

# Small Bowel Intussusception in an Adult due to Lipoma: a Rare Cause of Obstruction. Case report and Literature Review

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## Abstract

Intussusception in adults is rare. The clinical picture of intussusception in adults is subtle and the diagnosis is, therefore, elusive. The presence of a structural abnormality in the great majority of the adult cases mandates high clinical suspicion. Gastrointestinal lipomas are rare benign tumors and intussusception due to a gastrointestinal lipoma constitutes an infrequent clinical entity. The present report describes an unusual case of adult intussusception caused by a lipomatous polyp of terminal ileum with nonspecific abdominal symptoms. The diagnosis of intussusception was finally raised by a computed tomography (CT) scan of the abdomen.

## CASE REPORT

A 42-year-old female was admitted to the emergency department at KMC Manipal, with history of abdominal pain and distention since 10 days, insidious in onset and gradually progressing. It was localized centrally, associated with distention, vomiting and constipation. On admission, the patient was haemodynamically stable and afebrile. On per abdomen examination, the abdomen was distended and nontender, with no sign of peritonism. Laboratory investigations revealed hemoglobin of 12.7 g% and white cell counts of 7200 mm<sup>3</sup>. Liver function, renal function test and electrolytes were within normal values. Plain X-ray of the abdomen showed multiple air-fluid levels.

Contrast enhanced computed tomography (CT) scan of the abdomen showed ileoileal intussusception with proximal dilatation of the bowel loops. A lobulated fat-density lesion suspicious of Lipoma was seen as the lead point (figures 1, 2 and 3).

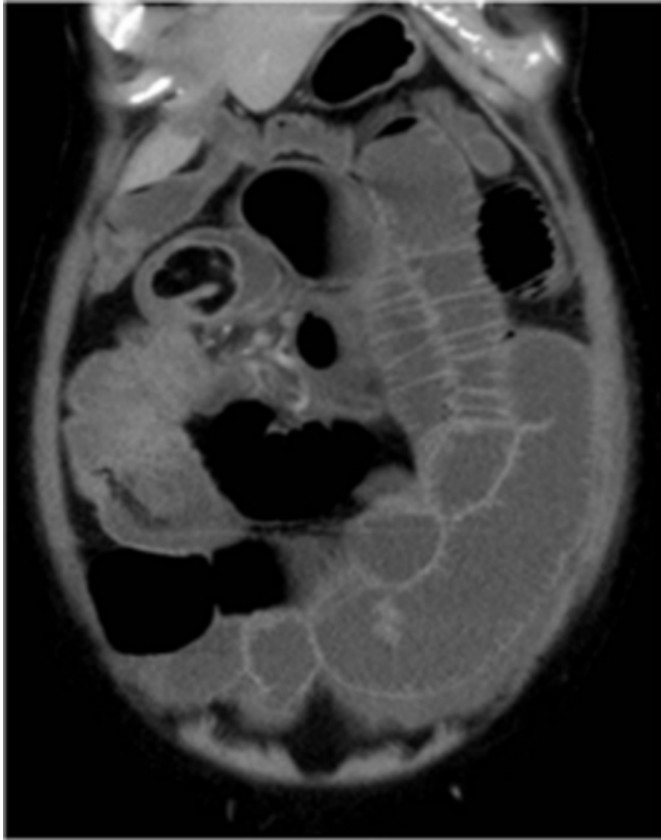
## Figure 1

Figure 1: CT coronal view showing multiple dilated small-bowel loops with bowel-within-bowel appearance in distal ileal loops.



**Figure 2**

Figure 2: CT coronal view showing a fat-attenuation lesion at the lead point of intussusceptum



**Figure 3**

Figure 3: CT sagittal view showing target appearance in the cross sectional view of the intussusception



An explorative laparotomy was performed which showed ileoileal intussusception with patchy areas of gangrene. Limited right hemicolectomy was performed. The gross specimen showed a polyp of 5 x 3cm as the lead point (figures 4 and 5). Histopathological analysis of the polypomatous growth came out as lipomatous polyp with ischemic changes of the ileum without any evidence of malignancy.

