

An unusual case of longest intussusceptum without any pathological lead point in an adult: A rare case report from a peripheral tertiary care institute of Eastern India



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Submission: 12-05-2024

Revision: 19-05-2024

Publication: 01-07-2024

ABSTRACT

Bowel obstruction is known to be caused by intussusception, which is far more common in pediatric patients. The majority of people with adult intussusception require a predisposing cause, which might be a benign lesion, a malignant lesion, or an irregularity of the intestinal wall such as inflammatory bowel disease. Adult intussusception is a very rare condition. We present the case of a patient presenting with upper abdominal pain, nausea, vomiting, and weakness. The patient had ongoing mild intermittent abdominal pain for months which was investigated with an upper gastrointestinal endoscopy that showed gastritis. There were features of peritonism on clinical examination and this was associated with raised inflammatory markers. A contrast-enhanced multidetector computed tomography (MDCT) scan showed a long-segment telescoping of the ileum into the cecum with ascending colon with proximal bowel distension suggesting bowel obstruction: ileocolic intussusception. The patient underwent emergency surgical resection with a double-barrel stoma. Histopathology assessment did not identify a causative factor for the intussusception. An uncommon instance of adult idiopathic enteroenteric intussusception is presented here. The diagnosis can be established with the use of the clinical history of chronic intermittent abdominal pain, entire abdomen ultrasonography, and abdomen MDCT. In patients who are unstable and exhibit indications of peritonitis, surgery remains the only choice, even though a more cautious strategy is outlined in the literature. Adult intussusception is a rare and challenging diagnosis to make. Individuals suffering from intussusception may experience prolonged bouts of sporadic abdominal pain that intensify suddenly as a result of acute obstruction. The most helpful investigative technique for confirming the intussusception diagnosis is CT.

Key words: Intussusception; Idiopathic; Obstruction; Adult

INTRODUCTION

The telescoping of a proximal portion of the bowel into a distal section, which causes obstruction, is known as intussusception. Intussusception can account for as low as 1% of intestinal obstruction, with adult intussusception¹ accounting for only 5% of occurrences. In contrast to the majority of pediatric intussusception cases, which are benign, up to 90% of adult cases of intussusception are caused by an underlying pathology. The gut wall disease

that acts as a leading point to encourage telescoping and invagination is known as the inciting factor.² Meckel's diverticulum, Crohn's disease, benign polyps, and malignant lesions are common instances of lead points. Depending on which portions of the intestine are affected, intussusception has been divided into four subtypes: enteric, ileocolic, colocolic, and sigmoido-rectal.^{3,4}

Most adult patients arrive with partial obstruction⁵ and ongoing abdominal pain. It has been stated that the most

Access this article online

Website:

<http://nepjol.info/index.php/AJMS>

DOI: 10.3126/ajms.v15i7.65776

E-ISSN: 2091-0576

P-ISSN: 2467-9100

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sensitive way to look into intussusception is with computed tomography (CT). Moreover, CT can distinguish between intussusception that has a lead point, such as a tumor, and intussusception that does not. A lead point may be present based on characteristics such as a mass, gut wall edema, and increased cross-sectional diameter.⁶ Surgeons disagree about whether reduction or *en bloc* resection is the better course of action when treating adult intussusception. In situations of malignancy, the theoretical risk of resection includes the danger of venous and intraluminal seeding of malignant cells. However, the existence of gangrenous parts makes reduction impossible and requires excision. This case report has been reported in line with the surgical case report 2020 criteria.⁷

