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Case Report

Small bowel intussusception due to inflammatory fibroid polyp: A case report[☆]

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ABSTRACT

Inflammatory fibroid polyp (IFP), or Vanek's tumor, is a rare benign lesion of the gastrointestinal tract. According to the location and the size of the lesion, patients present with different clinical manifestations. Our case describes a patient who presented with a picture of a small bowel obstruction. Computed tomography revealed ileoileal intussusception without a clear lead point. The patient underwent resection of the intussuscepted small bowel with primary anastomosis. A polypoid mass was identified as the pathologic lead point. Histopathologic analysis revealed an inflammatory fibroid polyp.

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Introduction

Intussusception in adults is not that common, and usually a lead point is identified [1]. Inflammatory fibroid polyp (IFP) is a rare and benign submucosal lesion of the gastrointestinal (GI) tract, which can be seen in some cases of adult small bowel intussusception as a lead point [2]. In this paper, we are presenting a case of small bowel intussusception caused by IFP in an adult patient.

Case report

A 47-year-old female, who is not a known case of any medical illness, presented with a 4-day history of colicky abdominal pain associated with nausea and vomiting. The patient also

complained about suffering from constipation for the last 2 days. There is no history of fever or urinary symptoms. Physical examination showed stable vital signs with mild abdominal distension and moderate tenderness upon palpation of the right lower quadrant. The patient did not exhibit guarding or rebound tenderness. Laboratory investigations were unremarkable.

Bowel obstruction was suspected and a contrast enhanced computed tomography (CT) scan of the abdomen and pelvis was done, which showed ileoileal intussusception forming a zone of transition in the right iliac fossa. The small bowel loops proximal to the point of intussusception were dilated and fluid filled. Maximum measured diameter is about 5 cm. No lead point for the intussusception could be clearly identified on imaging (Figs. 1 and 2). The patient underwent a laparotomy with resection of small bowel and side-to-side anastomosis (Fig. 3). The patient tolerated the procedure well, had an uneventful immediate

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Fig. 1 – Axial abdominal computed tomography revealing a well-defined rounded enhancing lesion at the ileal loop, suggestive of ileoileal intussusception.



Fig. 2 – Coronal abdominal computed tomography revealing ileoileal (the second arrow down) intussusception, with small bowel loops dilated proximally (the first arrow up).

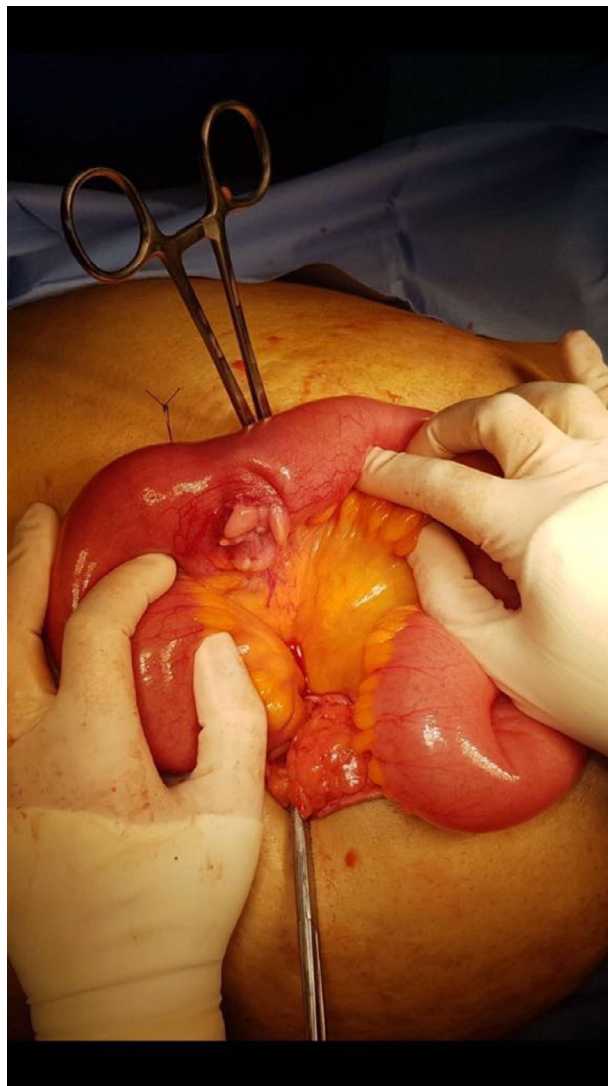


Fig. 3 – Intraoperative view of the intussuscepted portion of the ileum, showing the lead point. (For interpretation of the references to color in the text, the reader is referred to the web version of this article.)

postoperative course, and was discharged on the sixth post-operative day.

