

Case Report



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Jejunojejunal Intussusception causing Intestinal Obstruction with Anastomotic Site as Lead Point

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ABSTRACT

Intussusception is a condition in which a segment of the intestine invaginates into the lumen of an adjacent segment of the intestine. Adult patients presenting with intestinal obstruction due to intussusception is rare. We present a case of a 35-year old male, who presented with features of intestinal obstruction due to intussusception, lead point being previous anastomosis site on jejunum.

Keywords :Jejunojejunal Anastomosis;Intestinal Obstruction;Intussusception

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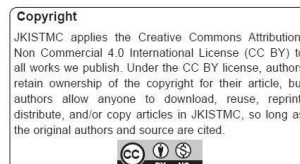
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INTRODUCTION

Intussusception is a condition in which a segment of the intestine invaginates into the lumen of an adjacent segment of the intestine. Intestinal intussusception in adults is considered a rare condition, accounting for 5% of all cases of intussusceptions and only 1%-5% of intestinal obstruction^{1,2}. The clinical presentation of intussusception in adults can be nonspecific, with the pathognomonic clinical picture rarely seen. As the symptoms are nonspecific, intermittent, and subacute in nature, diagnosis is usually missed in adults.^{1,3} Though most cases of intestinal obstructions in adults are caused by structural

lesions, commonly malignant neoplasms, intussusception is a vital differential to consider.

Intussusception is a rare cause of postoperative intestinal obstruction in adults.^{2,4,5} We present a case of an adult male presenting with intestinal obstruction due to jejunojejunal intussusception in the postoperative period following resection and anastomosis of Gastro-Intestinal Stromal Tumours from the jejunum.

CASE PRESENTATION

A 35-year old male presented with complaints of multiple episodes of vomiting, pain abdomen and absolute constipation for 4 days. He had undergone resection of Gastro-Intestinal Stromal Tumor (GIST) of jejunum 20 cm from ligament of Treiz with jejunojejunostomy one month ago. On abdominal examination, a palpable mass felt over the upper abdomen, with visible peristalsis. All lab investigations were within normal limits and a plain X-ray of abdomen didn't show an air-fluid level. A computed tomography scan (CT scan) of the abdomen showed bowel within bowel configuration forming concentric rings suggestive of target lesions, slight dilation of small bowel (3.2cm) proximal to this area suggestive of intussusception. (Figure 1)

After initial management of the condition, an exploratory laparotomy was performed. An intussusception at a previously operated jejunojejunostomy site around 20cm from Duodenojejunal flexure. junction with adhesion of proximal and distal bowel loops was found intraoperatively. (Figure 2) Resection of intussusception with jejunojejunal anastomosis was done. The histopathological report of the resected segment showed an intussusception is with Chronic inflammation with giant cell reaction to suture material. hypertrophic cells at the anastomosis site. After one month of follow-up, the patient was doing fine. He had an uneventful post-operative period.

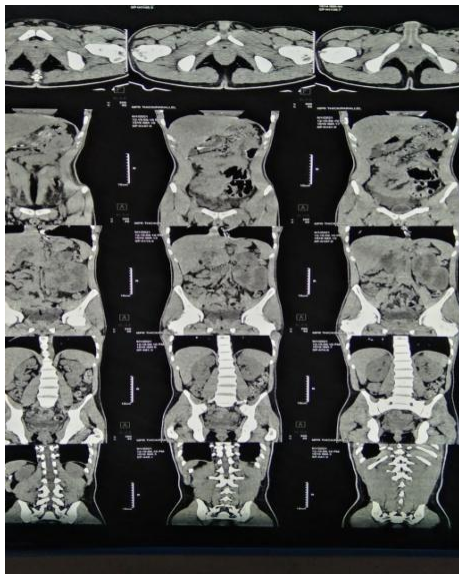


Figure 1. CT Scan showing the proximal jejunojenunal intussusception



Figure 2. Intra-operative picture showing Jenunojejunal Intussusception at previous anastomosis site .

DISCUSSION

While intussusception is a rare clinical entity in adults, the condition is almost always secondary to a definable lesion.⁶ Inflamed mucosa or mass lesions could act as lead point which results in hyperperistaltic movement leading a segment of the bowel to telescope into the adjacent distal bowel lumen.⁷ 90% of cases of intussusception in adults are due to organic and pathological conditions like inflammatory bowel disease, Meckel's diverticulum, iatrogenic causes, or many benign or malignant lesions serving as a lead point; while about 8-20% of cases are without a lead point.¹ In our case, postoperative inflammation of the intestinal wall or suture line adhesions around the anastomotic site was the cause of intussusception, serving as a lead point.

