



Original Research Article

A Rare Cause of Adult Intestinal Intussusception: Ileal Inflammatory Fibroid Polyp

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Abstract: Adult intestinal intussusception is an uncommon clinical entity and differs significantly from its pediatric counterpart in terms of etiology, presentation, and management. It accounts for a small proportion of intestinal obstructions in adults and is usually associated with a definable pathological lead point. Inflammatory fibroid polyp (IFP), also known as Vanek's tumor, is a rare benign mesenchymal lesion of the gastrointestinal tract and represents an infrequent cause of adult small-bowel intussusception. The case of a 56-year-old female who presented with acute colicky abdominal pain and vomiting. Contrast-enhanced computed tomography of the abdomen revealed a short-segment ileo-ileal intussusception with a well-defined intraluminal mass acting as the lead point. The patient underwent diagnostic laparoscopy with hand port assistance, which confirmed ileo-ileal intussusception approximately 25 cm proximal to the ileocecal junction. En bloc segmental ileal resection with primary end-to-end anastomosis was performed without attempted reduction. Histopathological examination demonstrated a benign inflammatory fibroid polyp characterized by spindle-shaped stromal cells and prominent eosinophilic infiltrate, with no evidence of malignancy. The postoperative course was uneventful, and the patient remained asymptomatic on follow-up. This case highlights the importance of considering intussusception in the differential diagnosis of acute abdomen in adults, emphasizes the pivotal role of computed tomography in preoperative diagnosis, and reinforces surgical resection as the definitive management for adult intussusception with an underlying pathological lead point.

Keywords: Adult intussusception; Inflammatory fibroid polyp; Vanek's tumor; Ileo-ileal intussusception; Computed tomography

INTRODUCTION

Intussusception is defined as the invagination of a proximal segment of the gastrointestinal tract into the

lumen of an adjacent distal segment, resulting in impaired intestinal motility and potential compromise of the mesenteric blood supply ¹. Although

intussusception is a well-recognized cause of intestinal obstruction in the pediatric population, its occurrence in adults is distinctly uncommon. Adult intussusception accounts for less than 5% of all reported cases and contributes to approximately 1–5% of intestinal obstructions in adults. Unlike pediatric intussusception, which is often idiopathic and amenable to non-operative reduction, adult intussusception typically has an underlying pathological lead point and therefore warrants a fundamentally different diagnostic and therapeutic approach 2.

The clinical presentation of adult intussusception is often nonspecific and variable, contributing to diagnostic delays. Patients may present with intermittent or acute abdominal pain, nausea, vomiting, altered bowel habits, or gastrointestinal bleeding 3. The classic triad of abdominal pain, palpable mass, and bloody stools, commonly described in children, is rarely observed in adults. As a result, adult intussusception frequently poses a diagnostic challenge, and a high index of clinical suspicion is required, particularly in patients presenting with unexplained abdominal symptoms 1.

Pathologically, adult intussusception is associated with a definable lead point in the majority of cases. These lead points may be intraluminal, mural, or extramural in origin and include benign tumors, malignant neoplasms, postoperative adhesions, Meckel's diverticulum, and inflammatory lesions 2,4. In the small intestine, benign lesions are more commonly implicated, whereas colonic intussusception carries a higher likelihood of malignancy. Among benign causes, inflammatory fibroid polyp (IFP), also known as Vanek's tumor, represents a rare and often underrecognized etiology 5.

Inflammatory fibroid polyp is a benign mesenchymal lesion of the gastrointestinal tract characterized histologically by spindle-shaped stromal cells, prominent vascular proliferation, and a dense eosinophilic inflammatory infiltrate. Although the stomach is the most frequently affected site, ileal involvement is uncommon 6. When located in the small intestine, IFPs may act as a lead point for intussusception due to their intraluminal growth pattern. The rarity of this lesion and its nonspecific clinical manifestations often result in diagnosis only after surgical resection and histopathological examination 7.

Advances in cross-sectional imaging have significantly improved the preoperative diagnosis of adult intussusception 8. Contrast-enhanced computed tomography (CECT) of the abdomen is considered the imaging modality of choice, demonstrating the characteristic “bowel-within-bowel” appearance and

frequently identifying the underlying lead point. CT imaging also aids in assessing complications such as bowel obstruction, ischemia, or perforation, thereby guiding surgical decision-making 9.

