

## Case Report



# Adult Ileocolic Intussusception Due to Submucosal Lipoma in Distal Ileum: A Case Report

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## Abstract

Intussusception in adults usually occurs secondary to a lead point which can be both benign and malignant in nature. Diagnosis of adult intussusception is rare and challenging due to its presentation with nonspecific symptoms. If not identified and treated promptly, it might lead to permanent bowel obstruction, compression of the blood supply, intestinal necrosis, bowel perforation, peritonitis, and sepsis. We report a case of a 55-year-old man with intussusception with a submucosal lipoma as the lead point. The patient presented at the emergency department with severe abdominal pain around the umbilicus with abdominal distention during the physical exam. Other complaints included vomiting, persistent nausea, and loose stools. A Computer Tomography (CT) scan and exploratory laparotomy indicated ileocolic intussusception-related small bowel obstruction. Resection of the terminal ileum, caecum, and ascending colon followed by anastomosis of the remnant portion of the ileum and transverse colon done using Vertex linear cutter staplers (Healthium Medtech, India). The post operative period and follow up was uneventful. Due to its unique presentation, a diligent approach from clinicians is required when a patient presents with bowel obstruction symptoms with an unclear etiology. Although abdominal CT scan has high diagnostic value, it has low specificity in differentiating malignant, benign, or idiopathic lead points making surgical examination inevitable in most cases. This case study seeks to deepen our comprehension of adult intussusception while highlighting the need for a diligent approach to its management. We have also examined the literature to highlight key aspects of adult intussusception, challenges associated with its diagnosis, and potential management strategies.

**Keywords:** *Adult Intussusception, Bowel Obstruction, Bowel Perforation, Bowel Resection, Lipoma, Submucosal Fibroid.*

## Introduction

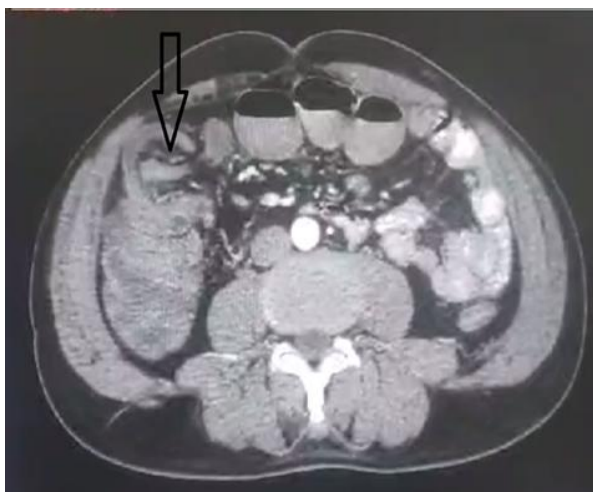
Intussusception is defined as the invagination of a proximal bowel segment into the lumen of an adjacent distal segment [1]. It's a rare clinical entity in adults found in less than 1 in 1300 abdominal operations. Interestingly, the child-to-adult ratio is reported more than 20:1 [2]. It was first described in 1674 by Barbet of Amsterdam and presented in 1789 by John Hunter as "intussusception", a rare form of bowel obstruction in the adult [3]. Although common in the pediatric population, it is a rare cause of small bowel obstruction in adults, accounting for less than 5% of cases [4]. In children, etiology is usually primary and benign making reduction a viable treatment option, whereas in adults, almost 90% of the cases of intussusception are secondary to a pathologic condition which can only be clarified intraoperatively, making surgery unavoidable in most cases [4,5].

