

## Intussusception due to Inflammatory Fibroid Polyp Located at Ileum

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### Abstract

Majority of adult intussusceptions have a well-defined pathological abnormality as the definite cause. We report a case of 27 year old woman presented with vomiting and abdominal pain. We received a polypoidal; dumbbell shaped mass measuring 4×3.5×1 cm arising from the mucosal surface at one end of the small bowel. Outer surface of the polyp was grey to blackish and cut surface was solid, grey, white and glistening with few myxoid areas. Histopathologic examination revealed it to be an inflammatory fibroid polyp. The definite cause for intussusception in this case was a rare non-neoplastic submucosal lesion that is inflammatory fibroid polyp infrequently found in the ileum.

**Keywords:** Inflammatory fibroid polyp; Ileo-ileal intussusception

### Introduction

Inflammatory fibroid polyp (IFP) is a rare, localized non neoplastic condition, originating in the submucosa of the gastrointestinal tract (GIT). It is most commonly found in the stomach, followed by small bowel, where it usually presents as intussusception or obstruction in adults [1].

The term inflammatory fibroid polyp was first proposed by Ranier and Helwig in 1953 [2]. These polyps are composed of fibrous connective tissue, blood vessels and an inflammatory cell infiltrate usually with many eosinophils [3].

Approximately 95% of all intussusception occur in children. Adult intussusception represents 5% of all cases of intussusception and accounts for only 1-5% of intestinal obstructions in adults [4]. In children, it is usually primary and benign, and pneumatic or hydrostatic, reduction of the intussusception is sufficient to treat the condition in 80% of the patients. However, almost 90% of the cases of intussusception in adults are secondary to a pathologic condition that serves as a lead point, which are usually discovered intraoperatively [5-6].

Intussusception represents a rare form of bowel obstruction in the adult, which is defined as the telescoping of a proximal segment of the gastrointestinal (GI) tract, called intussusceptum, into the lumen of the adjacent distal segment of the GI tract, called intussusciens. Historically, Sir Jonathan Hutchinson was the first to operate on a child with intussusception in 1871 [7].

Intussusceptions have also been classified according to etiology that is benign, malignant or idiopathic. In the small intestine, an intussusception can be secondary either to the presence of intra or extra luminal lesions like inflammatory lesions, Meckel's diverticulum, postoperative adhesions, lipoma, adenomatous polyps, lymphoma and metastases or even in patients with a gastrojejunostomy [8,9]. Up to

30% of cases of intussusception are due to malignancy in the small intestine [10].

The aim of this case report is to remind that some very rare aetiology may be involved in adult intestinal obstruction.

### Case Report

A 27 year old female with no known medical illness presented to the emergency department of our institute after experiencing abdominal distension, colicky pain and vomiting that had been worsening over the past one week duration. The diagnosis of small bowel obstruction was made and patient was immediately operated. Per operatively ileo-ileal intussusception along with a mass was identified and the specimen was sent for histopathological examination. Clinically no impression was made for the mass.

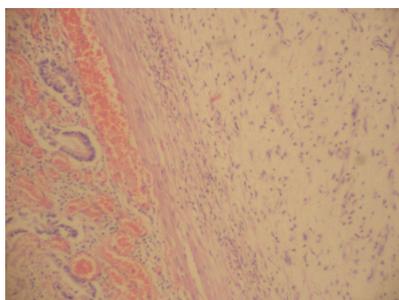
Post-operative period was uneventful and the patient was discharged after five days.



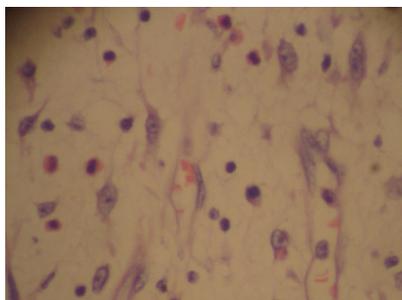
**Figure 1:** Gross picture revealing cut surface of sessile polyp arising from the mucosa, which is solid, grey, white and glistening.

Grossly we received a part of small intestine measuring 12.2×5 cm with a polypoidal, dumbbell shaped mass measuring 4×3.5×1 cm arising from the mucosal surface at one end of the small bowel. Outer surface of the polyp was greyish to blackish and cut surface was solid, grey, white and glistening with few myxoid areas (Figure 1).