Given the high probability of an underlying pathological lesion, surgical intervention remains the definitive management of adult intussusception. Resection of the involved bowel segment not only relieves the mechanical pathology but also allows for accurate histopathological diagnosis 2. This case report describes a rare presentation of adult ileo-ileal intussusception caused by an inflammatory fibroid polyp of the ileum, emphasizing the diagnostic role of CT imaging and the importance of surgical management in adult patients.

CASE PRESENTATION

Patient Information

A 56-year-old female presented to the emergency department with acute abdominal pain and vomiting. She was a known case of type 2 diabetes mellitus and hypertension for five years and was on regular medication. There was no history of previous abdominal surgery or similar episodes.

Presenting Complaints

The patient complained of diffuse abdominal pain for three days and vomiting for one day. The pain was colicky, intermittent, progressively worsening in intensity, and involved the entire abdomen. Vomiting was non-bilious, non-projectile, and contained food particles. There was no history of fever, abdominal distension, gastrointestinal bleeding, altered bowel habits, or urinary complaints.

Clinical Examination

On examination, the patient was conscious, oriented, and hemodynamically stable. Abdominal examination revealed a soft, non-distended abdomen with localized tenderness in the right hypochondrium and epigastrium. There was no guarding, rigidity, or palpable mass. Bowel sounds were normally audible. Per-rectal examination was unremarkable.

Radiological Assessment

Contrast-enhanced computed tomography of the abdomen demonstrated a short-segment ileo-ileal intussusception involving the distal ileum, with a well-defined intraluminal soft-tissue lesion measuring approximately 3.2 × 2.5 cm acting as a lead point. No evidence of bowel obstruction, ischemia, or free intraperitoneal fluid was noted.

Surgical Management

Preoperative Optimization

Following radiological confirmation, the patient was planned for surgical intervention. Preoperative optimization included nil per oral status, intravenous fluid resuscitation, correction of electrolyte

imbalance, glycemic control, and administration of broad-spectrum intravenous antibiotics. After adequate optimization and anesthetic clearance, the patient was taken up for surgery.

Surgical Approach

Diagnostic laparoscopy with hand-assistance port was performed under general anesthesia through a small midline infra-umbilical incision, providing adequate exposure of the abdominal cavity and small bowel. Intraoperative Findings: Intraoperatively, an ileo-ileal intussusception was identified approximately 25 cm proximal to the ileocecal junction. The intussuscepted bowel segment was mildly edematous but viable, with preserved color and mesenteric pulsations. No evidence of bowel ischemia, necrosis, or perforation was observed. A firm, well-circumscribed intraluminal mass was palpated at the apex of the intussusception, consistent with a pathological lead point.

Intraoperative Decision-Making

Considering the presence of a definite lead point and the established recommendation against attempted reduction in adult intussusception due to the risk of underlying pathology, manual reduction was deliberately avoided. The decision was made to proceed with en bloc resection of the involved bowel segment.

Bowel Resection

Segmental resection of the affected ileal segment was performed, including adequate proximal and distal margins to ensure complete removal of the lesion. Care was taken to preserve mesenteric vascularity and avoid unnecessary bowel handling.

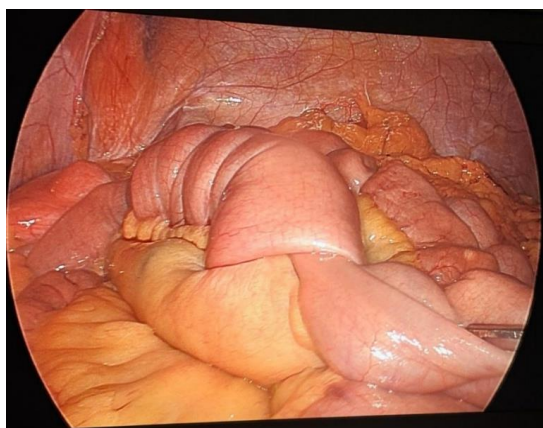


Figure 1: Intraoperative photograph showing ileo-ileal intussusception.

