

Inflammatory fibroid polyp of the ileum causing intussusception

Kamran A. Malik, *FCPS(Pak), FRCS(Glasgow)*, **Girish K. Pande**, *MS, FRCS*,
Zia Aftab, *FCPS(Pak), FRCS(Edin)*, **Vedakkepat Nirmala**, *MD*.

ABSTRACT

Intussusception in adults is a rare cause for intestinal obstruction and is usually secondary to some lesion in the gastrointestinal tract (GIT). We report a case of intestinal obstruction due to ileo-colic intussusception; an inflammatory fibroid polyp formed the leading edge of the intussusceptum, which is a rare polypoidal lesion of the GIT.

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Intussusception is an invagination of the bowel lumen, with the invaginated portion (the intussusceptum) passing distally into the ensheathing outer portion (the intussusciens) by peristalsis. Unrelieved intussusception can occlude the blood supply of the intussusceptum. In infants and children, intussusception may occur without apparent anatomic cause, usually following a bout of viral gastroenteritis or an upper respiratory tract infection. Only 5-16% of all reported cases of intussusception have occurred in adults¹ and is usually secondary to an abnormality of the bowel wall such as a tumor or a polyp. The organic lesion can be intraluminal, intramural or extra luminal. In our patient, the lead point was a rare intraluminal polyp called an inflammatory fibroid polyp at the terminal ileum causing ileo-colic intussusception. Inflammatory fibroid polyp is a rare, benign, non-neoplastic lesion of the gastrointestinal tract (GIT).² It originates from the sub mucosa and grows as a polypoid mass. It is most often found in the stomach, but rare cases in the colon and small bowel have also been reported.³ The lesion was first described by Vanek⁴ in 1949 as a "gastric granuloma with eosinophilic infiltration." A variety of names such as eosinophilic granuloma,

hemangiopericytoma, polypoid fibroma, gastric fibroma with eosinophilic infiltration, eosinophilic gastroenteritis, polyp with eosinophilic granuloma and inflammatory pseudotumor are synonymous for the same lesion.² However, the term "inflammatory fibroid polyp" was first proposed by Ranier and Helwig⁵ in 1953 and is now a generally accepted term.⁵ It can be found in all age groups but peak incidence is between the sixth and seventh decades. Although most of the cases are sporadic, a familial relationship has also been described.⁶ We report a case of intestinal obstruction due to ileo-colic intussusception, the leading edge of the intussusceptum was formed by an inflammatory fibroid polyp, which is a rare polypoidal lesion of the GIT, with review of literature to discuss the diagnosis and management of this rare entity and for the awareness of the readers to keep this rare entity in mind while dealing a case of intussusception in adults.

Case Report. A 31-year-old man was admitted to our hospital with complaints of nausea, vomiting, abdominal pain and distention with absolute constipation for the past 3 days. On clinical

From the Department of General Surgery (Malik, Pande, Aftab), and the Department of Pathology (Nirmala), Sultan Qaboos University Hospital Muscat, Sultanate of Oman.

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Address correspondence and reprint request to: Dr. Kamran A. Malik, Department of Surgery, Registrar, Sultan Qaboos University Hospital, PO Box 38, Postal Code 123, Muscat, Sultanate of Oman. E-mail: surgeonkamran@yahoo.com

examination, he was found to have normal vital signs. He was mildly dehydrated, and the abdomen was distended with exaggerated gut sounds. A tender, kidney shaped mobile lump approximately 7 x 4 cms in the right iliac fossa was palpable. The finger was stained with blood on per rectal examination. Routine hematological and biochemical examinations were normal. His abdominal x-rays showed multiple air fluid levels suggestive of small bowel obstruction. Ultrasound scan of the abdomen showed a doughnut sign along short axis image (Figure 1a & 1b) suggestive of an intussusception, while along axis image through the intussusception shows multilayered walls of the intussusceptum and intussusciptiens (Figure 1c). After adequate resuscitation with intravenous (IV) fluids, nasogastric aspiration and IV antibiotics, he was explored through a midline incision. He had an intussusception involving the ileo cecal region, for which limited right hemicolectomy was carried out. Macroscopically the resected segment showed a 3.5 x 2 cm polyp on the mucosal surface with ulceration.

On light microscopic examination (Figure 2), the polyp showed an ulcerating lesion with spindle cell, vascular and inflammatory components. The inflammatory infiltrate had a conspicuous population of eosinophils. Thick walled blood vessels were also prominent with characteristic concentric layering of spindle cells around them. There was no evidence of malignancy. All the features were suggestive of inflammatory fibroid polyp. The patient recovered well after the surgery and was discharged from the hospital on the 5th post operative day. On follow-up a month later, he was well without complaints.

Discussion. Intussusception, although common in children, is a rare entity in adults and accounts for one percent of bowel obstructions.⁷ It occurs when a proximal segment of intestine telescopes into the intestinal segment distal to it. The most common sites of occurrence are the junctions between the freely moving segments of the bowel and segments that are relatively fixed, either due to their retroperitoneal location or to adhesions. Examples include ileocolic, colocolonic and enteroenteral intussusception. Its clinical presentation is generally nonspecific and chronic, and includes abdominal pain with or without nausea and vomiting. The most consistent characteristics of the pain are its periodic and intermittent nature. The predominant symptoms are usually those of bowel obstruction; consequently, misdiagnosis are common at presentation. In a review of 54 cases of intussusception, patients with benign lesions presented with nausea, vomiting and abdominal pain, while those with malignant etiologies more

