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Acute Intestinal Intussusception in Adults Caused by an Inflammatory Fibroid Polyp: A Case Report

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Abstract **Case Report**

The inflammatory fibroid polyps (IFPs) are rare benign lesion originating in the submucosa of the digestive tract [1]. Its incidence is low, ranging between 0.6 and 2% [2]. Localization in the small intestine accounts for only 18% of cases [3], frequently presenting as acute intestinal intussusception. We report a case involving a 61-year-old woman with a history of cesarean section, presenting with diffuse abdominal pain, cessation of bowel movements and gas, and food-related vomiting. Physical examination revealed slightly distended abdomen and pelvic tenderness. Imaging studies demonstrated mechanical bowel obstruction due to terminal ileoileal intussusception with regular circumferential thickening of the invaginated bowel loops without signs of ischemia. Histopathological examination with immunohistochemical analysis confirmed the diagnosis of an inflammatory fibroid polyp without evidence of malignancy.

Keywords: Inflammatory Fibroid Polyp – Intestinal Obstruction – Abdominal CT scan – Surgery.

INTRODUCTION

Inflammatory fibroid polyps (IFPs) are non-neoplastic lesions arising from the submucosa of the digestive tract. First described in the stomach by Vanek in 1949 [1], they are exceedingly rare benign lesions, with a reported incidence of 0.6% to 2% [2]. Most frequently, they are located in the stomach (70%), less commonly in the ileum (20%), and rarely in the duodenum or jejunum [3].

We present a rare case of acute intestinal intussusception secondary to an inflammatory fibroid polyp in a 61-year-old woman admitted to the emergency department with signs of intestinal obstruction. The diagnosis was confirmed through immunohistochemical analysis.

PATIENT AND CASE REPORT

The patient was a 61-year-old woman with a surgical history of cesarean section performed 30 years prior. She presented with intense, diffuse abdominal pain persisting for four days, which had worsened over the last two days with cessation of stool and gas passage accompanied by uncontrollable food-related vomiting. Upon admission, her vital signs were as follows: blood pressure 140/70 mmHg, pulse rate 69 bpm, and body temperature 37.1°C. Physical examination revealed peri-umbilical tenderness localized in the right and left iliac fossae, a slightly distended abdomen, and a midline laparotomy scar below the umbilicus. Hernial orifices were unremarkable, and digital rectal examination revealed an empty rectal ampulla without abnormalities. Other systemic examinations were normal.

Laboratory results showed a white blood cell count of 9,220/mm³, hemoglobin level of 10.4 g/dL, platelet count of 260,000/mm³, C-reactive protein at 100 mg/L, and lipase at 25 U/L, without significant electrolyte disturbances.

An abdominal X-ray demonstrated small bowel air-fluid levels. Abdominal computed tomography (CT) with injection of contrast product (CT) revealed dilated small bowel loops measuring up to 42 mm in diameter, with air-fluid levels upstream of two contiguous terminal ileoileal intussusception segments visible in the right iliac fossa and central pelvis. There was regular, circumferential thickening of the invaginated bowel walls measuring 12 mm, enhanced by contrast, without evidence of intestinal ischemia (Figure 1).

Based on these findings, a diagnosis of acute mechanical intestinal obstruction due to ileoileal intussusception was established. Following preoperative blood work and resuscitation, an exploratory laparotomy was performed. Surgical exploration revealed dilated small bowel loops proximal to an ileoileal intussusception located 90 cm from the ligament of Treitz, caused by a stenosing intraluminal mass measuring 3 × 2 cm. Downstream, the colon was collapsed, with a minimal serous effusion (Figure 2).

The surgical procedure included resection of approximately 10 cm of small bowel encompassing the intussusception and mass in one piece, followed by immediate side-to-side mechanical ileoileal anastomosis and abdominal drainage (Figures 3–4).

The postoperative course was uneventful, and the patient was discharged on postoperative day 6 with satisfactory follow-up results.

