DOI: 10.7860/JCDR/2023/64072.18489

Case Report

Radiology Section

Intraluminal Submucosal Lipoma as a Lead Point Causing Colo-colic Intussusception: A Case Report

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ABSTRACT

Adult colo-colic intussusception is very rare and it poses a diagnostic challenge in the geriatric population. The clinical diagnosis can be difficult due to non specific presenting complaints. However, it is a surgical emergency with high morbidity and mortality rates. Surgical exploration is the recommended treatment as most cases involve a pathological lead point. In this case report, the authors present the case of a 50-year-old female patient who complained of pain in the left lumbar region, loose stools, and loss of appetite for one month. Ultrasound (US) revealed an echogenic mass with a typical bowel within-bowel appearance. Contrast-enhanced Computed Tomography (CECT) of the abdomen showed telescoping of the proximal descending colon into the distal descending colon. Additionally, a fat density rounded lesion was observed on CT. The wall of the descending colon exhibited enhancement, indicating viable large bowel loops. Colonoscopy revealed a polypoid growth. The patient subsequently underwent surgery, confirming all imaging findings. Resection and anastomosis of the colon were performed, with an intraluminal lipoma identified as the primary cause of the colo-colic intussusception. The postoperative period of up to three months was uneventful. US and CT play a crucial role in the early diagnosis and prevention of serious complications.

Keywords: Bowel within bowel appearance, Bowel telescoping, Fat density bowel mass, Large bowel obstruction

CASE REPORT

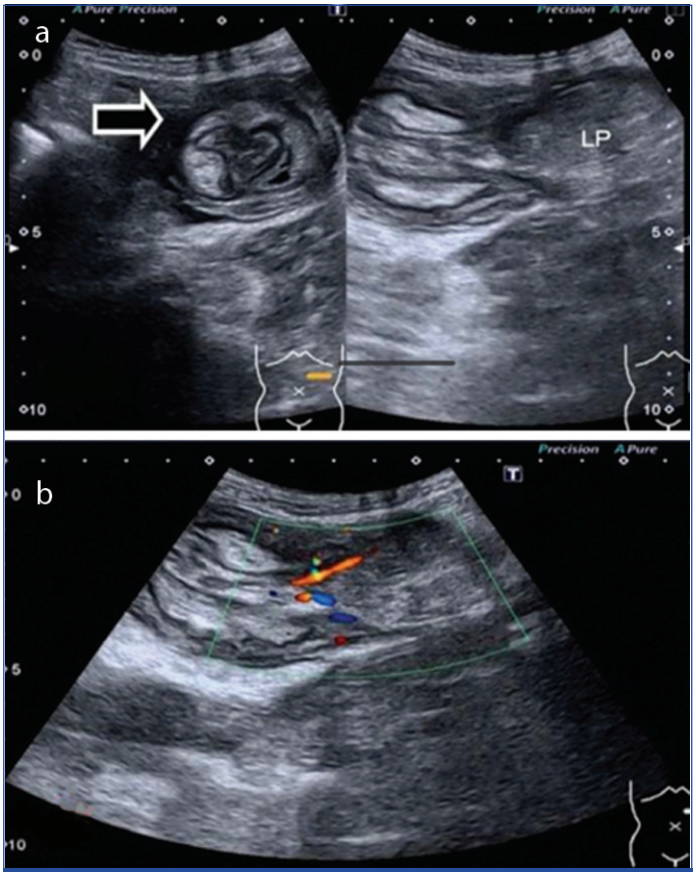
A 50-year-old female patient was brought to the Emergency Department with primary complaints of pain in the left lumbar region for one month. The pain was described as a dull ache that worsened in a standing position and improved when lying down. The patient also reported experiencing loose stools and loss of appetite. There was no history of similar illness in the past.

During physical examination, fullness was observed in the epigastric and left hypochondriac regions. Tenderness was noted upon palpation of the left hypochondriac and left lumbar regions, but no palpable lump was detected.

As the initial investigation, the patient underwent an abdominal and pelvic ultrasonography, which revealed an echogenic mass measuring 3.4×2.5 cm within the lumen of the distal descending colon, displaying a typical bowel-within-bowel appearance [Table/Fig-1a,b]. A CECT scan of the abdomen demonstrated telescoping of the proximal part of the descending colon into the distal descending colon. A rounded lesion with a fat density (Hounsfield Unit [HU]: -52 to -70) measuring 4.2×3.7 cm was also observed, which was causing the intussusception. The colon wall showed enhancement, indicating viable large bowel [Table/Fig-2a-c].