Intussusception following abdominal operations is established as a well-known cause of intestinal obstruction in the pediatric age group but is rarely considered in adults.⁸ Post-operative intussusception in adults has been recognized as a distinct entity and few cases had been reported. Intussusception from the site of anastomosis site after resection of the intestine is extremely rare

with abnormal motility in proximity to duodenal flexure and larger diameter acting as probable predisposing factors.⁴ In our case resection of GIST was followed by jejunojejunal anastomosis.

In the age group 45-50, idiopathic postoperative intussusception may occur around 4th or 5th postoperative day, especially the jejunojejunal type; whereas intussusception with predisposing factors like suture line adhesions may have late presentation.⁹ Suture line adhesion could be a probable cause in our case; thus the presentation was late, i.e. one-month postoperative period.

A high index of suspicion is necessary for its early detection of intussusception presenting with intestinal obstruction in postoperative period following resection anastomosis. The classic clinical triad of conventional intussusception consisting of abdominal pain, palpable sausage-shaped mass, and "currant-jelly" stools are rarely present and the most important symptoms are vomiting and abdominal distension.⁸ In our case, there was a typical feature of intestinal obstruction like abdominal pain, vomiting, unable to pass stool, and flatus. A palpable abdominal mass was also present. This led to a high degree of suspicion and early diagnosis.

In a study of 25 cases of adult intussusception, the underlying pathologic processes were identified in 92% of patients in which tumor-related was 52% and the postoperative cause was found in 36%. Various factors like suture lines (end-to-end, end-to-side, and Roux-en-Y types), oversewn ileum in jejunoileal bypass, closure sites, long intestinal tubes, electrolyte imbalance, chronic dilatation of bowel, etc were associated with postoperative intussusception. Jejunojejunal (4%), jejunojejunal (28%), ileoileal (16%), ileocolic (40%), and colocolic (12%) were the sites involved in intussusception.⁸ Matsumoto et al. reported two cases of postoperative intestinal obstruction due to jejuno-jejunal intussusception at the site of anastomosis after harvest of a free jejunal graft. Early bowel obstruction and resection of the anastomotic site and reanastomosis (side to side) were needed in both cases.⁵ The same study reported another literature where eight cases of post-operative intussusception occurred after a free jejunal transfer where jejuno-jejunostomies in an end-to-end fashion by the Albert-Lembert method was performed, which acted as a lead point in all cases. All patients underwent reoperation, and almost all of the patients required bowel resection.⁵ In our case the lead point was the

anastomosis site and the patient underwent resection of the jejunal gastrointestinal stromal tumour a month back. Literature suggests that reconstruction by Albert-Lembert end-to-end anastomosis should be avoided to prevent the occurrence of postoperative intussusception.⁵ Instead, Single-layer or side-to-side anastomosis could be a safer alternative to prevent the rare complication of anastomotic site intussusception.⁴

Computed tomography (CT scan) is the most sensitive diagnostic modality in the diagnosis of intussusception^{1,10} and can distinguish between intussusceptions with and without a lead point.¹ Wang et al. conducted a study of 44 intussusceptions wherein, 65.9% of intussusceptions were diagnosed preoperatively using a CT scan (90.5% accurate) and ultrasonography (60.0% accurate, rising to 91.7% for patients who had a palpable abdominal mass).¹¹ Therefore, ultrasonography is also helpful for diagnosis in the case of a palpable abdominal mass.¹¹ Ultrasound, CT scan, and oral barium contrast examination have been found helpful in the diagnosis of postoperative intussusception.⁸ In our case CT scan was diagnostic.

In contrast to pediatric intussusceptions, which are managed nonoperatively,³ operative management is almost always necessary in adults.⁶ Transient asymptomatic enteric cases may resolve spontaneously; however, surgery is indicated in complete and persistent bowel obstruction.²

Surgery is the definitive treatment of adult intussusceptions because adult intussusception is often frequently associated with malignant organic lesions.^{1,7} Formal resection of the involved bowel segment is usually definitive treatment.^{1,3,7} To limit the extent of resection and/or prevent short bowel syndrome, reduction may be attempted in certain cases.¹ In intussusceptions occurring postoperatively after bowel resection and anastomosis when cause is the anastomotic point, reduction might be attempted, but in our case, resection of intussusception was done taking into account for recurrence in future.

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