Histopathological examination of the resected specimen revealed an oblong intraluminal mass measuring 4.5 × 2.5 × 3 cm with a myxoid appearance on cross-section, well-encapsulated, beige in color, and of soft-to-firm consistency. The lesion was centered in the submucosa. Immunohistochemistry confirmed the diagnosis of an inflammatory fibroid polyp without signs of malignancy (Figure 5).

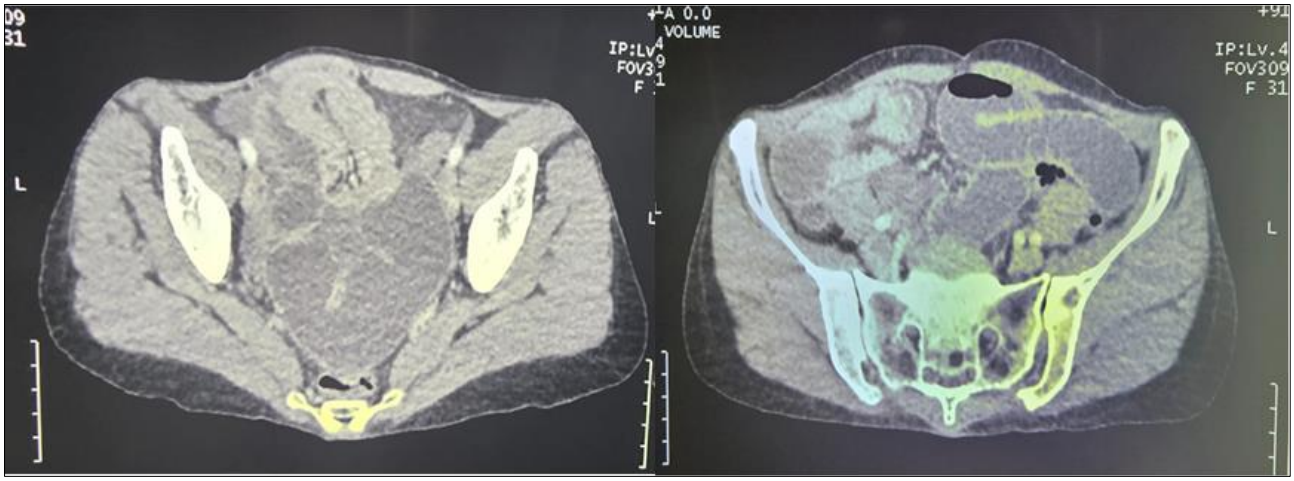

Figure 1: Abdominal CT scan showing mechanical occlusion on contiguous terminal ileoileal intussusception with regular and circumferential thickening of the intussusceptible loops without signs of pain.

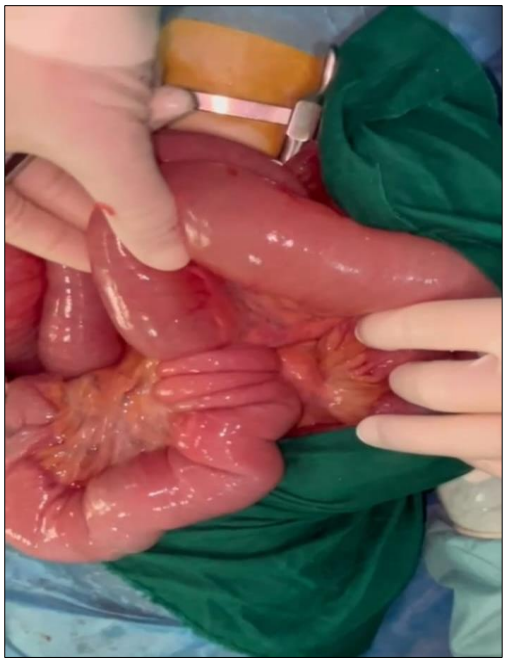

Figure 2: Intraoperative image showing distension of the small intestine loops upstream of a small intestine intussusception at the ileal level

