

Case Report

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Intussusception in adults: the case report of a rare cause of intestinal obstruction

Sujan Narayan Agrawal*, Prawin Kumar Singh, Rakesh Kumar Sahu

Department of Surgery, Late BRKM Government Medical College, Jagdalpur (Bastar) Chhattisgarh, India

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***Correspondence:**

Dr. Sujan Narayan Agrawal,

E-mail: dr.sujanagrawal@gmail.com

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ABSTRACT

Intussusception of the bowel is defined as the telescoping of a proximal segment of the bowel within the lumen of an adjacent segment. This condition is a common cause of intestinal obstruction in children below two years of age. It is considered a rare cause of intestinal obstruction in the adult. It accounts for 5% of all cases of intussusception and 1-2% of all cases of intestinal obstructions in the adult population. Almost up to 20% of cases are idiopathic and they are not having any lead point pathology. The rest of the cases are caused by organic lesions like Meckel's diverticulum, benign and malignant lesions, metastatic neoplasm, intestinal polyp, etc. In adults' preoperative diagnosis is difficult and a definitive diagnosis is made at laparotomy. Computerized tomography is the most sensitive diagnostic modality for this condition.

Keywords: Intussusception, Intussusceptum, Intussusciens, Intestinal obstruction, Rare case

INTRODUCTION

Barbette of Amsterdam was the first to report this condition in 1674.¹ The detailed report was by John Hunter in 1789.² He coined the word "introsusception". It was Sir Jonathan Hutchinson who first operated a child having intussusception in 1871.³ The disease entity intussusception represents a form of bowel obstruction, which is defined as the telescoping of the proximal segment of the bowel into the distal segment of the gastrointestinal tract. It is most common in children below two years of age. It is a rare cause of intestinal obstruction in the adult. In the intussusception, the telescoping proximal segment is called the intussusceptum and the distal segment in which telescoping occurs is called intussusciens. It is a rare cause of intestinal obstruction in adults and accounts for only 1-5% of cases.⁴ In children, the intussusception is usually primary and benign while in adults mostly it is secondary to some pathological condition that serves as a lead point, like polyp, Meckel's diverticulum, colonic

diverticulum, Stricture, or malignancies. These pathological conditions are usually discovered intraoperatively.⁵⁻⁷ Due to these reasons, the radiological decompressions are not attempted in adult intussusceptions, and they always require operative interferences.⁸

CASE REPORT

A 23-year-old female was admitted to our surgical unit. She was referred from a peripheral hospital for distension of the abdomen and constipation. She was treated on the conservative line of treatment and since there was no improvement, she was referred to this hospital. In her history, she had pain in the abdomen, which is intermittent to start with but now no pain. There was distension of the abdomen and she has not passed motion or flatus in the last five days. On examination, the abdomen was distended, tense and no bowel sounds are present. The plane X-ray abdomen showing distended bowel loops and the presence of fluid levels. It was

decided to proceed with laparotomy since its surgical interference was already delayed. On opening the abdomen, the small intestine inspected from the ligament of Treitz up to the ileocecal junction. An intussusception was noted in the terminal ileum. It was not possible to reduce it since there was dense fibrosis and gangrene of the bowel. Resection of the intussusception and anastomosis of the healthy bowel was done. The postoperative recovery was uneventful. The cut specimen showing the intussusciens, intussusceptum, and Meckel's diverticulum. The Meckel's diverticulum was probably the lead point.

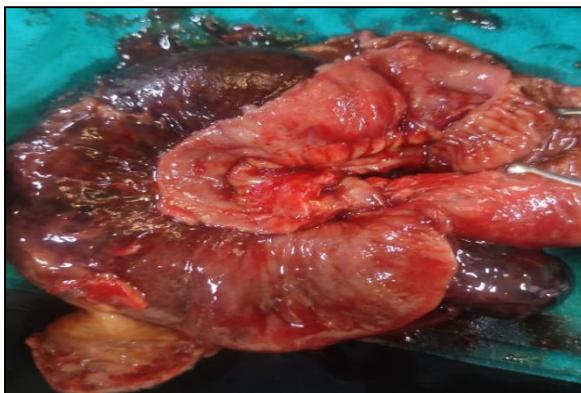


Figure 1: The resected specimen of intussusception: The inner tube (intussusceptum), the outer tube(intussusciens), and the Meckel's diverticulum.



Figure 2: CT abdomen of intussusception.²⁰



Figure 3: Resected specimen showing intussusception Meckel's diverticulum.²⁶

DISCUSSION

Intussusception in the adult is a rare phenomenon and accounts for only 1-5% of the cause of intestinal obstructions. It is more common in children below two years of age with a maximum incidence around 9 to 18 months of age. It may be because of weaning, changes in diet causing inflammation, and edema of Payer's patches. Moreover, in children, they are usually primary and benign, and attempt to reduce it by hydrostatic or pneumatic pressure causes reduction of intussusception. On the other hand, in adults, they are usually secondary to some pathology like Meckel's diverticulum, polyp, stricture, carcinoma, etc., which serves as a lead point. So, in the adult, they invariably require surgical interference.