In adults, the clinical presentation can be nonspecific, rarely presenting with the classic triad of abdominal pain, palpable mass, and bloody stool [6-8]. Instead, it presents with symptoms of small or large bowel obstruction. The most common presenting symptom is abdominal pain [7,9] with associated symptoms consistent with partial obstruction: nausea, vomiting, gastrointestinal bleeding, change in bowel habits, constipation, or bloating [8,10]. Adult intussusception generally falls into four main categories: ileocolic, ileocecal, colonic, and enteric, depending on where it originated [11]. Diagnosis is usually achieved through intraoperative findings and cross-sectional imaging such as CT and Magnetic Resonance Imaging (MRI). When treatment is necessary, oncologic resection of the bowel is the preferred approach due to the frequent association with malignant lead point pathology [1]. Prompt diagnosis and treatment are vital to prevent severe complications, such as perforation and peritonitis [12].

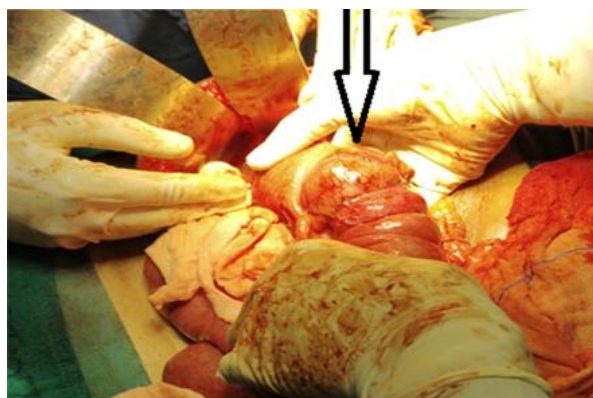
We describe a case report of a 55-year-old male patient who presented with severe abdominal pain in the umbilical region lasting 5 days, multiple episodes of vomiting, and loose stools, due to small bowel obstruction caused by ileocolic intussusception. After exploratory laparotomy, the distal portion of the ileum, cecum, and ascending colon were excised. The ileum was then anastomosed into the transverse colon. Pathology revealed submucosal lipoma as the underlying cause.

## Case Report

A 55-year-old male patient with no significant medical history presented to the emergency department with severe abdominal pain in the umbilical region for the last 5 days, multiple episodes of vomiting, and loose stools for 1 day. Examination revealed a distended abdomen with loss of bowel sounds. CT scan revealed a small bowel obstruction secondary to ileocolic intussusception (**Figure 1 & 2**). Exploratory laparotomy followed by resection of the terminal ileum, caecum, and ascending colon followed by anastomosis of the remnant portion of the ileum and transverse colon done using Vertex linear cutter stapler (Healthium Medtech, India) and abdomen was closed in layers using PDSynth and Trusynth plus neo sutures (Healthium Medtech, India). The resected specimen revealing lipoma as the cause of ileo-colonic intussusception (**Figure 3 & 4**). The patient's postoperative period was uneventful and recovered well and was discharged from the hospital. Gross pathology of the specimen sent for biopsy revealed a sub mucus lipoma of 2x2cm at the terminal ileum and histopathological examination indicated mature adipose tissue consistent with lipoma.



**Figure 1: Abdominal CT scan ileocolic adult intussusception with classic “bulls-eye” appearance (arrow).**



**Figure 2: Thickened, congested and inflamed terminal ileum with proximal small bowel obstruction with ileo-colonic intussusception (arrow).**



**Figure 3: The surgical specimen after the en bloc resection of the terminal ileum and the ascending colon.**



**Figure 4: The cause of the ileo-colonic intussusception was a lipoma (arrow).**

## Discussion

Intussusception is defined as the invagination of a proximal bowel segment into the lumen of an adjacent distal segment, is a rare cause of bowel obstruction in adults, found in less than 1 in 1300 abdominal operations, with a child-to-adult ratio of over 20:1 [1,8,10]. Diagnosis is challenging due to non-specific symptoms [11]. Furthermore, 90% of adults' intussusceptions are secondary to a pathologic condition that serves as a lead point [13]. The lead points for the intussusceptions are attributable to benign, malignant, or idiopathic causes. In addition, the classic triad of intussusception including an abdominal mass, tenderness, and hemoglobin-positive stools is rarely found in adults [2]. Surgeons must therefore be familiar with the epidemiology, etiology, and diagnosis, as well as various treatment strategies. The most important factor in the diagnosis of adult intussusception is the awareness of its possibility, when dealing with patients with vague abdominal pain because a missed diagnosis may lead to dramatic consequences [2].

