

Case Report

Ileo-ileo-colic intussusception in adults: a rare event causing acute intestinal obstruction

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ABSTRACT

Intussusception is a common finding in children accounting for approximately 25% of all abdominal emergencies in patients below five years of age. This, however, is a rare observation in adults accounting for only 5% of all intussusceptions. Among them, those leading to acute intestinal obstruction are about 1-5%. Diagnosis is based on radiographic findings seen on ultrasonography or CT scan as the presentation in adults is often difficult to diagnose clinically due to the variable presentation. We present here a case of intussusception in a 24 year old male presenting as acute intestinal obstruction. Exploratory laparotomy with resection of the bowel segment was done followed by end to end anastomosis. Post-operative course was uneventful.

Keywords: Ileo-ileo-colic, Adult intussusception, Acute intestinal obstruction

INTRODUCTION

Intussusception is a condition in which a segment of bowel invaginates into an immediately adjacent segment, like a telescope. Ileo-colic intussusception is the most common type, accounting for over 80% of cases in children. In adults, intussusception causing obstruction is a rare occurrence accounting for about 1-5% of the cases and accounts for about two to three cases occurring in a population of 1 000 000 per annum with less than 0.1% of all adult hospital admissions.¹⁻³

Children usually present with classical symptoms of red currant jelly stools associated with abdominal pain and a palpable mass.^{5,7} However these are rarely seen in adults due to the variable presentation. Transient intussusception can also be an incidental finding in adults on CT of the abdomen after oral contrast administration which does not require intervention.

Among children, in 90% of these no underlying cause is found, although most probable cause is as a result of hypertrophy of lymphoid tissue in Peyer's patches or mesenteric lymph nodes following a recent infection acting as a "lead point" for intussusception to occur. On the other hand, in adults the cause is either malignancy or a lipoma in majority of the cases reported. In some cases, polyps associated with syndromes such as Peutz Jeghers have also been found. Meckels diverticulum can also act as a lead point of intussusception in older children as well as in adults.

CASE REPORT

A 24 year old male patient presented with severe pain in abdomen, associated with multiple episodes of vomiting with abdominal distention and constipation. There was no history of similar complaints in the past and no history of bleeding per rectum. Symptoms were not associated with fever or loss of weight/appetite. On admission, patient

was normotensive but presented with tachycardia. Abdominal examination revealed distension of abdomen with generalised tenderness without any palpable lump.

Chest and abdominal radiographs were done which showed multiple air fluid levels. Ultrasound of abdomen revealed the classical target sign with telescoping of ileal loop into distal ileal segment suggestive of ileo-ileal intussusception.



Figure 1: Abdominal radiograph showing multiple air fluid levels.

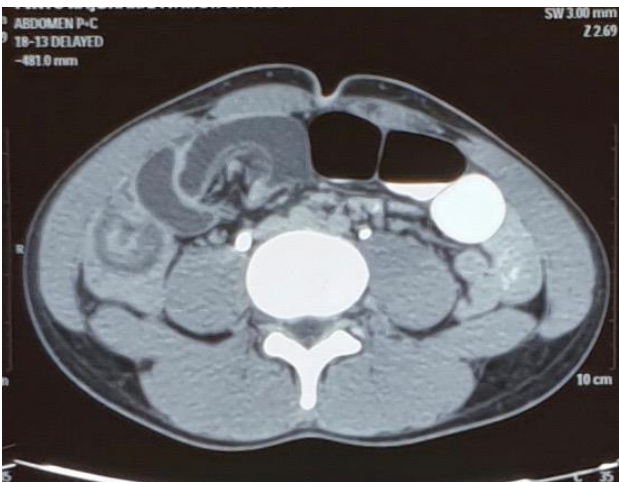


Figure 2: Contrast CT of abdomen showing proximal bowel loops invaginating into the distal loops.

Contrast CT of abdomen was done which showed the distal ileal segment intussuscepting into the caecum suggestive of ileo-colic intussusception with dilatation of proximal ileal loops. However no lead point was noted.

Patient was taken up for emergency exploratory laparotomy in view of acute intestinal obstruction. There was dilatation of proximal small bowel up till the terminal ileum, followed by the telescoping of terminal ileal loops into the caecum and up till the proximal ascending colon leading to an ileo-ileo-colic

intussusception. No lymphadenopathy or free fluid was noted. The intussusception was reduced by gentle traction and retrograde pressure from the apex. The telescoping ileal segment along with the proximal ascending colon were resected followed by end to end ileo-colic anastomosis. The telescoping segment showed multiple strictures, the largest being the lead point. Post-operative recovery was uneventful and patient was discharged on post-operative day 7.