Colonoscopy revealed a polypoid growth in the descending colon [Table/Fig-3]. The patient underwent surgery to confirm all imaging findings. Intraoperatively, a prominent intraluminal lipoma was identified as the cause of the colo-colic intussusception [Table/Fig-4a,b]. Resection and anastomosis of the colon were performed. The excised specimen was sent for histopathology, which revealed a tumour mass composed of lobules of mature adipose tissue with eccentric nuclei separated by thin fibroconnective septa [Table/Fig-5a,b].

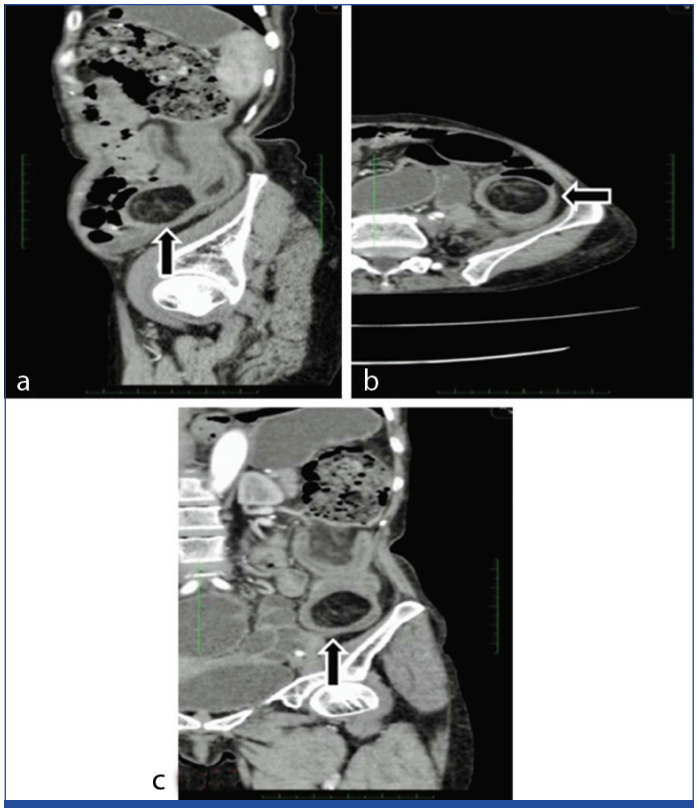
The postoperative period of up to three months was uneventful, with no complications noted. The patient recovered well and resumed her usual activities.



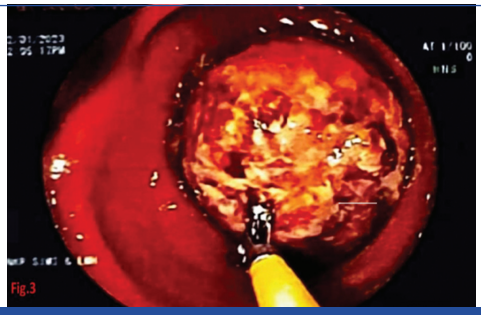
[Table/Fig-1]: a) Ultrasonography of the abdomen showing an echogenic mass of size 3.4×2.5 cm inside the lumen of the distal descending colon with typical bowel within bowel appearance (hollow arrow); b) The bowel wall is showing vascularity on the colour doppler.

DISCUSSION

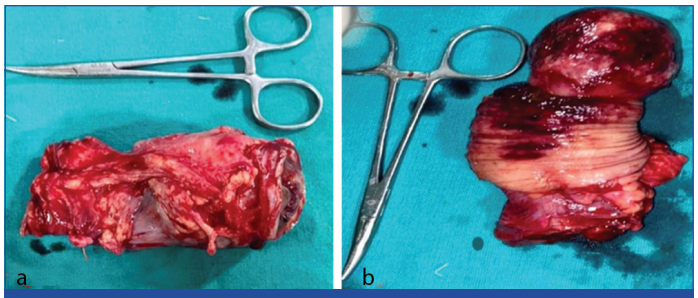
When a portion of the bowel prolapses into an adjacent portion of the bowel, it is known as intussusception [1]. The segment that prolapses is called the intussusceptum, while the receiving segment



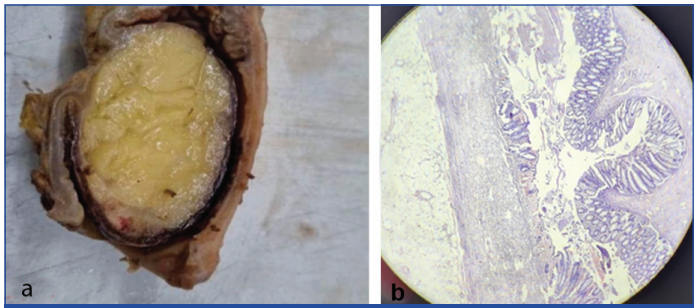
[Table/Fig-2]: a) Contrast-enhanced Computed Tomography (CECT) of the abdomen and pelvis showing the proximal part of descending colon telescoping into the distal descending colon (black arrow); b) Rounded lesion of fat density (HU: -52 to -70) of size 4.2x3.7 cm leading the intussusception (black arrow); c) There is enhancement of colonic wall suggesting viable loops (black arrow).



