

# An Unusual Cause of Adult Ileoileal Intussusception

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## Abstract

Intestinal intussusception in adults is not considered to be common. Clinical presentations may range from an acute presentation to a chronic one and such wide variations make it challenging to establish the diagnosis on time. Adult intussusceptions usually have an identifiable pathological lead point: commonly a polyp, submucosal lipoma, or other tumors. Our patient, a 42-year-old male, presented to us with features of acute intestinal obstruction. He underwent an emergency laparotomy when intussusception of the ileum was noted; the involved bowel segment was resected. Histopathology showed that the lead point was due to tuberculous lesion. Further investigations showed that the patient had pulmonary tuberculosis (TB), which was not identified till then. The patient was started on antituberculous treatment thereafter and the patient recovered well. We intend to present this case to sensitize the readers to the unusual presentation of intestinal TB as intussusception which should be considered especially in countries with high TB endemicity.

**Keywords:** Adult ileoileal intussusception, extrapulmonary tuberculosis, intestinal tuberculosis, tumor

## INTRODUCTION

Intussusception occurs when one portion of the bowel invaginates into the immediately adjacent segment.<sup>[1]</sup> The condition is usually encountered in children, in whom it is generally considered idiopathic. On the contrary, adults presenting with intussusception generally possess a demonstrable pathological lead point. The clinical presentations in intussusception patients are very variable, but the use of computed tomography (CT) in these scenarios has considerably enhanced the diagnostic and treatment capabilities. Although a conservative approach might be preferred in some circumstances, most of these patients require surgery, especially when the viability of the involved bowel is compromised.<sup>[2]</sup> The aim of reporting this case is to highlight that intussusception in adults can rarely be due to intestinal tuberculosis (TB) and this diagnosis must be considered in patients who come from places where there is an increased prevalence of TB.

## CASE REPORT

A 42-year-old male presented to us with complaints of diffuse abdominal pain and abdomen distension for 2 days. He had a history of constipation for 2 days, but no vomiting. The patient was brought after an episode of seizure for 3 min, followed

by a brief period of altered sensorium. He was diagnosed with a seizure disorder 9 years ago for which he was on irregular medications. He is a chronic alcoholic for the past 25 years and had an episode of alcohol binge drink 2 days ago. On examination (height – 168 cm; weight – 45 kg), the patient was drowsy with a Glasgow Coma Score (GCS) of E3V4M6-13/15. His blood pressure was 80/48 mm of Hg. His heart rate was 102/min; the respiratory rate was 22 per minute and the temperature was 99°F. Abdomen examination revealed mild abdomen distension, diffuse tenderness with neither guarding nor rigidity, and absent bowel sounds. Digital rectal examination showed altered dark-colored stools. Respiratory system examination showed the presence of equal air entry bilaterally with basal crepitations.

The capillary blood glucose (CBG) at admission was 32 mg/dl. After initial stabilization with intravenous fluids,

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25% dextrose, and supportive measures, further investigations were done. A complete blood count showed an elevated total count of  $15.4 \times 10^9/L$  with a neutrophil predominance. X-ray abdomen showed multiple air–fluid levels. CT of the abdomen showed diffuse dilatation of the jejunal and ileal loops and the collapse of the large bowel with a transition point probably at the terminal ileum or ileocecal junction. All these features suggested a small bowel obstruction and the patient was planned for an emergency laparotomy as per the hospital protocol in emergencies. The patient responded well to the initial resuscitation with intravenous fluids, 25% dextrose, and inotropes, and his GCS improved to 15/15 and CBG increased to 180 mg/dl. The patient did not develop any further seizures.

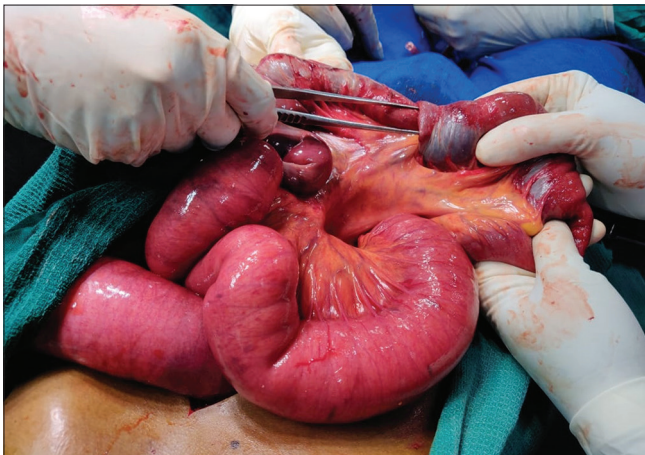
During the emergency laparotomy, the following were found: (1) dilated jejunal and ileal loops, (2) collapsed large bowel, and (3) at 20 cm from the ileocecal junction, there was an ileoileal intussusception [Figure 1]. The involved ileal segment was resected and stomas were fashioned. On examining the specimen, it was found that 7 cm of proximal ileum had telescoped into the distal part and that the telescoped part was gangrenous.