Mechanism and pathophysiology

The most common location for the intussusception in the adult is the terminal ileum and caecum/ascending colon. It occurs at the junction between the freely moving part of GIT and the fixed distal segment.⁹ By location, they may be ileo-ileal, ileocecal, ileocolic, or colo-colic. In adults, it is usually secondary to some pathology that serves as a lead point. The lesion may be extra or intraluminal. The common lesions are Meckel's diverticulum, adenomatous polyp, lipoma, lymphoma, metastasis, or adhesions. Malignancies account for up to 30% of cases of intussusception in adults.¹⁰ Rarely it may be iatrogenic e.g., presence of an intestinal tube, or even in patients with gastrojejunostomy.^{11,12} The intussusception occurring in the large bowel is more likely to have malignancy as the etiology.¹³

Parts of intussusception

The part which advances is the apex of it. The lead points or apex for the intussusceptions are attributable to benign, malignant, or idiopathic causes.¹⁴ Intussusciens is the one which receives (the outer tube or sheath), intussusceptum is the tube which advances (middle and inner sheath). Apex and the inner tube will have compromised blood supply, which leads to gangrene. Because of ischemia the apex sloughs off which mixes with mucus to produce the classical red-currant jelly, and is passed through the anus. The red currant jelly is not a common feature in adults but can occur. Intussusception in adults differs from children in various aspects. In adults, 90% of it occurs in the small and large bowel. The remaining 10% occurs in stomach or surgical created stoma. The apex of intussusception may prolapse through anorectum and then it is important to differentiate it from rectal prolapse. This can be differentiated by careful clinical examination. In rectal prolapse, the continuity can be palpated between the anal and perianal structures and the protruding mass. On the contrary, there is no palpable continuity and the fingers can be passed between the anorectal wall and the prolapsing apex of the intussusceptum. The presenting symptoms in the adult are often non-specific and long-

standing, which makes the diagnosis more elusive. Pain in the abdomen is the most common symptom followed by vomiting and bleeding from the rectum in most patients. The exact diagnosis is usually reached only at laparotomy.

The computerized tomography of the abdomen is the most reliable investigation, especially in these patients who have nonspecific abdominal pain.¹⁵ the appearance in CT is characteristic (target sign). In the CT abdomen, the characteristic finding is the presence of a heterogeneous sausage-shaped mass consisting of central intussusceptum and outer intussusciens. The mesenteric fat and vessels are often visible in the bowel lumen and varying degree of proximal bowel dilatation is present.^{16,17}

The other investigations include ultrasonography, barium enema, colonoscopy, and upper GI endoscopy, which can be used according to the clinical findings.¹⁸⁻²⁰ The imaging modality plane X-Ray abdomen can provide a clue regarding the site of obstruction, but it is not sensitive and non-specific. Ultrasound studies are helpful especially in children. In case of chronic or subacute large bowel obstruction, an endoscopy is an invaluable tool for diagnosis.²¹ The main benefits of the endoscopy include confirmation of intussusception, its localization, and the underlying pathology.

Treatment

The intussusception occurring in adults requires laparotomy. The reduction by hydrostatic pressure is contraindicated because of underlying pathology.²² At laparotomy, attempts to reduce also is not favoured, because of inflammation, fibrosis, and chronic nature. Most of the surgeons are in favour of resection of intussusception and anastomosis of the rest of the bowel.^{23,24}

However, the simple reduction can be attempted in post-traumatic, idiopathic, and absence of any pathological cause.²⁵ In gastroduodenal intussusception reduction and surgical excision of lead, the point is done.²⁶ In older patients above 60 years of age and having a colonic lesion requires an oncologic workup of the resected specimen. It is done because of the high incidence of malignancies.²⁷ In case of benign lesions like celiac disease, Crohn's disease, and transient small bowel obstructions the resection may not be an appropriate procedure, because the treatment of the underlying cause will improve the symptoms. In Crohn's disease, aggressive bowel resection is not warranted if, there is no evidence of obstruction or ischemia. It may also cause the short gut syndrome.²⁸

CONCLUSION

Intussusception is a rare cause of intestinal obstruction in adults but it is an important cause of pain abdomen and that of intestinal obstruction. Since the symptoms are

non-specific the CT abdomen is a crucial investigation to diagnostic workup. It is important to have a high degree of suspicion. They are best managed by laparotomy because the delay in diagnosis may lead to complications like bowel obstruction, ischemia, and undiagnosed malignancies. Prognosis is generally good if surgical intervention is done early, it is said that "it is better to open and see than to wait and see". The most challenging types of intussusceptions are the gastroduodenal and coloanal types which need modification of surgical techniques according to the situation.

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