CASE REPORT

We presented the case of a 25-year-old man who was brought to the emergency department of Burdwan Medical College and Hospital, West Bengal, India, for worsening upper abdominal pain, nausea, and multiple episodes of bilious vomiting with slight abdominal distension. The abdominal pain had started 1 month ago and was intermittent in nature with no previous vomiting. The patient described his pain as crampy with radiation to the back and right flank and was exacerbated by food ingestion and by leaning down. It was relieved on opening the bowels and by sitting forward. Over-the-counter analgesia and hyoscine butylbromide 10 mg were tried by the patient but did not relieve his symptoms. The patient's background includes an upper gastrointestinal endoscopy (UGIE) which was done to investigate the pain 1 month before his index presentation. The UGIE showed esophagitis, gastritis, and duodenitis and was negative for *Helicobacter pylori*. This prompted starting proton pump inhibitor treatment with esomeprazole 40 mg twice daily. The patient is a non-smoker and is fully independent with activities of daily living. On examination, there was generalized tenderness that was most pronounced in the central abdomen and the right lower quadrant. There were no hernias, scars, or stomas. The cardiovascular and respiratory examination was unremarkable. He had a respiratory rate of 18 breaths/min, a saturation of 98 % on room air, blood pressure of 136/78 mmHg, heart rate of 86 bpm, and was afebrile with a temperature of 98.6 F. Blood results are shown in Table 1. Blood results showed raised inflammatory markers with white blood cells of $18 \times 10^9/L$. The renal and liver function were normal. The initial management was keeping the patient nil by mouth, inserting a nasogastric tube for decompression, starting IV fluids, analgesia, and monitoring the hourly urinary output. An urgent multidetector CT (MDCT) abdomen and pelvis with oral and IV contrast was arranged and showed telescoping and

double lumen appearance of the ileum in the right lower quadrant suggestive of small bowel obstruction (Figure 1). There was an associated upstream dilatation of the small bowel measuring up to 3.5 cm in maximal transverse diameter. There was also a small amount of free fluid with no signs of pneumoperitoneum. The patient was booked for theater for an emergency laparotomy. The procedure was started and showed a long segment of terminal ileum telescoping into the cecum, and ascending colon, some parts were gangrenous, and a significant amount of free fluid was seen in the abdomen (Figure 2).

Procedure

The procedure was performed by a consultant general surgeon who was assisted by the registrar on-call. General anesthesia was given. A midline laparotomy incision was given. On intra-abdominal inspection, the abdominal cavity contained roughly 1 L of a green–yellow fluid which was evacuated with suction. The small bowel was examined in a proximal fashion starting from approximately 60 cm of distal ileum to the ileocecal valve until the intussusception was identified at approximately 30 cm from the ileocecal valve. It was ILEO-COLIC intussusception. There were

Table 1: Emergency blood reports

Parameters	Result	Range
WBC	18	4.4–11.3×10 ⁹ /L
Neutrophils	17.2	1.4–6.6×10 ⁹ /L
HB	11.8	11.7–15.9 g/dL
Platelets	349	140–440×10 ⁹ /L
Urea	10.9	2.8–8.4 mmol/L
Creatine	76	49–90 μmol/L
Sodium	138	132–144 mmol/L
Potassium	3.7	3.5–5.1 mmol/L
Bilirubin	5	2–20 μmol/L
Amylase	139	30–120 U/L
Lactate	1.8	<2 mmol/L

WBC: White blood cell, HB: Hemoglobin



Figure 1: Pre-operative multidetector computed tomography showing ileocolic intussusception (Red arrow)

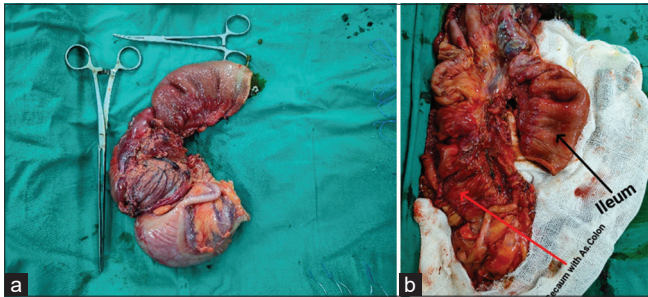


Figure 2: (a) The intussuscepted bowel segment (approximately 22 cm long), (b) The cut section showing ileum and cecum with ascending colon

