



Case Report

# Ileo-Colic Intussusception Caused by an Inflammatory Fibroid Polyp of the Ileum: A Rare Cause of Adult Bowel Obstruction

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## Abstract

**Introduction:** Adult intussusception is a rare cause of bowel obstruction, representing only 5% of all intussusception causes. Unlike in children, adult intussusception is caused by underlying conditions. Inflammatory fibroid polyps are rare benign neoplasms usually located in the stomach; they are rare causes of adult intussusception. Small bowel Inflammatory fibroid polyp has never been reported in a patient older than 80 years.

**Case Presentation:** We report a case of a 91-year-old woman presenting to the emergency department with acute bowel obstruction. Abdominal computed tomography revealed a bowel dilatation caused by an ileo-colic intussusception. Surgery was performed, with reduction of the intussusception followed by resection and primary anastomosis. The pathologic analysis revealed an inflammatory fibroid polyp of the ileum.

**Conclusion:** Inflammatory fibroid polyp is a rare entity which should be suspected in adult intussusception. Treatment of enteric intussusception in adults currently requires surgical reduction followed by resection.

**Keywords:** Adult intussusception; Inflammatory fibroid polyp

## Introduction

Adult intussusception is a rare pathology, representing only 1% of all bowel obstructions and 5% of all intussusceptions [1]. Intussusception is described as a proximal segment of gastrointestinal tract, called intussusceptum, telescoping within the lumen of the distal adjacent segment of gastrointestinal tract, called intussusciens. The condition was first described in 1674 by Paul Barbette [2]. Intussusception can be described based on the location in the gastrointestinal tract and the etiology. Pediatric intussusception is generally idiopathic, while adult intussusception occurs due to an underlying condition in almost 90% of cases [1,3]. Inflammatory Fibroid Polyp (IFP), also called Vanek's tumor, is a rare benign gastrointestinal neoplasm, representing a rare cause of

adult intussusception [4]. In a recent systematic literature review of 77 cases of small bowel IFP, patient age ranged from 4 to 75 years (median: 45 years). Only 6 patients (7.8%) were older than 70 years, and none were above 80 years old.

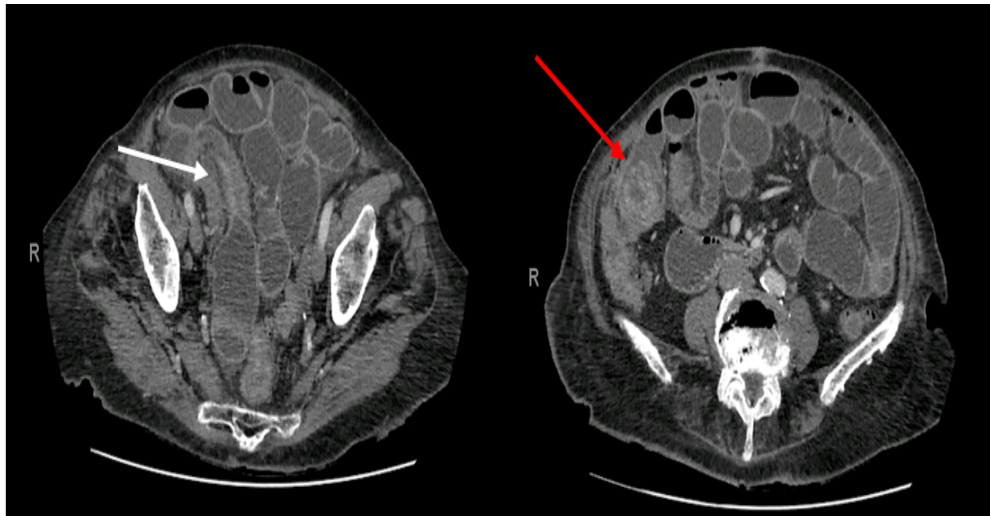
We report a case of a 91-year-old woman presenting to the emergency department with acute bowel obstruction caused by ileo-colic intussusception due to a large inflammatory fibroid polyp of the distal ileum.

## Case Report

A 91-year-old Caucasian woman presented to the emergency department with acute severe lower abdominal pain, nausea, and several episodes of vomiting. She experienced mild general abdominal pain for 6 weeks and liquid stool. She is principally known for a laparotomic left colectomy for diverticular disease.

She had no remarkable drug history, familial history, or smoking status. She received 2 doses of COVID vaccine, and the last shot was given 2 weeks before symptom manifestation. Upon examination, her abdomen was distended, with resonant percussion but no sign of peritonitis.

Laboratory results showed normal inflammatory parameter and mild acute kidney failure (AKIN stage I). Abdominal Computed Tomography (CT) demonstrated small bowel obstruction signs caused by an ileo-colic intussusception, associated with a small quantity of free liquid (Figure 1). We prepared the patient for surgery with nasogastric tube placement, nihil per os, no antibiotic, and IV fluid replacement.



**Figure 1:** Computed Tomography showing small bowel obstruction caused by an ileo-colic intussusception. White arrow showing distal ileum as origin of intussusceptum. Red Arrow showing colic lumen filled by the intussusceptum.

The patient was taken to the operating room one day after admission, and a midline exploratory laparotomy was performed. Intraoperative status confirmed small bowel obstruction caused by an ileo-colic intussusception (Figure 2). Ileo-colic intussusception was manually reduced by gentle traction. An intraluminal mass was found at a distance of 30 cm proximally to the ileo-caecal valve. No signs of intestinal ischemia were found. Segmentary ileal resection with 5 cm margins and ileo-ileal latero-lateral isoperistaltic anastomosis was performed. The post-operative course was uneventful, and patient was discharged 10 days later.



