


Figure 3: Coronal contrast-enhanced computed tomography showing efferent loop with areas of central fat attenuation (-42 HU) suggestive of jejunal mesenteric fat along with vessels intussuscepting into stomach (S) and dilated afferent jejunal loop (aff)

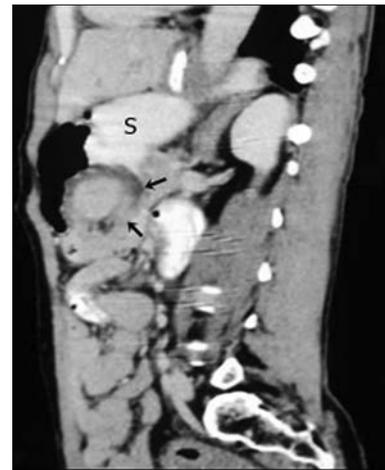


Figure 4: Sagittal computed tomography section showing a "target type" intragastric lesion due to jejuno-gastric intussusception

and our case also fits into type II. It has been suggested to be more common due to greater mobility of efferent loop than afferent loop. Various functional and mechanical factors have been implicated in its etiology, but none has been proved. The causes postulated are antiperistalsis with vomiting, adhesions with kinking of bowel, dilatation of bowel following gastrectomy, hyperacidity, jejunitis causing retrograde peristalsis, shortening of the mesentery of the jejunal loop and jejunal stenosis with obstruction facilitating antiperistalsis.^[4,5]

Jejuno-gastric intussusception have been reported in immediate postoperative period and even 55 years after gastrojejunostomy.^[4] It may present acutely or chronically. Acute intussusception presents with high intestinal obstruction left hypochondriac mass and hematemesis. Initially, vomitus is clear then it becomes coffee colored, and later massive hematemesis occurs. Chronically, it presents as repeated episodes of epigastric fullness and vomiting

due to intermittent reversible intussusception.^[6] In our case, patient probably had one previous episode of intussusception 1-year back which resolved spontaneously, and now it has presented in the acute form.

High index of suspicion is required for early diagnosis as mortality increases from 10% to 50% with a delay of 48 h of surgery in acute intussusception.^[4] Plain X-ray abdomen may show dilated stomach with homogenous mass. A water-soluble upper gastrointestinal (GI) contrast reveals a "coiled-spring" appearance (of the jejunal intussusception) within the stomach. Ultrasonography showed intragastric tubular mass with peristalsis and computed tomography (CT) scan shows intragastric intussusception.^[7,8] Upper GI endoscopy helps in the diagnosis and can be therapeutic in reducing the intussusception.^[9] In this case, diagnosis was suspected on ultrasonography and later confirmed by CT scan.

Although spontaneous reduction has been reported, but surgical intervention is the treatment of choice after the diagnosis is made as it is not possible to predict which patient will undergo spontaneous reduction or progress to gangrene. Various surgical options include reduction alone, plicating the mesentery of the jejunum in the area of intussusception, fixing the efferent loop to adjacent tissues such as transverse mesocolon, colon, stomach, and parietal wall, converting to Billroth I anastomosis. If a small intestine is gangrenous then resection of gangrenous segment is the only option.^[4-7] Although there are reports of endoscopic reduction of intussusception, but it is contraindicated when signs of peritoneal irritation are present.^[9] Due to a limited view on endoscopy, it is difficult to ascertain the viability of the intussuscepted loop.^[6] Endoscopic reduction was not done in this case as facilities of endoscopic reduction are not available at our hospital. In our case, after reduction of viable efferent loop, it was fixed to transverse mesocolon and anterior parietal wall to prevent recurrence.

CONCLUSION

Retrograde jejuno-gastric intussusception is a rare but well known complication after gastrojejunostomy and Billroth II reconstruction. High index of suspicion is required for early diagnosis to prevent morbidity and mortality.

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