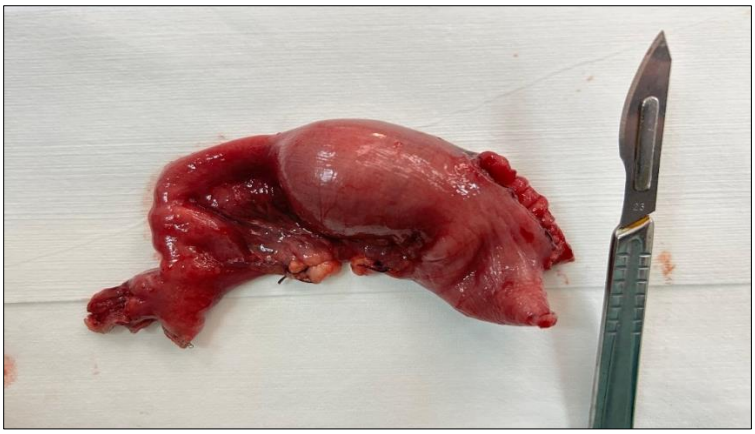

Figure 3: Surgical specimen of the resected small bowel, including the invaginated segment and the mass, removed in one piece

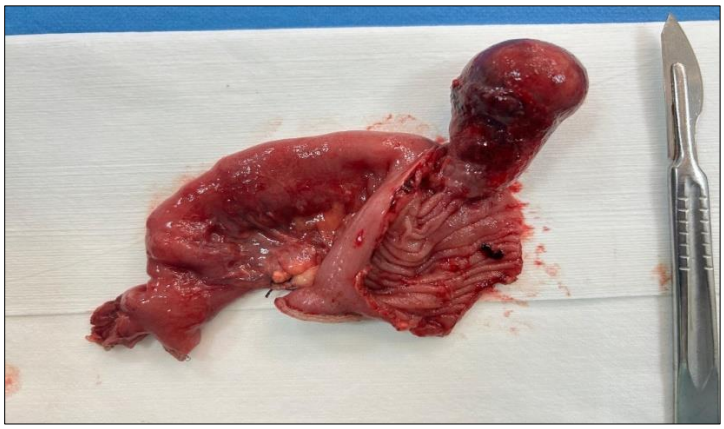

Figure 4: Small bowel resection piece removing the invagination and mass in one piece

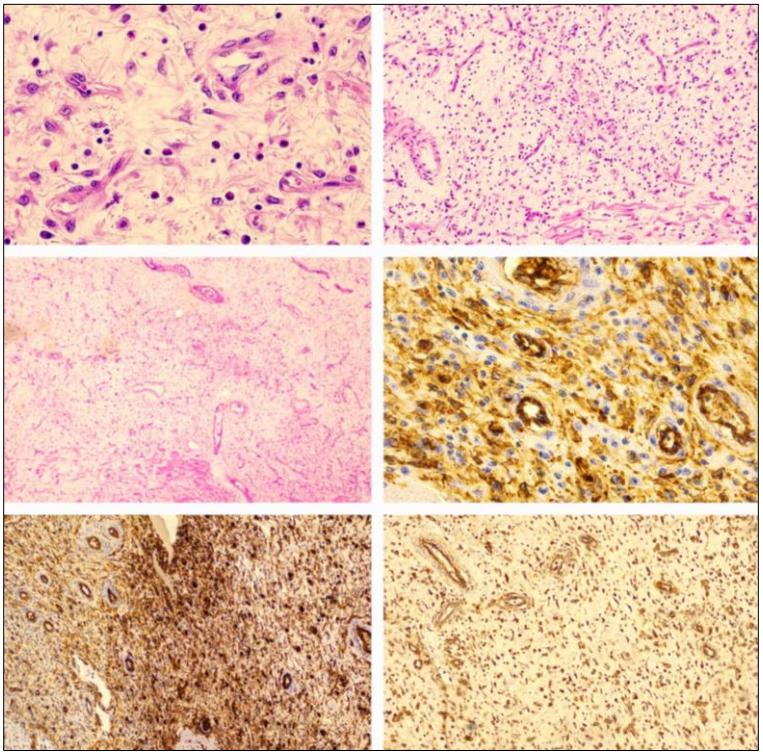

Figure 5: Anatomopathological showing a cellular proliferation made of spindle cells with an inflammatory infiltrate rich in eosinophils

