

Appendiceal Necrosis Resulting from Cecal lipoma-induced Ileocolic Intussusception

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Abstract

Ileocolic and colocolic intussusception with an inflamed appendix is a rare clinical entity in adults, particularly when caused by lipoma. A 48-year-old female nurse presented with recurrent, intermittent, central, colicky abdominal pain for 2 months. It became constant the night before admission and was associated with abdominal distension and large palpable mass at the right lower quadrant. An exploratory laparotomy was carried out and. The operative findings were ileocolic and colocolic intussusceptions with large cecal mass (lipoma) about 5 cm × 5 cm as a lead point just close to the ileocecal valve with an inflamed appendix, ileocolic resection was performed. Assessment of the resected specimen confirmed the diagnosis. Cecal lipoma should be considered in the differential diagnosis of cecal mass causing ileocecal intussusception.

Keywords: Adult intussusception, cecal lipoma, colocolic, ileocolic, inflamed appendix

INTRODUCTION

Lipoma of the gastrointestinal tract is a rare condition described for the first time in 1757 by Bauer *et al.* It is reported in only 0.2%–4.4% of large autopsy series since 1955.^[1] Intussusception was first described by Barbette in 1674.^[2] It is relatively frequent in children but rare in adults, representing 5% of all bowel intussusceptions and 1% of all bowel obstruction.^[2,3] Colonic intussusception is even rarer, particularly when caused by lipomas. Thirty-seven definite cases have been reported in the English language literature up to 2010.^[4]

CASE REPORT

A 48-year-old female nurse presented with recurrent, intermittent, central, colicky abdominal pain for 2 months. It became constant the night before admission and was associated with abdominal distension. She denied any history of vomiting, change of bowel habits, rectal bleeding, weight loss, or fever. There was no family history of colon cancer. On physical examination, she was afebrile and had tachycardia. Blood pressure was 145/90 mmHg. She was in severe abdominal pain (pain score 9/10). The abdomen was soft with a tender palpable doughy mass (6 cm × 8 cm) at the right iliac fossa crossing the midline. An abdominal

computed tomography (CT) scan done 2 months previously showed two cecal submucosal lipomas but without CT signs of related complications [Figure 1]. An abdominal ultrasound examination revealed a large right abdominal mass with target sign suggestive of ileocecal intussusceptions. All her blood work results were within normal limits.

Resuscitation was initiated with intravenous fluids, antibiotics, and SC heparin prophylaxis. Nasogastric tube and Foley's catheter were inserted. Exploratory laparotomy revealed the operative findings of ileocolic and colocolic intussusceptions due to large cecal mass (lipoma) about 5 cm × 5 cm as a lead point just close to the ileocecal valve with an inflamed appendix [Figure 2]. Ileocolic resection was performed. Assessment of the resected specimen confirmed the diagnosis [Figure 3]. She went home on the 5th postoperative day with uneventful postoperative course. She was observed in the surgical clinic for follow-up visits on four occasions (at

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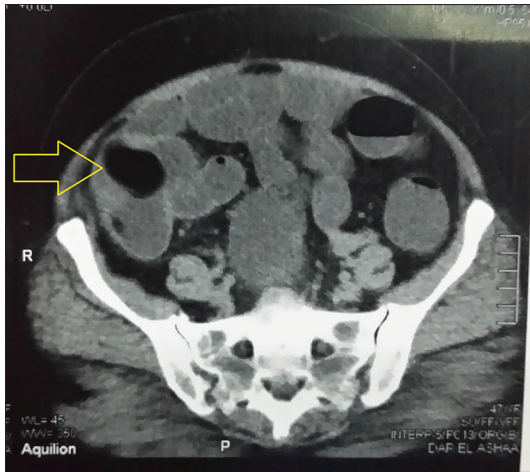


Figure 1: Computed tomography scan abdomen and pelvis revealed lesion at cecum consistent with cecal lipoma

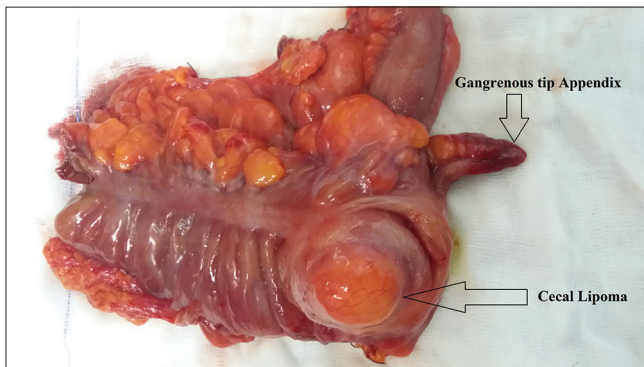


Figure 3: The resected ileocolic specimen with cecal lipoma mass and an inflamed appendix

2 weeks, 4 weeks, 6 months, and 9 months) and remained well. Her incision healed with soft and lax abdomen.