The image demonstrates telescoping of a proximal segment of ileum into the adjacent distal ileal segment, forming a characteristic bowel-within-bowel appearance. The intussuscepted bowel appears edematous but viable, with preserved serosal sheen and no evidence of ischemia or perforation. The

pathological lead point was identified intraoperatively within the intussuscepted segment and was later confirmed on histopathology as an inflammatory fibroid polyp.



Figure 2: Intraoperative assessment of ileo-ileal intussusception.

The intraoperative image shows gentle handling and assessment of the intussuscepted ileal segment using atraumatic laparoscopic instruments. The bowel appears congested but viable, with preserved serosal sheen and no evidence of ischemia or perforation. This step allowed clear identification of the intussuscepted segment and confirmation of an underlying intraluminal pathological lead point prior to definitive segmental resection.

Reconstruction and Anastomosis

Following resection, bowel continuity was restored by performing a primary end-to-end ileo-ileal anastomosis. The anastomosis was fashioned in a tension-free manner after confirming adequate perfusion of the bowel ends. Hemostasis was meticulously secured.

Abdominal Closure

After thorough peritoneal lavage, the abdominal cavity was inspected for additional pathology. No other abnormalities were detected. The abdomen was closed in layers after placement of appropriate drainage, as deemed necessary intraoperatively.



Figure 3: Postoperative midline abdominal incision for hand port.



Figure 5: Gross specimen of resected ileal segment showing inflammatory fibroid polyp.



Figure 4: Postoperative abdominal appearance showing laparoscopic port-site and midline incision.

The image demonstrates the postoperative abdomen with a healing midline laparotomy incision for hand-assistance port and additional laparoscopic port-site closures secured with sutures. The surgical sites appear clean with no evidence of wound infection, hematoma, or dehiscence, indicating an uncomplicated postoperative recovery following ileal resection and primary anastomosis for ileo-ileal intussusception.

Pathological Examination

Gross Examination: The resected specimen consisted of a segment of ileum containing a nodular intraluminal polypoid mass arising from the submucosa. The overlying mucosa showed focal ulceration.

The photograph shows a resected segment of ileum opened longitudinally, revealing a well-circumscribed, rounded intraluminal polypoid mass arising from the submucosa. The lesion projects into the intestinal lumen and corresponds to the pathological lead point responsible for ileo-ileal intussusception. The surrounding mucosa shows congestion without evidence of transmural necrosis or perforation. Histopathological examination confirmed the lesion as an inflammatory fibroid polyp.

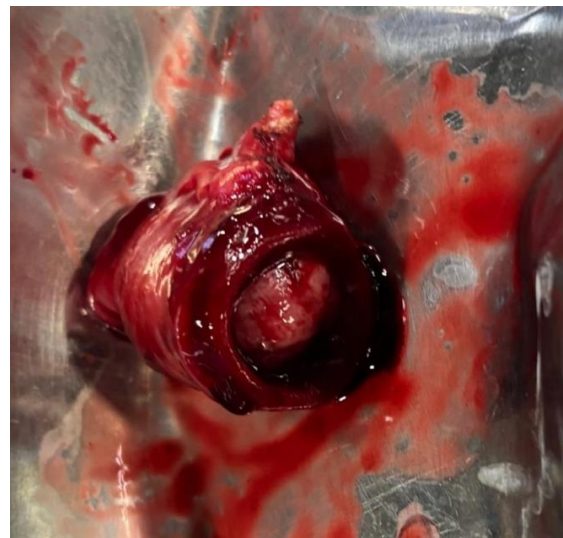


Figure 6: Resected ileal segment showing intussusception with intraluminal lead point.

The specimen demonstrates a telescoped segment of ileum with the intussuscepted bowel forming concentric layers. A rounded intraluminal mass is visible at the apex of the intussusception, corresponding to the pathological lead point. The bowel appears congested but viable, with no gross evidence of ischemia or perforation. Subsequent histopathological examination confirmed the lesion to

be an inflammatory fibroid polyp.