**Microscopy:** Representative sections examined from the polyp reveal an ulcerated small bowel mucosa and proliferation of spindle shaped fibroblast like cells arranged concentrically around blood vessels in the submucosa and reaching upto the muscularis propria (Figure 2). These cells are spindle shaped having vesicular chromatin, visible nucleoli and indistinct cytoplasm. The stroma is myxoid with presence of chronic inflammatory cells comprising predominantly of eosinophils, plasma cells and lymphocytes (Figure 3).



**Figure 2:** Photomicrograph revealing a tumour which is confined to the submucosa (4X, H&E)



**Figure 3:** Photo micrograph revealing proliferation of spindle shaped fibroblast like cells and a myxoid stroma with eosinophils (40X, H&E)

## Discussion

Inflammatory fibroid polyp is a benign GI tumor that appears grossly as a localized, submucosal, sessile polypoid mass. IFP was first described by Vanek in 1949 as “gastric submucosal granulomas with eosinophilia” and a variety of names such as eosinophilic granulomas, hemangiopericytoma, polypoid fibroma, gastric fibroma with eosinophils and inflammatory pseudotumor [11].

Stomach is the most commonly involved location, and most lesions are located in the gastric antrum along the lesser and greater curvatures. It occurs less frequently in the distal ileum and very rarely in the colon, jejunum, duodenum and esophagus [1]. IFP can be found in all age groups, but peak incidence is between the sixth and seventh

decades [12]. Nausea, vomiting, gastrointestinal bleeding, change in bowel habits, constipation or abdominal distension are the nonspecific symptoms and signs of intussusception [5,6]. Obstruction symptoms, such as vomiting and abdominal pain, were frequent initial symptoms of those with IFPs in the small intestine [13].

In the case reported here, an adult female presented with abdominal distension, colicky pain and vomiting. Grossly a sessile, polypoidal tumor was located at one end of the ileum measuring 4 cm in maximum diameter which was responsible to cause ileo-ileal intussusception in this patient.

Macroscopically it can be seen as a sessile or a polypoid lesion, usually measure between 2 and 5 cm in diameter. However, there are also giant IFPs with a size of up to 12.5 cm in diameter having been reported [13]. Microscopically the lesion is composed of myofibroblasts, blood vessels and various inflammatory cells including eosinophils, lymphocytes and plasma cells [14].

While the pathogenesis of IFP is unknown, development on an allergic basis, neural hyperplasia and form of granulation tissue has been suggested in the etiology [15].

Pre-operative diagnosis is of always important, if malignant lesion is confirmed preoperatively, radical resection is more confident; if benign lesion is diagnosed, limited resection is enough [16]. Operative resection of the involved intestine with macroscopically clear margins is the treatment of choice for IFPs. Inadequate resection margins may leave involved bowel and predispose to disease recurrence. To date, there have been two reported cases in the literature where IFPs recurred after incomplete resection [16,17,18].

The gastrointestinal stromal tumour (GIST) is an important consideration in the histological differential diagnosis of IFPs, and in morphologically ambiguous cases, immunohistochemistry is used to make a distinction between the two. Both tumours are positive for CD34 and vimentin, but GISTs are positive for CD117 (c-kit), while IFPs are not [19,20].

IFPs have no metastatic potential. They remain dormant until they are large enough to produce local symptoms that are dependent on their location. Small bowel lesions are not usually diagnosed pre-operatively because they present with vague symptoms of bowel obstruction due to intussusception. Laboratory investigations and plain radiographs are not helpful in making the diagnosis as they will demonstrate non-specific findings that are more in keeping with bowel obstruction [21].

Various studies have been published in the past also concluded that, intussusception secondary to IFPs of the small intestine are difficult to diagnose without recognition of its clinical and pathological characteristics. CT is useful in confirming an anatomical abnormality however; histological examination establishes the final diagnosis of IFPs [21,22].

## Conclusion

Though IFP is a rare entity it should generally be taken into consideration as a differential diagnosis of peduncular polyp of the small intestine. IFP of small intestine is not fatal and patients remain asymptomatic in their daily life except for intussusception or bowel obstruction, if healthy bowel margins are secured macroscopically during segmental resection.

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