Postoperatively, the patient had a cough with expectoration and he revealed that he had similar episodes for the past 1 month. A chest

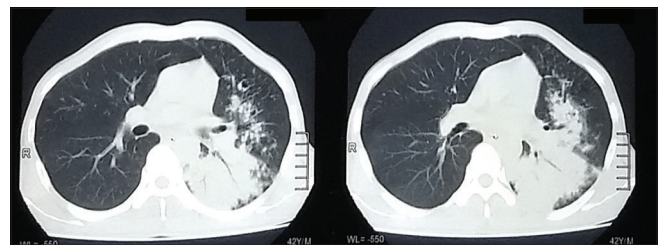
X-ray which was done preoperatively showed opacity in the left middle zone. Subsequently, the CT chest which was performed showed evidence of consolidation with air bronchogram in the left lower lobe and evidence of cavity with surrounding consolidation in the anterior aspect of the left upper lobe, suggesting an active infection in the lung [Figure 2]. Sputum smears examined with Ziehl–Neelsen stain did not reveal any acid-fast bacilli, but molecular testing by nucleic acid amplification (GeneXpert) was positive for *Mycobacterium tuberculosis* with moderate sensitivity to rifampicin. The histopathological examination of the resected bowel segment confirmed the presence of numerous epithelial granulomas with aggregations of epithelioid histiocytes and scattered Langhans type of giant cells, suggesting a tuberculous origin of the lesions [Figures 3 and 4]. Subsequently, the patient was started on antitubercular treatment with isoniazid, rifampin, pyrazinamide, and ethambutol according to the local national guidelines. This leads to the conclusion that the small bowel obstruction was due to intussusception and the lead point for the intussusception would have been the tuberculous lesion. The patient recovered well postoperatively and is awaiting reversal of his stoma.

## DISCUSSION

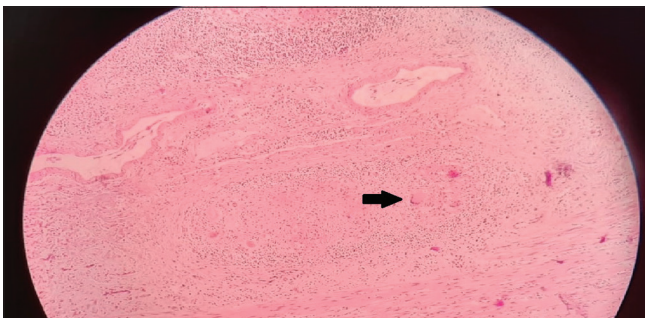
Abdomen TB has a very varied presentation, and in very rare instances, it can present as an intussusception, as seen with our patient. Awareness about this unusual presentation in adults can help practitioners reach a decision regarding the management needed under similar circumstances. Overall, TB is one of the top ten causes of death and the leading cause of all infections. India houses 27% of the global TB population, which is the highest among all countries.<sup>[3]</sup>



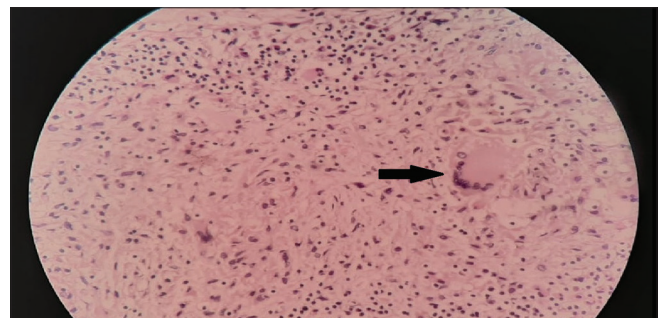
**Figure 1:** Intraoperative picture showing the ileoileal intussusception



**Figure 2:** Computed tomography chest showing consolidation with air bronchogram in the left lower lobe



**Figure 3:** Histopathological examination picture showing the presence of numerous epithelial granulomas with aggregations of epithelioid histiocytes and scattered Langhans type of giant cells (black arrow), suggesting a tuberculous origin of the lesions ( $\times 100$ )



**Figure 4:** Histopathological examination picture showing Langhans type of giant cells (black arrow) ( $\times 400$ )

Abdominal involvement constitutes about 11%–16% of the extrapulmonary presentations of TB.<sup>[3,4]</sup> Abdominal TB may involve any part of the gastrointestinal tract, peritoneum, lymph nodes, solid organs, and the predominant site of involvement being intestine.<sup>[4]</sup>

Symptoms of abdominal TB may range from days to months or even years and symptoms commonly include abdominal pain, constipation, and weight loss. An abdominal examination may reveal a doughy feel, ascites, and lump in the abdomen, visible peristalsis with dilated bowel loops, or even no significant abnormalities.<sup>[4]</sup> The most common complication of intestinal TB is intestinal obstruction, but bowel perforation, the formation of fistulae, and intestinal bleeding are also possible.<sup>[5]</sup>

The clinical presentations of intussusception in adults are very variable and acute intestinal obstruction is not common, as most present with intermittent episodes of abdominal pain and sometimes with nausea, vomiting, and abdominal distension.<sup>[6]</sup> Although abdominal CT has been reported to be the most useful tool for diagnosis of adult intussusception, with a diagnostic accuracy rate of 58%–100%, it has limited value in differentiating whether the lead point is benign, malignant, or idiopathic.<sup>[1,2]</sup> The findings on CT suggestive of abdominal TB are ascites, thickened peritoneum and enhancing peritoneal nodules, circumferential cecal and terminal ileal thickening with proximal dilatation, adherent loops, regional nodes, and mesenteric thickening.<sup>[4]</sup> The mainstay of treatment in adult intussusception is surgery because usually there is an underlying cause precipitating the intussusception and that has to be removed.<sup>[7]</sup>

### Research quality and ethics statement

The authors of this manuscript declare that this scientific work complies with reporting quality, formatting, and reproducibility guidelines set forth by the EQUATOR Network. The authors

also attest that this clinical investigation was not determined to require the Institutional Review Board/Ethics Committee review, and the corresponding protocol/approval number is not applicable. We also certify that we have not plagiarized the contents in this submission and have done a plagiarism check.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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### Conflicts of interest

There are no conflicts of interest.

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