Microscopic Examination

Histopathological analysis revealed a benign submucosal lesion composed of spindle-shaped stromal cells arranged around blood vessels, with prominent eosinophilic inflammatory infiltrate. No features of malignancy were identified, confirming the diagnosis of inflammatory fibroid polyp.

Postoperative Course and Follow-up

Immediate Postoperative Care

The patient was monitored in the postoperative ward. Early ambulation was encouraged, and bowel sounds returned within an expected timeframe. Oral feeding was gradually initiated and well tolerated.

Outcome

The postoperative period was uneventful. The patient showed complete resolution of symptoms and was discharged in stable condition.

Follow-up

On follow-up, the patient remained asymptomatic with no evidence of recurrence.

DISCUSSION

Intussusception in adults is an uncommon clinical entity and differs significantly from its pediatric counterpart in terms of etiology, clinical presentation, diagnostic approach, and management. Adult intussusception accounts for a small proportion of intestinal obstructions and is most often associated with an identifiable pathological lead point. Unlike children, where idiopathic cases predominate and non-operative reduction is frequently successful, adult intussusception usually mandates surgical intervention due to the high likelihood of underlying structural pathology 2.

Small-bowel intussusception in adults is more commonly caused by benign lesions, including lipomas, hamartomas, Meckel's diverticulum, postoperative adhesions, and inflammatory lesions 10. Inflammatory fibroid polyp (IFP), also known as Vanek's tumor, is a rare benign mesenchymal lesion of the gastrointestinal tract and represents an infrequent cause of adult intussusception. IFPs most commonly arise in the gastric antrum, followed by the ileum, where their intraluminal growth predisposes to telescoping of the bowel segment 5.

The clinical presentation of adult intussusception is often nonspecific and variable, ranging from chronic intermittent abdominal pain to acute abdomen, as seen in the present case. This nonspecific symptomatology frequently leads to diagnostic delays. Physical examination findings are often subtle, and the classical pediatric triad is rarely observed. Therefore, imaging plays a pivotal role in establishing

the diagnosis 3.

Contrast-enhanced computed tomography is considered the imaging modality of choice for adult intussusception. Typical CT findings include the characteristic "bowel-within-bowel" or "target" appearance, mesenteric fat and vessels within the intussuscepted segment, and, in many cases, identification of the lead point 11. In the present case, CT imaging not only confirmed the diagnosis of ileo-ileal intussusception but also demonstrated a well-defined intraluminal lesion, facilitating preoperative planning and timely surgical intervention.

The management of adult intussusception remains primarily surgical. Unlike pediatric cases, non-operative reduction is generally not recommended in adults because of the high incidence of pathological lead points and the potential risk of missing malignancy or causing intraluminal dissemination. Surgical options include reduction followed by resection or primary en bloc resection without prior reduction. Most authors advocate resection without attempted reduction, particularly when a lead point is suspected, as was appropriately done in the present case 2.

Histopathological examination is essential for definitive diagnosis. Inflammatory fibroid polyp is characterized by spindle-shaped stromal cells, prominent vascularity, and dense eosinophilic inflammatory infiltrate. The absence of cellular atypia and clear surgical margins confirm its benign nature. Complete surgical excision is curative, and recurrence is rare 12.

This case highlights the importance of considering intussusception in the differential diagnosis of acute abdominal pain in adults. Early use of CT imaging allows accurate diagnosis, identification of the lead point, and appropriate surgical management, thereby reducing morbidity 11.

CONCLUSION

Adult intussusception is a rare but clinically significant cause of acute abdomen and is frequently associated with an underlying pathological lead point. Inflammatory fibroid polyp of the ileum represents an uncommon benign etiology and is often diagnosed only after surgical resection and histopathological evaluation. Due to the nonspecific clinical presentation in adults, a high index of suspicion is required. Contrast-enhanced computed tomography plays a crucial role in early diagnosis by demonstrating the characteristic imaging features and identifying the lead point. Surgical resection remains the definitive treatment in adult intussusception, providing both therapeutic resolution and diagnostic confirmation. This case emphasizes the need for prompt imaging, appropriate surgical decision-

making, and histopathological correlation to ensure optimal outcomes. Recognition of inflammatory fibroid polyp as a potential cause of adult small-bowel intussusception is important to guide management and prognostication.

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