no signs of mesenteric fat wrapping, mass, or Meckel's diverticulum. Resection of a 35 cm segment of the distal ileum, the cecum, and part of the ascending colon that contains the intussusception was performed. On closer inspection and palpation of the affected segment, no causative pathology was identified. There was no mass, polyp, diverticulum, or signs of inflammatory bowel disease (IBD). A double-barrel stoma (proximal ileostomy with distal colonic mucous fistula) was done using a 2–0 Polyglactin suture. The entirety of the abdominal cavity was washed out using normal saline. A 32 abdominal drain was placed in the pelvis. Fascial closure was done using a No.1 loop polydioxanone suture whereas the skin was closed with a 2–0 monocryl suture. The patient made good recovery postoperatively and was able to tolerate a liquid diet on day 2 post-operative and a low residue diet on day 3. The stoma moved on day 2 postoperatively. The patient was discharged home on day 5 on a low residue diet for 2 weeks. There were no complications postoperatively. Follow-up and wound review were conducted 2 weeks after the surgery. The patient was able to tolerate a normal diet. He reported normal bowel habits. On examination, a fully healed wound was observed and the abdomen was soft, non-tender, and not distended on palpation. The patient was satisfied with the outcome at the time of follow-up and did not report any issues. No additional follow-up was required. The pathology report showed central transmural ischemic necrosis in both recent and older intensive inflammatory reactions. This is consistent with intussusception. The surgical margins were viable with no evident necrosis.

DISCUSSION

We presented the case of a patient with symptoms suggestive of bowel obstruction and features of acute abdomen on a background history of a recent diagnosis of gastritis. However, clinical examination showed signs of peritonism which was associated with raised inflammatory markers. The patient had no history of

similar presentations, IBD, or abdominal surgeries. However, the vague history and clinical examination were not sufficient to confirm the diagnosis albeit being highly suggestive of obstruction. MDCT was extremely beneficial in establishing the diagnosis as it showed telescoping and double lumen appearance of the ileum indicating small bowel obstruction with an associated upstream dilatation of the small bowel. Adult intussusception is a rare entity in patients presenting with acute abdomen and is not commonly considered among the top differential diagnoses in bowel obstruction unless proven with imaging. It usually is secondary to another pathology, mostly a malignant or benign mass, or can be due to another primary bowel wall pathology such as Crohn's disease. Around 65% of cases are caused by neoplasms.⁸ Other reported etiologies include adhesions, lymphoid hyperplasia, cystic fibrosis, celiac disease, appendicitis, pancreatitis, and rectal foreign bodies.⁹ Although pediatric intussusception can present as a triad of abdominal pain, bloody diarrhea, and abdominal mass, adult intussusception presents with vague abdominal symptoms.¹⁰ Thus, the diagnosis of adult intussusception can be delayed as a result of the non-specificity of symptoms.¹¹ However, it has been suggested that adult intussusception often manifests as chronic intermittent cramping abdominal pain associated with non-specific signs of bowel obstruction which applies to this patient. While the symptoms and signs of a patient with intussusception are non-specific. The patient herein presented in the same manner which can be helpful in considering intussusception as a stronger possibility in the differential diagnosis. However, other conditions may manifest in a similar way such as IBD, appendicitis, and volvulus. This in our view emphasizes the importance of imaging in the form of abdominal CT. This is consistent with the findings that CT abdomen was superior to ultrasound in establishing the diagnosis and has diagnostic accuracy of nearly 100%. However, ultrasound's accuracy increases to >90% where there is a palpable mass which is found in 24–42% of cases.¹² Despite that colonoscopy has been described as one of the diagnostic and therapeutic modalities, it was not applicable in the scenario of ileo-ileal intussusception. Furthermore, the patient had signs of peritonitis which precluded conservative management. Treatment remains largely limited to surgery in enteric intussusception. In this case, the clinical findings of peritonism along with the CT findings that confirmed obstructed small bowel necessitated surgical management. The resected segment did not show any lead point moreover it was ileocolic intussusception and most importantly the segment was approximately 22 cm in length. The longest reported intussusceptum length worldwide as per our knowledge is 18.2 cm. Hence, this is extremely rare as the majority of intussusception cases require a lead point over which

peristalsis creates telescoping of the bowel and probably the longest intussusceptum till date.

CONCLUSION

We presented the case of a 25-year-old man with idiopathic intussusception. The diagnosis of intussusception in an adult should be considered in patients who present with chronic or subacute and intermittent abdominal pain. MDCT abdomen and pelvis proved to be of high importance in confirming the diagnosis and guiding management in the form of emergency laparotomy.

DISCLOSURES

Human subjects: Consent was obtained from the patient and the patient party in this study.

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Source of Support: Nil, **Conflicts of Interest:** None declared.