Most often, cross-sectional imaging techniques like CT and MRI are used in conjunction with intraoperative findings to make a diagnosis. Given its frequent correlation with malignant lead point pathology, oncologic resection of the colon is the recommended course of action when treatment is required [1]. CT scan is the most sensitive diagnostic method and can often distinguish between intussusceptions with or without a lead point. A thorough gastrointestinal evaluation is also recommended prior to assigning the diagnosis [14].

Although most patients with intestinal lipomatosis are asymptomatic, some present with subacute intermittent obstruction,

colonic perforation, and rarely, intussusception. Primary resection, open or laparoscopic, is the treatment of choice, especially in patients over 60 years old, because of the high incidence of malignancy. Furthermore, reduction in adults with an ischemic

bowel should not be attempted. Surgical resection either via laparoscopy or laparotomy is the best therapeutic option [13].

**Review of Literature:** We searched PubMed for similar cases of adult intussusception with acute onset presentation

**Table 1: Similar cases of adult intussusception with acute onset presentation**

Author, Year	Age& Sex	Presenting Complaint	Symptom Duration	Area of Intussusception	Type of Fibroid	Management	Outcome
A. Rispo, 2022	61, F	right-sided abdominal pain, abdominal distention, obstipation	2 months	ileoileal	Inflammatory fibroid polyps	laparoscopic surgical resection of the ileum with a side-to-side stapled anastomosis	Symptom-free in 6 months
Gourtsoyiannis NC, 1994 (Case 2)	52, F	vomiting, abdominal pain, distention.	3 months	ileocecal	Leiomyoma (lead point)	Surgical resection	-
Abu-Salah AK, 2023	68, F	abdominal pain, nausea, and vomiting	-	jejunal	Inflammatory fibroid polyps	Surgical resection	No recurrence in 4 months
Siow SL, 2020	80, F	early satiety after a meal and epigastric fullness	3 months	gastroduodenal	leiomyoma	Exploratory laparotomy and resection	No recurrence at 43-month follow-up
Tetsuya Mochizuki, 2017	35, F	Abdominal pain	2 days	ileocolic	Inflammatory fibroid polyps	preoperative colonoscopic reduction and laparoscopic ileocecal resection	No recurrence at 8-month follow-up
Tennika M Jacobs, 2013	41, F	intermittent epigastric pain and vomiting	3 months	ileocolic	Inflammatory fibroid polyps	Exploratory laparotomy, right hemicolectomy with a side-to-side ileocolic anastomosis	-

## Conclusion

Adult intussusception is a rare condition with an overall incidence of around 2-3 cases per million of the general population per year. Due to its unique presentation, a diligent approach from clinicians is required when a patient presents with bowel obstruction symptoms with an unclear etiology. Although abdominal CT scan has high diagnostic value, it has low specificity in differentiating malignant, benign, or idiopathic lead points making surgical examination inevitable in most cases. This case study seeks to deepen our comprehension of adult intussusception while highlighting the need for a diligent approach to its management.

## List of abbreviations

Computer Topography: CT  
Magnetic Resonance Imaging: MRI

## Declarations

## Ethics approval and consent to participate

Ethical approval and informed consent were waived, as this was a case report and no patient-identifying information was included.

## Data Availability

The data supporting the findings of this case report are available from the corresponding author upon reasonable request.

## Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

## Funding Statement

None

## Authors' contributions

Y.K. & R.C.M. were involved in surgical management and critical review. S.U., P.A.K., & S.R.B., collected clinical data, performed the literature review and drafted the manuscript.

All authors approved the final version.

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