[Table/Fig-3]: Colonoscopy showing a polypoid growth in descending colon.



[Table/Fig-4]: a,b) An intraluminal lipoma was resected during bowel resection which was causing colo-colic intussusception.



[Table/Fig-5]: a) Tumor mas for histopathological examination; b) Showing the section of mass which was composed of lobules of mature adipose tissue with eccentric nuclei separated by thin fibroconnective septa consistent with lipoma. H&E Magnification- 10x.

is the intussuscepien. The rarity of different types of intussusception increases in the following order: ileocolic (90%), ileo-ileocolic, colo-colic, and ileoileal intussusceptions [2]. Intussusception is a rare condition, with a prevalence of 2-3 cases per 100,000 population annually [1]. A lipoma acting as a lead point in the gastrointestinal tract and causing intussusception itself is a rare occurrence, reported in only 0.2-4.4% of previous autopsy reports [1]. Lipomas are more commonly found in the ileum and duodenum [3]. In the large bowel, lipomas are considered the third most common benign tumour after hyperplastic and adenomatous polyps, with a prevalence of 4.4% [4]. In adult intussusception, a lead point is usually present, unlike in the paediatric population [3,4]. Around 17% of intestinal intussusception cases have been attributed to a lipoma as a lead point, while malignant conditions like carcinoma, lymphoma, diverticulum, and adenomatous polyps account for approximately 30% [4]. Before the advent of computed tomography, a barium enema study was the preferred diagnostic investigation, which revealed distinct signs such as the claw sign, coiled spring sign, shouldering effect, and pincer defect, which are now considered historical [5]. Ultrasound (US) is the imaging modality of choice for diagnosing intussusception [2]. A typical finding is the target sign or pseudo kidney sign [1,6]. The target sign consists of concentric layers of bowel with variable echoes, corresponding to the oedematous bowel wall peripherally and the central mesenteric fat component [7,8]. Contrast-Enhanced Ultrasound (CEUS) may be useful in addition to diagnosis by US and colour Doppler. Only one case of the use of CEUS in intussusception was found in the literature; however, CT was not performed in that case [9]. With faster and more anatomically accurate details, contrast-enhanced CT scans have become the modality of choice in diagnosing intussusceptions [2]. Therefore, CT is the preferred imaging modality compared to colonoscopy and ultrasonography [5]. Abdominal pain is the primary symptom that patients with any abdominal pathology initially present with [10,11]. Differential diagnosis to consider when assessing patients, other than intussusception, include small and large bowel obstruction, peptic ulcer, cholecystitis, cholelithiasis, ischaemic mesenteritis, irritable bowel syndrome, inflammatory bowel disease, diverticulitis, ovarian torsion, tubo-ovarian abscess, Pelvic Inflammatory Disease (PID), and ileus [4,8]. Delay in diagnosis may occur due to non specific symptoms and uncommon age of presentation; however, colo-colic intussusception can lead to life-threatening complications such as bowel ischaemia, bowel perforation, bowel necrosis, peritonitis and septicaemia [6]. According to Jiang L et al., and Álvarez-Bautista FE et al., surgery should be considered when the lipoma is larger than 4 cm, when associated intussusception is present and the patient is symptomatic, or when endoscopically the lesion cannot be resected [12,13].

CONCLUSION(S)

Intussusception in the adult population is a challenging condition. The diagnosis may be difficult due to non specific presenting complaints, but it is a surgical emergency with high mortality and morbidity. Surgical exploration is the only recommended treatment because most cases have a pathological lead point. US and CT assist in the early diagnosis of this condition and help prevent serious complications.

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PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Mar 18, 2023
- Manual Googling: May 20, 2023
- iThenticate Software: Jun 20, 2023 (7%)

ETYMOLOGY: Author Origin

EMENDATIONS: 6

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: **Mar 14, 2023**
Date of Peer Review: **May 08, 2023**
Date of Acceptance: **Jun 23, 2023**
Date of Publishing: **Sep 01, 2023**