The excised small bowel was sent for histopathologic evaluation. The gross description revealed an ileoileal intussusception reaching lesion 60 cm from ileocecal valve. The excised lesion measures 16 cm in length and 3.5 cm in diameter, with an opening in the bowel, there is a polypoidal lesion arising from the mucosa measuring $3.5 \times 3 \times 3$ cm (Fig. 4). A microscopic description showed a markedly ulcerated lesion in relation to submucosa, muscle coat composed of hypocellular and hypercellular areas of spindle cell proliferation in rich fibrovascular stroma, with moderate chronic inflammatory infiltrate and patchy edema, seen in the overlying small bowel mucosa close to the polypoidal lesion with acute serositis. Features were compatible with an IFP (Fig. 5).



Fig. 4 – Postoperative specimen. The polyp measured 3.5 x 3 x 3 cm grossly. (For interpretation of the references to color in the text, the reader is referred to the web version of this article.)

Discussion

Intussusception is defined as invagination of a proximal part of small bowel along with its mesentery into a more distal bowel segment. Barbette was the first to describe intussusception in 1675, followed by Hunter in 1789; however, first surgical intervention was performed by Sir Jonathan Hutchinson in 1871 [3].

Intussusception can be either primary or secondary. Primary or idiopathic intussusception is more common in pediatric population. Secondary intussusception, where a lead point is identified, is seen more common in adults. Intussusception in a small bowel is usually of a benign nature, unlike the large bowel where a malignant process is more common. Causes of small bowel intussusception include hamartomas, lipomas, adhesions, Meckel's diverticulum, lymphoid hyperplasia, trauma, intestinal duplication, and tuberculosis. Colon adenocarcinoma considers the most important cause in cases of large bowel intussusceptions [4].

IFPs are rare, idiopathic lesions of the GI tract, which were first described by Vanek in 1949 as an eosinophilic submucosal granuloma. The term IFP, first proposed by Helwig and Ranier in 1953 for gastric polyps, has gained acceptance for similar lesions throughout the GI tract [4]. IFPs can develop in many different locations in the GI tract. The most common site is the gastric antrum, followed by the small bowel, colorectal region, gallbladder, esophagus, duodenum, and appendix. However, the ileal segment is the most common site where these polyps cause intussusception [5]. IFPs have a slight male predominance and are seen more frequent in the sixth and seventh decades of life [6].

IFPs are idiopathic with no definite cause. Some conditions have been proposed as risk factors such as trauma, allergic reaction, genetic tendency, bacterial, physical, and chemical factors [7].