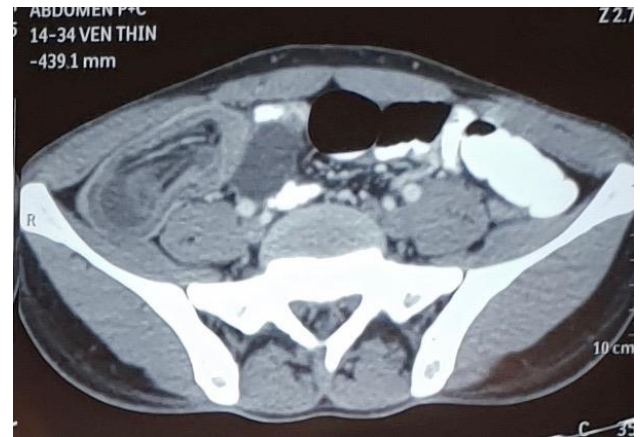


Figure 3: The classical target sign of intussusception seen in this CT image.



Figure 4: Specimen showing ileal loop telescoping into colon.



Figure 5: Specimen showing the lead point of intussusception.

Histopathology report of the segment showed only chronic inflammatory changes and did not show any evidence of lipoma or any malignancy, which is usually a cause for such an event.

DISCUSSION

Intussusception is commonly found in the paediatric age group and can commonly present as intestinal obstruction. Its presentation in the adult age group is an uncommon occurrence with incidence around 2–3 per 10,00,000 per year¹. Intussusception can present in various forms amongst which ileocolic is the most commonly found in children followed by ileo-ileo-colic. Colo-colic intussusception is commonly seen in adults. The common causes for intussusception in children is usually a hypertrophy of peyer's patches secondary to a viral illness or it may be idiopathic. However in adults, it is usually due to a malignancy in 50% of the cases or a lipoma.^{4,5} This leads to a difference in management of intussusception in adults.

An intussusception is composed of three parts: the entering segment of bowel (intussusceptum), the middle segment and the distal bowel loop into which the proximal bowel enters (intussusciens). The part that advances is the apex, the mass is the intussusception and the neck is the junction of the entering layer with the mass.⁶

The classical presentation of abdominal pain, palpable mass and red currant jelly stools which is seen in children is rarely seen in adults.^{5,7} Adults usually present with abdominal pain associated with bleeding per rectum and diarrhoea. In most cases the presentation is non-specific which might lead to a delay in the diagnosis. Patients rarely present with obstruction and if they do, symptoms such as constipation associated with abdominal distention and vomiting are usual. Abdominal radiograph and barium enema help in the establishment of the diagnosis. Ultrasonography and CT scan have a higher sensitivity for detection of intussusception. CT scan has been reported to have a diagnostic accuracy of around 80%.⁸ On CT scan, the target sign may be evident and if present is pathognomonic. The dense intussuscepted mass comprising of swollen bowel and mesentery within the lumen of the bowel is responsible for the characteristic target lesion seen on the CT scan.⁹ Ultrasound scan is a less invasive but is operator dependent. Target or pseudo-kidney sign and doughnut sign are diagnostic for intussusception on ultrasound.¹⁰ The examination is of limited value in the presence of significant amount of air in the intestine.

In adults, malignant growth of the small bowel or the colon is the most common cause for intussusception. However, benign lesions such as small bowel lipomas, polyps such as Peutz-Jeghers syndrome account for almost 25% cases of intussusception. The commonest benign lesion is a lipoma in the colon. These are solitary

submucosal lesions with 75% occurring in the right colon.¹¹⁻¹³

Conservative management is limited to the paediatric age group. Operative intervention is required in adults due to higher incidence of malignancy. This usually involves segmental colonic resection. The type of procedure depends upon the location of intussusception, pre-operative diagnosis and condition of the intestine at the time of laparotomy. Intraoperative reduction of the intussusception can be done but this carries a higher risk of embolization in case of malignancy. Resection can be followed by anastomosis or a diverting stoma creation depending upon the status of the patient and the health of the bowel.

In most cases of adult colonic intussusception, primary resection without reduction should be performed particularly in those more than 60 years of age due to a higher risk of malignancy. In cases of small bowel intussusception reduction before resection should be carried out only if there is a pre-operative diagnosis of benign etiology, the bowel is viable or it entails resecting massive lengths of small bowel with the risk of short gut syndrome.¹⁴

CONCLUSION

Adult bowel intussusception is a rare cause of intestinal obstruction and hence is challenging for the surgeon. Preoperative diagnosis is often delayed due to non-specific presentation of the patient. Ultrasound can diagnose the condition but is operator dependent. CT is the preferred diagnostic method for this rare condition, because it clearly demonstrates the presence and location of intussusception and it can differentiate fat tissue from other tissues.

In the case described here, the patient presented with symptoms of intestinal obstruction which was diagnosed by abdominal radiograph. Intussusception was picked up on ultrasound and confirmed by CT scan. Intraoperative reduction of intussusception was attempted as the bowel was healthy without any free fluid or lymph nodes. Limited resection of the bowel was done with anastomosis without any stoma creation as the patient was young with good nutritional status.

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