DISCUSSION

Inflammatory fibroid polyps (IFPs) are rare benign mesenchymal lesions of the digestive tract [2], with an incidence of only 0.1% to 2% [2]. They can occur at any age but are most frequently observed in adults aged 60 to 70 years [2].

The stomach is the most common site, accounting for approximately 70% of cases, usually involving the gastric antrum. Small intestinal involvement is less frequent, representing only 18% of cases [4]. The clinical presentation is variable and sometimes misleading, depending on the size and location of the lesion within the gastrointestinal tract. In adults, chronic intussusception is typically characterized by intermittent abdominal pain and sub occlusive episodes, whereas acute presentations are more common with ileoileal involvement. Acute intussusception often represents the advanced stage of a chronic condition where diagnosis has been delayed [5]. In the ileum, polyps frequently cause intussusception [4], as in our case, where the patient presented with diffuse abdominal pain, cessation of bowel and gas passage. Regardless of the initial clinical presentation, imaging plays a key role in diagnosis, while exploratory surgery is rarely required.

Radiographically, abdominal X-rays may reveal small bowel air-fluid levels, aiding in the diagnosis of small bowel obstruction. However, direct visualization of the "head of the intussusceptum" as a mass is rare [1], and often provides limited diagnostic value [6].

Abdominal ultrasound is a reliable tool for diagnosing intussusception [7, 8]. In transverse views, the intussusceptum appears as a "target" or "bull's-eye" lesion with a diameter of less than 3 cm, comprising a hypoechoic peripheral ring representing digestive wall layers and a hyper-echoic crescent corresponding to the trapped mesentery [9]. Longitudinally, the intussusceptum appears as a "sandwich" or "pseudo-kidney" image. The transition zone where the invaginated loop penetrates the recipient loop is also well visualized [9]. Doppler ultrasound may highlight the absence of vascular flow in cases of ischemic necrosis. In addition to its diagnostic utility, ultrasound can reveal a potential tumor cause or differentiate intussusception from other causes of abdominal pain. In this case, no ultrasound was performed.

The abdominal CT scan with injection of contrast performed in emergencies, enhances diagnostic sensitivity up to 90% and specificity to 100% in adults [10]. It helps identify the obstruction, its mechanism (e.g., intussusception), precise location, and potential underlying causes (e.g., intraluminal or extraluminal mass). CT often identifies a fat-density lesion surrounded by bowel wall if the cause is lipoma, or tissue density if it is a polyp. Classic images include the "sandwich" sign on longitudinal views or the "target" sign on transverse views. In our case, CT scan was instrumental, demonstrating obstruction due to acute ileoileal intussusception with wall thickening and lymphadenopathy, suggesting a tumorous origin. CT is also the gold standard for detecting ischemia-related severity. While magnetic resonance imaging offers a non-radiating alternative, it is less effective for detecting small intestinal polyps than CT.

Endoscopy remains the reference method for detecting, classifying, and monitoring polyps. It allows direct visualization, biopsy, or resection of lesions [11]. In this case, the patient did not undergo endoscopy.

Surgical intervention is the standard treatment for adult intussusception caused by IFPs, the endoscopic approach is reserved for uncomplicated forms. These lesions are non-malignant [12], and treatment typically involves resection of the affected segment [13]. Our patient underwent a median laparotomy and resection of the invaginated small bowel along with the mass, followed by side-to-side ileoileal anastomosis. Histopathological examination confirmed the diagnosis of an inflammatory fibroid polyp, with immunohistochemical analysis showing low cellular proliferation comprising spindle cells in a myxoid stroma with prominent eosinophilic inflammatory infiltrates and no evidence of mitosis.