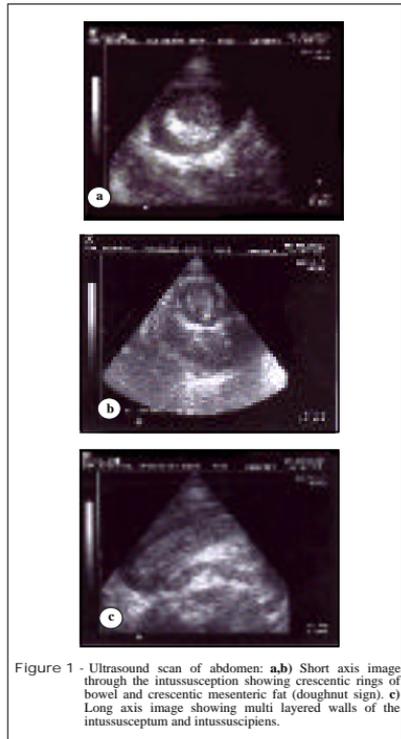


Figure 1 - Ultrasound scan of abdomen: a,b) Short axis image through the intussusception showing crescentic rings of bowel and crescentic mesenteric fat (doughnut sign). c) Long axis image showing multi layered walls of the intussusceptum and intussusciptiens.

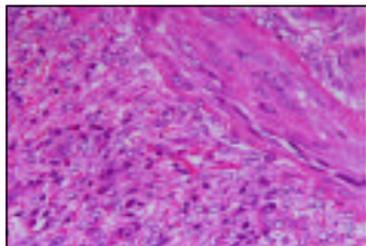


Figure 2 - Perivascular concentric proliferation of spindle cells with eosinophils in the adjoining infiltrate.

often presented with melena and guaiac positive stools.⁸ Other series have demonstrated a palpable mass in 24-42% of cases.⁹ The palpable mass in our case was found to be an intussusception of the ileo cecal region.

An inflammatory fibroid polyp is a rare lesion, frequently mistaken for intestinal neoplasia. It has a variable presentation, according to its location, from asymptomatic to small bowel obstruction due to intussusception. Two forms of lesions have been described:¹⁰ diffuse and localized. Diffuse variety produces diffuse thickening of the bowel wall, affecting short or long segments with edema and eosinophilic infiltration. For the localized variety Helwig and Ranier⁵ coined the term inflammatory fibroid polyp, which is preferred by pathologists. The characteristic features are polypoidal nature, usually non-encapsulated in appearance showing ulceration of the overlying mucosa with microscopic appearance revealing cellular proliferation possibly originating from the sub mucosa. It is composed of a fibrous and edematous stroma containing many variable sized blood vessels and a diffuse inflammatory infiltrate, including eosinophils, plasma cells, lymphocytes, macrophages and mast cells. Although not one of its characteristic, smooth muscle bundles have also been reported in the stroma,¹¹ as in our case.

Although pathogenesis is unknown, the presence of eosinophils in large numbers, suggests an allergic basis. Others have, however, shown eosinophilia in only 4% of cases.¹² An infective etiology was never reported for this rare entity, although several reported cases showed its association with *Helicobacter pylori* infection.¹³ The presence of smooth muscle bundles was thought to represent a possible leiomyomatous origin.¹¹

Although ultra structural and immunocytochemical studies have not been sufficient to disclose the exact pathogenesis and histogenesis of the lesion, most of the authors now agree that inflammatory fibroid polyp is non neoplastic in origin.¹⁴ Its association with Crohn's disease has also been reported.¹⁵

Inflammatory fibroid polyps have no distinctive radiologic and clinical findings, it is difficult to determine from these studies the morphology of the leading mass, histopathological examination is necessary in all cases to exclude malignancy. Hence, either diagnosed incidentally or in the setting of intussusception, the treatment of inflammatory fibroid polyp is surgical resection of the involved bowel, preferred to an endoscopic biopsy for diagnoses due to the sub mucosal origin of the lesion, which usually shows ulceration in the overlying mucosa. Inflammatory fibroid polyps are benign lesions with no metastatic potential demonstrated, however, there have been 2 reported cases in the literature, which showed recurrence after operation.⁶

Several radiological studies may be useful in the preoperative diagnoses of intussusception. Various authors have advocated the use of computerized tomography scans, barium studies, abdominal ultrasound, plain film, and radio nucleotide studies. However, a correct preoperative diagnosis is established in only 32% of patients with intussusception.⁸

The treatment of adult intussusception remains controversial. All authors agree that resection is necessary, as pathologic lesion, possibly malignant in nature, is usually present. However, a question remains regarding the role of reduction prior to resection. Due to the high incidence of malignancy in adult intussusception, especially in those cases involving the colon, reduction may result in transperitoneal seeding. Resection without reduction allows the uninjured bowel to be used in anastomosis and avoids spillage of bowel contents if inadvertent perforation would otherwise occur. While many early reports advocate reducing the intussusception prior to resection, more recent reports have advocated selective reduction before resection.¹⁶ In cases of benign small bowel lesions, such as postoperative adhesions, intraoperative reduction are acceptable if the bowel is viable. In patients without a history of previous laparotomy, resection without reduction is advocated, due to high risk of malignancy. Also, when a bowel is inflamed or ischemic or in cases of colonic intussusceptions, resection without attempt at reduction is advised to avoid inadvertent perforation of the bowel and tumor seeding.

In conclusion, inflammatory fibroid polyp is a rare disease with variable presentation, from asymptomatic to small bowel obstruction due to intussusception. It cannot be differentiated from malignancy without histological examination. Therefore, whether diagnosed incidentally or in the setting of intussusception, the treatment of inflammatory fibroid polyp is surgical resection of the involved bowel.

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