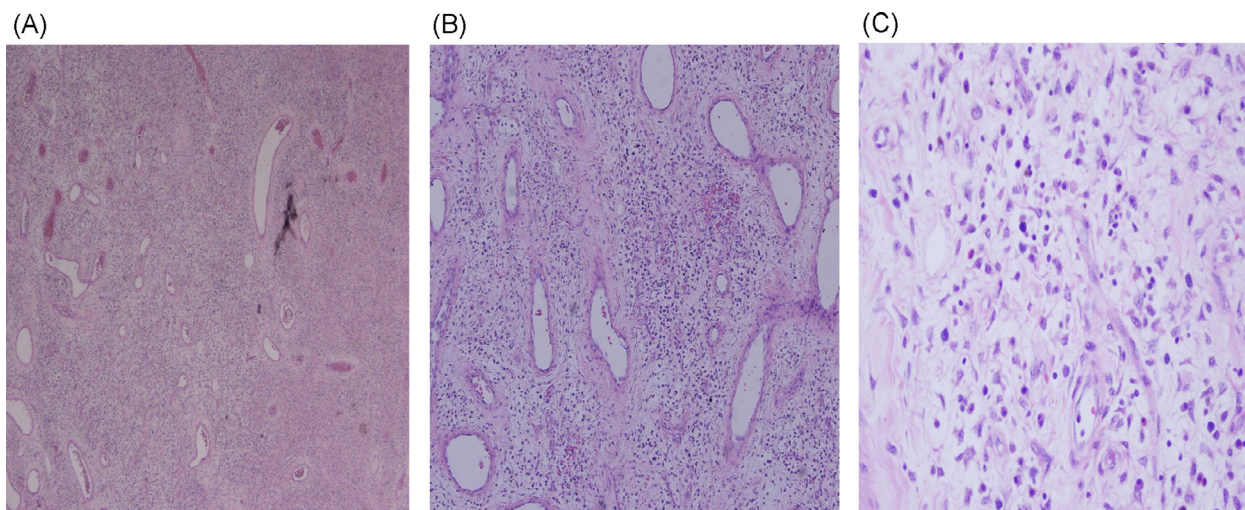


Fig. 5 – Photomicrograph of (A) small bowel polyp, (B) hypocellular, and (C) hypercellular areas of spindle cell proliferation in rich fibrovascular stroma, with moderate chronic inflammatory infiltrate and patchy edema. (For interpretation of the references to color in the text, the reader is referred to the web version of this article.)

IFPs are usually asymptomatic. Colicky abdominal pain, nausea, vomiting, constipation, and abdominal distention are the most common symptoms seen in IFPs cases and were noted in our patient [8]. GI bleeding is rarely seen and if present, significant ulceration or ischemia is suspected [9].

Differential diagnosis includes spindle cell lesions, such as inflammatory fibrosarcoma, spindle cell carcinoids, and GI stromal tumors (GISTs). However, it is very difficult to differentiate between them, especially between IFPs and GISTs. Immunohistochemistry is used to differentiate between the 2 lesions. IFPs are negative for CD117, unlike the GISTs [10]. In our case, differentials of intussusception were considered, such as malignancy, lymphoma, lipoma, and IFP. With the absence of suspicious lymph nodes, lymphoma was put down the list. Lipoma was excluded as the lesion had soft tissue component with no fat content. Clinical presentation with absence of metastasis excluded the malignancy process.

Radiological imaging and histopathologic analysis play an important role in diagnosis of IFPs, as medical history and physical examination results are not decisive. Usually, abdominal plain radiographs are the first radiological imaging modality, as most patients usually present with small bowel obstruction symptoms. CT scan of the abdomen is favored over ultrasound and contrast enema studies in cases of adult intussusception. CT scan has a range of sensitivity between 50 and 100. In cases with large bowel intussusception, colonoscopy can be helpful [2]. An old study by Harned et al. showed that definite diagnosis cannot be made depending solely on radiology, as these lesions do not have distinctive features that differ them from other lesions [11]. However, a retrospective series study by Han et al., where they analyzed enhanced CT abdomen scan findings in 27 patients who were proven to have IFPs by histopathology, found common characteristic features, which include endoluminal well-defined masses, can be round or ovoid, lobulated contour, with overlying mucosal hyperenhancement and various enhancement patterns. They suggested to include IFPs as a differential of GI tract soft tissue mass in patients suspecting intussusception. In our case, a well-defined rounded enhancing endoluminal mass was noted [12].

Adult intussusception management is controversial, with initial resection of the intussuscepted segment versus reduction, followed by a more limited resection. In cases of benign lead point and reduced small bowel loop, limited resection is recommended [13]. In our patient, wide resection of the intussuscepted segment was performed, as there was significant intraoperative concern for malignancy, given the gross appearance of the segment. IFPs are usually treated with surgical resection and usually are curative; however, only a single case of polyp recurrence is found in the literature [14].

portant diagnostic tool to detect an intussusception; however a histopathologic evaluation is needed to confirm the diagnosis.

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Conclusion

Adult intussusception is rare, and an intussusception due to IFP is even more rare. A CT scan is the most im-