CONCLUSION

Inflammatory fibroid polyps are rare non-neoplastic lesions of the digestive tract, predominantly observed in adults. Ileal localization often presents acutely as intestinal intussusception, leading to acute obstruction. Abdominal ultrasound and, more importantly, CT scans are essential for diagnosis. Surgical resection of the invaginated segment is the treatment of choice, with histopathological examination providing a definitive diagnosis.

Conflicts of Interest

The authors declare no conflicts of interest. Author Contributions All authors contributed to this work. All authors have read and approved the final version of this manuscript.

REFERENCES

1. Vaněk, J. (1949). Gastric submucosal granuloma with eosinophilic infiltration. *The American journal of pathology*, *25*(3), 397.
2. Rossi, P., Montuori, M., Balassone, V., Ricciardi, E., Anémone, L., Manzelli, A., & Petrella, G. (2012). Inflammatory fibroma polyp. Case report and literature review. *Ann Ital Chir*, *83*(4), 347-51.
3. Nonose, R., Valenciano, J. S., da Silva, C. M. G., de Souza, C. A. F., & Martinez, C. A. R. (2011). Ileal intussusception caused by Vanek's tumor: a case report. *Case Reports in Gastroenterology*, *5*(1), 110-116.

4. Barussaud, M., Regenet, N., Briennon, X., De Kerviler, B., Pessaux, P., Kohneh-Sharhi, N., ... & Mirallie, E. (2006). Clinical spectrum and surgical approach of adult intussusceptions: a multicentric study. *International Journal of Colorectal Disease*, *21*, 834-839.
5. Sirinelli, D., Guilley, C., Lardy, H., & Boscq, M. (2003). Invagination intestinale aiguë: la désinvagination, quand et comment?. *Journal de radiologie (Paris)*, *84*(3), 269-274.
6. Lebeau, R., Koffi, E., Diané, B., Amani, A., & Kouassi, J. C. (2006, October). Acute intestinal intussusceptions in adults: analysis of 20 cases. In *Annales de Chirurgie* (Vol. 131, No. 8, pp. 447-450).
7. Ross, G. J., & Amilineni, V. (2000). Case 26: Jejunojejunal intussusception secondary to a lipoma. *Radiology*, *216*(3), 727-730.
8. Fournier, R., Gouzien, P., Russier, Y., Garola, P., & Veillard, J. M. (1994). Intestinal intussusception in adults: contribution of ultrasonography. *Journal de Chirurgie*, *131*(10), 430-433.
9. El Hanine, Z. (2008). Intestinal intussusceptions in adults: The value of computed tomography (about a series of 10 cases) [Internet] [Thesis]. [cited 23 Feb 2020]. Available at: http://ao.um5.ac.ma/xmlui/handle/123456789/1454.
10. Bar-Ziv, J., & Solomon, A. (1991). Computed tomography in adult intussusception. *Gastrointestinal radiology*, *16*, 264-266.
11. Anthony, P. P., Morris, D. S., & Vowles, K. D. (1984). Multiple and recurrent inflammatory fibroid polyps in three generations of a Devon family: a new syndrome. *Gut*, *25*(8), 854-862.
12. Yakan, S., Calıskan, C., Makay, O., Deneclı, A. G., & Korkut, M. A. (2009). Intussusception in adults: clinical characteristics, diagnosis and operative strategies. *World journal of gastroenterology: WJG*, *15*(16), 1985.
13. Just, P. A., Hoang, C., Cadi, M., Menegaux, F., & Capron, F. (2005). Invagination intestinale aiguë de cause inhabituelle: Hyperplasie hétérotopique pseudo-tumorale des glandes de Brunner. *Gastroentérologie clinique et biologique*, *29*(11), 1160-1163.