

## Jejunojunal Intussusception - A Rare Case in Adults

### Case Report

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#### Abstract

Intussusception is a rarely encountered cause of intestinal obstruction in adults. It is a clinically difficult diagnosis to make since the symptoms can be very variable, unlike the pediatric presentation triad of abdominal pain, palpable abdominal mass and blood stained stool. A majority of adult intussusceptions (AI) are secondary to a definable lesion. A 48 year old woman with three months history of intermittent colicky pain underwent CECT scan and was found to have small bowel intussusception with a fat density rounded lesion at the lead point. Exploratory laparotomy revealed jejunojunal intussusception secondary to a lipoma situated 40 cm distal to the duodenojejunal junction, which was treated by with segmental intestinal resection. CT scan proved to be the decisive factor for surgical treatment in an undiagnosed case of abdominal pain and provided the correct diagnosis pre-operatively.

#### Introduction

Intussusception is defined as telescoping of a segment of the gastrointestinal tract into an adjacent segment. Intussusception is a rare cause of intestinal obstruction in adults, accounting for only 1% of all obstructive causes, and 5% of all intussusceptions. It is a clinically difficult diagnosis to make since the symptoms can be very variable, unlike the pediatric presentation triad of abdominal pain, palpable

abdominal mass and bloody stool. A majority of adult intussusceptions (AI) are secondary to a definable lesion. Lipomas are a cause of AI, commonly found in the ileum. This is a report of a rare case of lipoma in the jejunum, causing jejunojunal intussusception.

#### Narrative

A 48-year old woman presented with more than three months' history of intermittent colicky pain in the abdomen. Clinical examination revealed a vague lump in the left side of abdomen. Ultrasound examination done in a private diagnostic centre reported a bowel related mass, with a possible diagnosis of typhlitis. She was sent for a CT scan to our department confirms the diagnosis. CT scan was performed after administration of oral contrast, with images acquired before and after 80ml of non-ionic intravenous (IV)

contrast injection, on a Siemens Emotion 16-slice CT scanner (Figure 1). Intussusception was noted with a segment of contrast filled small bowel loop (jejunum) herniating into the adjoining small bowel loop in the umbilical quadrant. A 2.8cm x 2cm x 1.8cm fat density smooth lesion (HU -70 to -90) was seen in the internal loop (intussusceptum), s/o mesenteric /luminal lipoma. No post-contrast enhancement was seen in this fat-density lesion. The proximal small bowel loops



**Figure 1:** Contrast enhanced CT scan of abdomen showing the entry of contrast filled jejunal loop into the adjacent jejunum on the left side of the abdomen. The intussusceptum is contrast filled while the intussusciptens does not show intraluminal contrast (arrow).

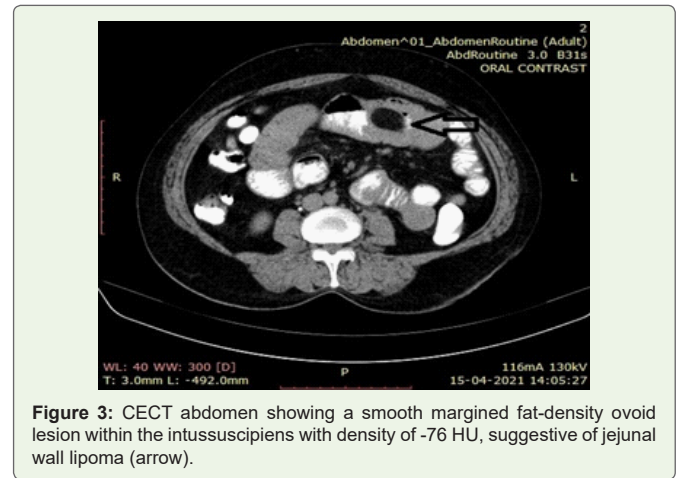
were prominent and edematous. Exploratory laparotomy revealed jejunojejunal intussusception secondary to a lipoma situated 40 cm distal to the duodenojejunal junction, which was successfully treated by with segmental intestinal resection (Figure 2). Histopathology revealed features consistent with a submucosal lipomatous polyp with focal ulceration covered with fibrinous exudates.

**Discussion**

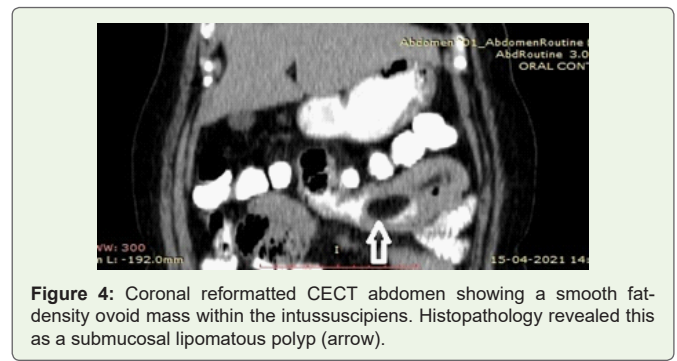
Adult intussusception (AI) is a rare cause of intestinal obstruction, unlike pediatric intussusception. In adults, intussusception makes up only 1% of all intestinal obstructions whereas in children, it is the leading cause of obstruction [1]. Unlike the pediatric population where a definable cause of intussusception is not found in the majority, the vast majority of AI are secondary to a benign or malignant tumour [1-4]. Intussusceptions can be classified as idiopathic and secondary or lead point intussusceptions, and the secondary intussusceptions as benign and malignant enteric, ileocolic, colonic, depending on the nature of the lead point lesion. When intussusceptions do occur in adults, the most common type is enteroenteric, followed by ileocolic and colonocolic. The most common benign lead-point in AI is a gastrointestinal lipoma. 50% of them are seen in the ileum (50%) while jejunum is the least common (Figure 3). The maximum age of incidence is the 6th-7th decades, and gender wise, commoner in females. Malignant degeneration has never been reported. The clinical presentation in adults can be very varied, thus making this a difficult condition to diagnose.

