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Twist-a-pull: Unraveling the Rare Encounter of Colo-Colic Intussusception Caused by Submucosal Lipoma

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ORIGINAL

Abstract

In adults, colo-colic intussusception is mainly associated with colonic malignancies, with CT scans identifying a lead point in 70-90% of cases. Benign causes, like submucosal lipomas, are less common, with incidences between 0.2% and 4.4%. This report describes a rare instance of right-sided colo-colic intussusception caused by a submucosal lipoma in a 72-year-old female. She presented with acute intestinal obstruction, sudden abdominal distension, and localized right lower quadrant pain, worsening over a week. CT imaging revealed ileo-colic intussusception. Intraoperatively, caecum-ascending colon colo-colic intussusception with proximal bowel obstruction was identified. A midline laparotomy, right hemicolectomy, and primary anastomosis were performed, with histopathology confirming a submucosal lipoma without malignancy. The patient had an uneventful recovery.

Submucosal colonic lipomas, typically asymptomatic, can cause intussusception, obstruction, bleeding, and abdominal pain, complicating diagnosis due to their similarity to malignancies. They are most common in the ascending colon/caecum, followed by the sigmoid, descending, and transverse colon, and should be considered in differential diagnoses. Although benign lesion-induced intussusception is rare in adults, accurate diagnosis and timely intervention are crucial to prevent complications. Pre-operative identification is challenging due to non-specific symptoms, but CT scans are invaluable for diagnosis, effectively pinpointing the tumor site as a lead point

Keywords : Colon, Lipoma, Intussusception

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Introduction

In adults, colo-colic intussusception primarily manifests in conjunction with colonic malignancies, with a detectable lead point identified in approximately 70-90% of cases through computed tomography (CT) scans. Instances induced by benign conditions, such as submucosal lipomas, are less common, accounting for reported incidences ranging from 0.2% to 4.4% (1). Other presentations of colonic lipoma can range from asymptomatic cases to alterations in bowel habits, bleeding, and obstruction (2). This case report presents a unique occurrence of right-sided colo-colic intussusception attributed to a submucosal lipoma.

Case Presentation

A 72-year-old female presented with the acute onset of intestinal obstruction, characterized by sudden abdominal distension and localized pain in the right lower quadrant. Her symptoms had progressively worsened over the week preceding her admission to the emergency department. There was no fever or rectal bleeding reported. Clinical examination revealed a vague, mobile, and ill-defined mass in the right iliac fossa region without signs of peritonitis.

A CT scan of the abdomen revealed right-sided colonic intussusception secondary to a lipoma, with no signs of bowel perforation or ischemia. The patient underwent a midline laparotomy. Intraoperatively, caecum-ascending colon colo-colic intussusception with proximal bowel obstruction was identified. A right hemicolectomy with primary side-to-side anastomosis was performed. The surgery was uneventful with no intraoperative complications.

The bivalved cut section of the right hemicolectomy specimen showed submucosal fat tissue lobules responsible for the transition point of the colonic intussusception. Histopathological examination confirmed the presence of a submucosal lipoma measuring 6 x 4 cm, with no evidence of malignancy. The patient experienced an uneventful recovery and subsequent follow-up.



Figure 1. Right Hemicolectomy Specimen After Reduction of Caecum-Ascending Colon Colo-Colic Intussusception Due to Lipoma.



Figure 2. Bivalved Right Hemicolectomy Specimen Showing Presence of Submucosal Lipoma.

Discussion

Intussusception of the intestine can manifest as entero-enteric, colo-colic, or ileocolic. In the pediatric population, intussusception is primarily due to benign causes and often resolves with medical treatment. Conversely, in adults, the majority of intussusception cases are associated with underlying pathology requiring surgical intervention, with malignancy being the most common cause and benign etiologies comprising a minority (3). Colonic lipoma, first described by Bauer in 1757, is classified as the third most common benign tumor of the intestine, following hyperplastic and adenomatous polyps, with an incidence ranging from 0.2% to 4.4% (1). Approximately 17% of intestinal intussusception cases are attributed to lipomas (4). Women (57%) are more frequently affected than men (43%), even in cases of symptomatic lipoma, which commonly occurs between 40 and 70 years of age (1). This aligns with our case, presenting an elderly woman.

Colonic submucosal lipoma typically exhibits an asymptomatic course; however, they may manifest as intussusception, obstruction, bleeding, and abdominal pain, thereby presenting a clinical challenge by mimicking malignancy (5). Our case report is consistent with the literature, which indicates that colo-colic intussusception secondary to a lipoma is predominantly located in the ascending colon/caecum, followed by the sigmoid, descending, and transverse colon (1). Intussusception causing complete bowel obstruction is observed in less than 20% of cases, and lipomas larger than 2-4 cm can lead to intestinal obstruction (6). The size of colonic lipomas varies from 0.5 cm to 10 cm; in our case, the lipoma measured approximately 6 cm. Additionally, most lipomas are situated submucosally, as observed in this case, although they can also be subserosal, originating from an appendices epiploica (5).

The pre-operative identification of a colonic lipoma causing intussusception may prove challenging,

given its non-specific clinical and laboratory presentation. However, a cross-sectional CT scan emerges as an invaluable tool, facilitating the diagnosis by effectively pinpointing the tumour site as a lead point. In our case, the patient presented with intussusception, exhibiting classical clinical signs of acute colonic obstruction. A CT scan of the abdomen confirmed the diagnosis, identifying a lipoma as the underlying etiology. Early diagnosis of intussusception in adults is challenging due to their often non-specific symptoms. Various imaging modalities are available for diagnosing colo-colic intussusception, including ultrasound (USG), CT scans, and MRI (6). USG is a quick and minimally invasive method, often the first imaging approach performed by an experienced operator. However, identifying a lipoma as the cause of intussusception using USG can be challenging due to bowel contents limiting the hyperechoic aspects of the lesion, and malignant characteristics may not always be well defined (1). CT scans are considered the gold standard for diagnosing intussusception, as they can differentiate between benign and malignant lesions that serve as the lead point. CT scans have a sensitivity of around 70-80% and a specificity of around 90-100% for identifying intussusception. The classic CT signs of intussusception include the "target sign" or "pseudo-kidney" sign. Colonic lipomas are best detected when they exceed 2 cm in size (6).

Conclusion

Although adult-onset intussusception caused by benign lesions is infrequent, it is imperative to include this possibility in the diagnostic deliberations. Timely and accurate diagnosis, along with appropriate intervention, is crucial to prevent further complications.

Conflict Of Interest

Author declare no conflict of interest and no funding for this study.

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