**Figure 2:** Intra-operative gross appearance.

Histopathologic analysis showed a pedunculated polypoid lesion with a length of 7.5 cm and a length's head of 5 cm: 2 cm by 2.5 cm, which filled the intestinal lumen and originated from submucosae (Figure 3). Histological analysis demonstrated haphazard arrangement of short spindled to stellate cells in an edematous stroma and a rich eosinophilic inflammatory infiltrate. Immunohistochemistry demonstrated positive response to CD34 and CD31 and negative response to CD117, DOG-1, and S100 protein.



**Figure 3:** Gross appearance of the Inflammatory fibroid polyp.

## Discussion

Pediatric intussusception, which represents 95% of all intussusceptions, is the leading cause of bowel obstruction in infants and young children, according to World Health Organization (WHO) [3]. Pediatric intussusception presents with no identified specific etiology in most patients (67-100%) [3,5]. Pediatric intussusception presents with classical triad of cramping abdominal pain, bloody diarrhea, and a palpable tender mass in only 10-66% of cases [3]. Ultrasonography is an excellent diagnostic tool for pediatric intussusception, with sensitivity and specificity near 100% [6]. Pneumatic or hydrostatic enema reduction is successful to treat pediatric intussusception in 85-90% of patients [7].

Adult and pediatric intussusception differ in etiology, clinical manifestation, diagnosis, and management. Unlike in children, intussusception is rare in adults and usually occurs (in 70- 95% of cases) in association with an underlying pathologic lesion of the intestine [1,8-10]. Adult intussusception has various clinical presentations and remains unspecific compared to pediatric intussusception. Clinical manifestation ranges from absence of symptoms to abdominal pain, nausea, vomiting, or small bowel obstruction [8,10]. The most important clinical finding that should lead a physician to suspect adult intussusception is an intermittent history of partial bowel obstruction [10]. Thus, intussusception

is a challenging diagnosis and usually requires imaging. The preoperative diagnostic method of choice is abdominal CT, showing a typical image of bowel-within-bowel appearance [8,11]. CT gives additional information such as intussusception location, ischemia signs, and presence or absence of secondary lesion in case of malignant etiology. Although abdominal CT has proven very useful in diagnosis, underlying conditions still remain difficult to assess and still require confirmation by pathology [11]. Increased CT use and improvement of image quality allows an increased rate of preoperative diagnosis of intussusception in small bowel obstruction nowadays, with an accuracy of 80-90% [8,9]. In Azar and Berger's 1997 study, preoperative diagnosis was correct in only 32% of cases; the remaining cases were diagnosed intraoperatively by surgeons [1].

Intussusceptions can be classified according to their location (enteric, ileo-colic, or colonic) and etiology (benign, malignant, or idiopathic). Enteric and colonic intussusceptions are confined to the small and large intestine, respectively. Ileo-colic intussusception is a prolapse of the ileum as the leading point telescoping in the colon through the ileo-cecal valve [1,8,12].

In a 1976 review of 1214 cases of adult intussusception, 63% of all intussusceptions had a tumoral etiology. 48% of all colonic intussusceptions were malignant. On the other hand, 57% of enteric intussusceptions were caused by tumors, but only 17% were malignant [13]. In a more recent (2019) review of 1239 patients presenting with intussusception between 1980 and 2016, 70% of all adult intussusceptions had a tumoral origin, and 33% had a malignant etiology. Colonic intussusception was related to malignant etiology in 43-47% of patients, whereas enteric and ileo-colic intussusceptions were related to malignant etiology in 22.5% and 36.9% of patients, respectively. Primary adenocarcinoma was by far the leading cause of ileo-colic and colonic malignant intussusception (in 62% and 79% of patients, respectively). Secondary metastatic carcinoma was the leading cause of malignant enteric intussusception, followed by lymphoma and GIST [8].

Inflammatory Fibroid Polyp (IFP) is a rare benign neoplasm which may arise throughout the gastrointestinal tract, appearing in the stomach in 80% of patients. Small bowel location only represents 18-20% of all IFPs. IFPs are diagnosed by endoscopy when they are symptomatic. They can present with abdominal pain, bleeding, or obstruction. According to the WHO's 5<sup>th</sup> classification of digestive system tumors, essential diagnostic criteria are hypocellular appearance with short spindled to stellate cells in an edematous stroma and an inflammatory infiltrate of eosinophils and lymphocytes. Desirable diagnostic criteria includes the expression of CD34 in immunohistochemistry. There is a slightly female predominance, and the condition most commonly occurs between the 5<sup>th</sup> and 7<sup>th</sup> decade of life [4].

When an IFP is asymptomatic and fortuitously discovered during an endoscopy, it can be treated by endoscopic resection. On the other hand, if IFP manifests with bowel obstruction, although the affected intestinal segment could be accessible by endoscopy, the procedure would present a high risk of perforation [14]. Although specific management of adult intussusception is still controversial, surgery remains the gold-standard, since an underlying pathologic lesion is responsible of almost 90% of adult intussusceptions with a high rate of malignancy, and abdominal CT has a limited capacity to diagnose the exact etiology. Considering the high rate of malignancy in adult colonic intussusception, en-bloc resection without intraoperative reduction is recommended, to avoid potential tumoral seeding or dissemination. Most surgeons agree to perform surgical reduction before resection if an enteric leading cause is observed in an enteric intussusception, to reduce the extent of bowel resection [8,13].

## Conclusion

Inflammatory fibroid polyp is a rare entity that should be suspected in adult intussusception. Pediatric and adult intussusception differ in etiology, clinical manifestation, diagnosis, and management. Clinical manifestation in adults is unspecific, and diagnosis relies on abdominal CT. Treatment of enteric intussusception in adults currently requires surgical reduction followed by resection.

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