**Figure 4**

Figure 4: Ileoileal intussusception with gangrenous areas



**Figure 5**

Figure 5: Resected specimen showing lipomatous polypoidal growth from the distal ileal loop.



## DISCUSSION

Intussusception is the invagination of a proximal segment of the bowel with its mesenteric fold (the intussusceptum) into the lumen of the adjacent distal segment (the intussusciens) as a result of peristalsis. Adult intussusception is a rare disease that constitutes

approximately 5% of all intussusceptions and accounts for 1% of all adult intestinal obstructions. It shows an incidence of 0.003 to 0.02% of all hospital admissions (1-5).

Adult intussusception is unusual and it differs from childhood intussusception in its presentation, cause and treatment. In contrast to childhood intussusception, most of the adult intussusceptions are associated with an underlying lesion. Neoplasms, both benign and malignant, are the most frequent causes of adult intussusceptions (1,2,5-8).

In the small bowel, the neoplasms as the leading point of adult intussusceptions are more often benign, and these include Meckel's diverticulum, postoperative adhesions, adenoma, inflammatory fibrous polyps and lipoma. Approximately 30% of them are malignant lesions, with metastases and lymphoma being the most frequent.

Gastrointestinal lipomas are rare benign tumors that can occur anywhere along the gut, and they are the second most common benign tumors in the small bowel after gastrointestinal stromal tumors (11)

The ileum is the most common site for lipoma in the small bowel. The peak occurrence is in the fifth to seventh decade of life, with a slight female preponderance. Lipomas are usually solitary and of various sizes ranging from 1 to 30cm. Because of their usual position immediately superficial to the muscularis propria, gastrointestinal lipomas (notably those greater than 4cm) can produce intussusceptions (8-10).

The clinical diagnosis of adult intussusception is often difficult because of the vague signs and symptoms. Abdominal pain is the most frequent symptom, with or without the symptoms of an intestinal obstruction (1-3,5,6) .

Even with the recent advances of the radiologic imaging modalities, intussusceptions are rarely diagnosed preoperatively. Barussaud et al. (2) reported that the preoperative diagnosis was made in only 52% of patients and Nagorney et al. (6) reported 35%.

Computed tomography (CT) is the imaging method of choice for diagnosing intussusception and it can be helpful in revealing the underlying lesion (1-5). The CT findings of intussusception are a mass-like lesion, including the outer intussusciens, the inner intussusceptum and an eccentric fat density mass that represents the intussuscepted mesenteric fat, and this appears as a "target" or a "sausage" mass according to the cut axis (3,4).

Our patient had the typical findings of intussusception on CT and the CT scan showed a homogeneous intraluminal mass with fat attenuation (Hounsfield units between -80 and -120) in the ileum, so we could suspect the diagnosis of an ileoileal intussusception caused by an ileal lipoma (9-11).

Once the diagnosis of intussusception in adults is made, surgical intervention is indicated and surgical resection remains the recommended treatment for nearly all cases because most of adult intussusceptions have an underlying structural lesion, and adult intussusceptions have a relatively high incidence of malignancy.

In recent years, with increasing exact preoperative diagnosis of an intussusception and an underlying lesion according to the CT scan, several studies have proposed the laparoscopic approach as a safe and feasible therapeutic option for selected cases of adult intussusceptions, although the role of laparoscopy in managing adult intussusceptions is not yet clearly defined (12).

## SUMMARY

Adult intussusception is a rare disease that constitutes approximately 5% of all intussusceptions and it accounts for 1% of all adult intestinal obstructions. Neoplasia, both benign and malignant, is the leading cause of intestinal intussusception in adults. Lipomas of the small intestine are rare benign tumors with no malignant potential, most commonly encountered incidentally, since they are usually asymptomatic. Due to their intramural location, lipomas can also serve as the leading point for intussusception. Diagnosis can be delayed because of the nonspecific and chronic symptoms, and many cases are diagnosed during performance of emergency laparotomy for treating the

obstructive symptoms. A computed tomography (CT) scan is most useful for making the preoperative diagnosis of adult intussusception and is helpful in revealing the underlying lesion.

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