Pre-operative diagnosis of AI, and diagnosis of the lead point, if any, requires the use of imaging. Plain radiographs of the abdomen are usually normal in adults, unlike the pediatric population, in which there may be findings of a soft tissue mass surrounded by a crescent of gas (air crescent sign), and accompanying signs of distal small bowel obstruction in the form of multiple air-fluid levels [5]. Ultrasound is usually the first investigation but has a sensitivity of only up to 60% due to bowel gas masking the lesion and high operator dependency (Figure 4). The diagnosis of intussusception is made based on the findings of the “target” sign, the “doughnut” sign when the transducer is oriented transversely to the intussusception, the “trident” sign with the transducer position longitudinal, and the “pseudo kidney” sign in oblique visualisation [6-8].

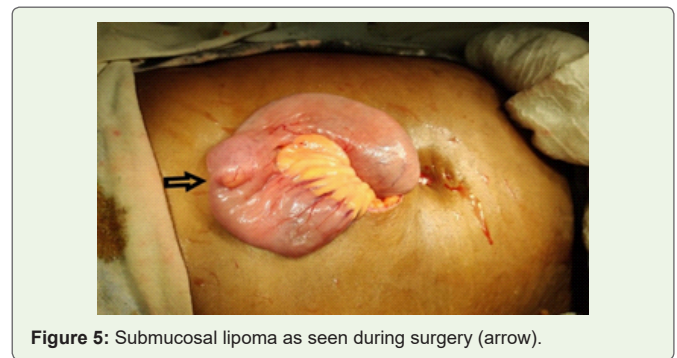
Computed tomography is the radiological investigation of choice for the diagnosis of intussusceptions. Further, CT can indicate bowel



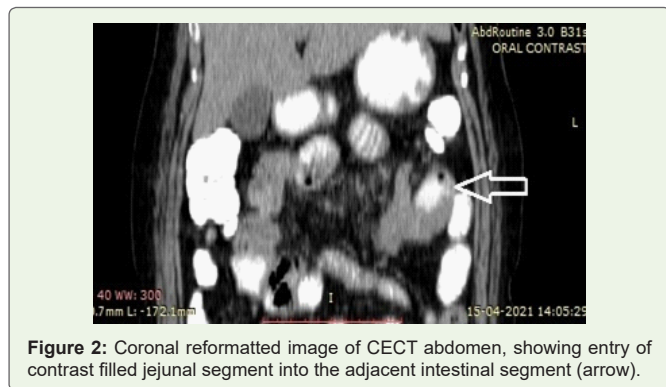
**Figure 3:** CECT abdomen showing a smooth margined fat-density ovoid lesion within the intussusciens with density of -76 HU, suggestive of jejunal wall lipoma (arrow).



**Figure 4:** Coronal reformatted CECT abdomen showing a smooth fat-density ovoid mass within the intussusciens. Histopathology revealed this as a submucosal lipomatous polyp (arrow).



**Figure 5:** Submucosal lipoma as seen during surgery (arrow).



**Figure 2:** Coronal reformatted image of CECT abdomen, showing entry of contrast filled jejunal segment into the adjacent intestinal segment (arrow).

ischemia with indirect signs like the presence of intraperitoneal fluid, and also the status of fluid or gas collection in the intestinal wall [9]. Submucosal lipomas can be diagnosed if a smooth well-circumscribed fat density mass (-50 to -100 Hounsfield Units) is detected within the lumen of the bowel or intussusciens. High sensitivity and specificity of CT scan in the diagnosis of intussusceptions has been well documented, with 71.4%-87.5% sensitivity and 100% specificity reported as verified by the subsequent surgery. [10,11]

**Differential Diagnosis**

Majority (about 90%) of adult intussusceptions have a lead point, i.e. a definable pathological abnormality. Generally, the majority of small intestinal lead points are benign lesions, for example, benign neoplasms, inflammatory lesions, Meckel’s diverticuli, appendix,

adhesions, and intestinal tubes (Figure 5). About 30% of reported cases in the small intestine are malignant lesions (either primary or metastatic). In contrast, large bowel intussusception is more likely to have a malignant etiology and represents up to 66% of the cases.

Other possible differentials to be considered in adults include:

- Primary bowel tumor – will not have a typical ‘target-like’ or ‘doughnut’ sign on ultrasound
- Metastases and lymphoma – CT scan will reveal the absence of telescoping of bowel into the adjacent loop

**Intestinal lipoma** (without intussusception) – though the typical fat density lesion can be visualised on USG and CT scan, typical intussusception signs can be precluded on imaging

Meckel diverticulum

Endometriosis

## Conclusion

Adult intussusception is a rare pathology, requiring a high index of suspicion for correct and timely diagnosis. CT scan and ultrasonography are the mainstay of diagnosis in today’s medical world. Gastrointestinal lipomas as a cause of AI can be detected pre-operatively with a high sensitivity and specificity. Surgical resection after reduction is recommended for benign lesions, whereas en-bloc resection without reduction is the agreed-upon procedure for malignant lesions. Therefore, an abdominal CT scan is highly recommended for all cases of adult intestinal obstructions. In our case, CT scan proved to be the decisive factor for surgical treatment

in an undiagnosed case of abdominal pain and provided the correct diagnosis pre-operatively.

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