The gross examination of the specimen revealed a 4 cm × 5 cm well-circumscribed homogenous yellowish soft mass in the cecum just above the ileocecal valve consistent with lipoma of cecum [Figure 4]. The resected ileum, cecum, and colon showed edema and inflammation with no evidence of malignancy. The appendix was dusky in color and inflamed. Microscopic examination of the specimen showed mature fat cells consistent with lipoma. The appendix showed thick wall, with neutrophil infiltration consistent with acute appendicitis.

DISCUSSION

Intussusception of the bowel is defined as the telescoping of a proximal segment of the gastrointestinal tract within the lumen of the adjacent segment. This condition is frequent in children and is considered rare in adults, accounting for 5% of all cases of intussusceptions and almost 1%–5% of bowel obstruction. Eight to twenty percent of cases are idiopathic, without a lead point lesion. Secondary intussusception is caused in majority of cases by organic lesions (90%) including neoplastic lesions (60%) which may be malignant (60%) or benign (40%).^[2,5]



Figure 2: The intraoperative findings of the case show cecal lipoma mass

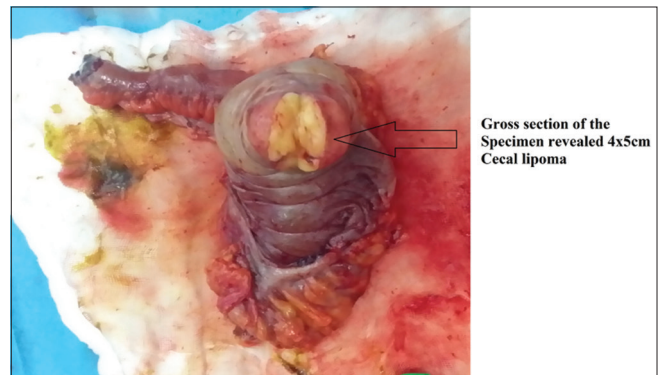


Figure 4: The cross-section of the specimen which revealed a 4 cm × 5 cm cecal lipoma

Colonic lipoma is the most common benign tumor which may very rarely cause colonic intussusception in adults.^[6] Colonic lipomas are more common in women with a peak incidence between 50 and 60 years of age.^[7,8] They are mostly located in the right colon: 19% in cecum, 38% in ascending colon, 22% in transverse colon, 13% in the descending colon, and 8% into the sigma.^[4] They arise from the submucosa in approximately 90% of cases, occasionally extending into the muscularis propria, and up to 10% are subserosal.^[9] The size described in the literature ranges from 2 mm to 30 cm. They are multiple in 10%–20% of cases and infrequently are pedunculated.^[4,10,11] In general, colonic lipomas are silent. Only 25% of patients develop symptoms: history of abdominal pain from mild-to-severe cramping followed by spontaneous improvement and recurrent episodes of constipation, nausea, and vomiting. Size of the lipoma is a predictor of symptomatology; lipomas larger than 4 cm cause symptoms in 75% of cases. After intussusception, abdominal pain is associated with vomiting, palpable mass, and bloody stool, presenting for many days or even weeks.^[3,4,8]

For the diagnosis, colonoscopy allows direct visualization of the submucosal lipoma, which appears as a mass covered by normal mucosa, but it can also show ulcerated or necrotic overlying mucosa.^[4,9] Moreover, the size of the lipoma is an essential factor leading to colonic intussusception, particularly when main axis of the lesion is over 4 cm. This is the reason

why colonic lipomas of 4 cm or more must be resected before intussusception occurs.^[4] The presence of intussusception leads to an emergency operation.^[3,4] If a colonic lipoma is diagnosed before surgery, segmental resection is an adequate treatment.^[4]

Colonic obstruction due to intussusception caused by lipomas is a very rare condition that needs urgent treatment. CT is the radiologic modality of choice for diagnosis (sensitivity 80% and specificity near 100%); since the majority of colonic intussusceptions are caused by primary adenocarcinoma, if the etiology is uncertain, the lesion must be interpreted as malignant and extensive resection is recommended.^[12]

Surgery is the definitive treatment of adult intussusceptions. Formal bowel resection with oncological principles is followed for every case where a malignancy is suspected. Reduction of the intussuscepted bowel is considered safe for benign lesions in order to limit the extent of resection or to avoid the short bowel syndrome in certain circumstances.

In conclusion, intussusception is rare in adults and is often associated with malignancy. Hence, their diagnosis may be delayed and complications may occur. Cecal lipoma should be considered in the differential diagnosis of cecal masses, causing ileocecal intussusception.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that name and initial will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

Authors' contributions

All authors contributed to the care of the patient, drafting of the case report, revision, and approval of its final version.

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Conflicts of interest

There are no conflicts of interest.

Compliance with ethical principles

No prior ethical approval is required for single case reports. However, the patient provided consent for publication as stated above.

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