



Research Paper

Colonic intussusception by a giant colon lipoma: A case report

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ABSTRACT

Introduction: Colonic lipomas are extremely rare, and they can mimic clinical manifestations of a colonic carcinoma, presenting with bowel obstruction or intussusception. We present a case of a 57-year-old female with a colonic lipoma causing a colonic intussusception. A review of the literature is also included. **Presentation of case:** A 57-year-old female patient arrived to the emergency department with bowel obstruction. Imaging studies revealed intussusception triggered by a colonic pediculate lipoma. A left colectomy was performed and the patient had an uneventful recovery.

Discussion: Two-thirds of colonic intussusceptions are associated with malignant tumors. There are several therapeutic interventions for the treatment of this disease, which include a segmental colectomy, local excision and even endoscopic removal. Colonic lipomas are extremely rare, and they can mimic a malignant tumor, so it is imperative for the surgeon to rule out a malignancy in order to opt for a more conservative or minimal approach.

Conclusion: If the diagnosis of a benign disease is uncertain in patients presenting with colonic intussusception, then it should be managed as a malignant lesion due to the higher incidence of large bowel adenocarcinomas presenting with this disease.

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1. Introduction

Colonic lipomas are extremely infrequent, with a reported incidence of 0.2–4.4% [1–5]. Lipomas measuring less than 2 cm are mostly asymptomatic, whereas those measuring more than 4 cm are symptomatic in 75% of the cases [2,5–8]. These tumors can be trigger points for colo-colonic intussusception, accounting for 1% of all bowel obstruction in adults, and representing 17% of all intestinal intussusceptions in this age group [1,6,9,10]. Clinically, they can mimic clinical manifestations of colonic carcinoma, such as bleeding, obstruction and abdominal pain [1,3,5,9–15].

Lipomas are the most frequent benign tumors of the large bowel after adenomas, however, they are still considered extremely infrequent [4,10]. A review of the literature by Paskausas et al. [1] found nearly 50 cases of colonic lipomas associated with intussusception, the site most typically affected being the ascending colon.

We report a case of a 57-year-old female presenting with a colo-colonic intussusception located at the descending colon, mimicking a colon carcinoma. We also present a review of the literature. The work has been reported in line with the SCARE criteria [16].

2. Presentation of case

A 57 year-old female patient with family history of colon cancer (1st degree) and no relevant medical history arrived to the emergency department complaining of diffuse abdominal pain, nausea, vomiting and abdominal distension. She referred three episodes of lower gastrointestinal bleeding during the past month. The physical examination revealed diffuse abdominal tenderness and severe distension. CBC confirmed the presence of mild microcytic hypochromic anemia (Hemoglobin 11.6 gr/dL) and imaging studies showed massive dilatation of the colon. An abdominal CT scan revealed a colo-colonic intussusception of the descending colon secondary to an intraluminal pedunculated submucosal lipoma (Fig. 1a and b).

Due to the massive bowel dilatation, the attending surgeon and the surgical resident performed an emergency laparotomy. An indurated, non-mobile, elongated mass was located within a 10-cm colo-colonic intussusception at the left region of the colon and even

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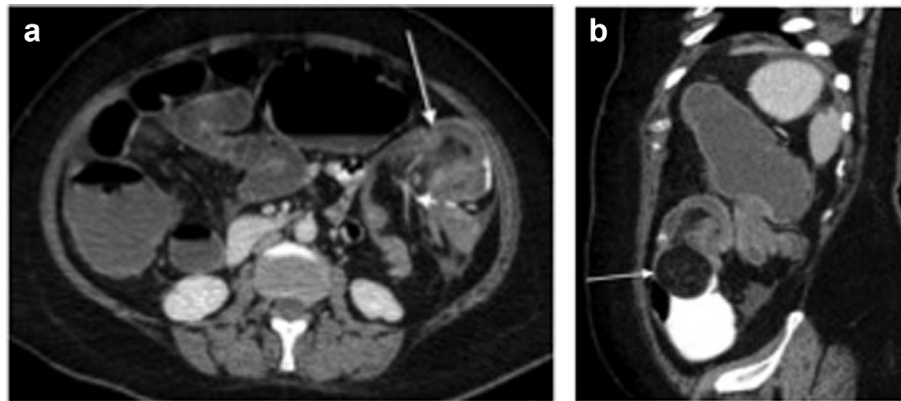


Fig. 1. (a) IV and rectal contrast-enhanced CT scan of the abdomen demonstrates findings of large bowel intussusception (solid arrow) with invaginated mesenteric fat and vessels (dashed arrow). (b) IV and rectal contrast-enhanced CT, sagittal reconstruction demonstrates an intraluminal mass with fat attenuation (arrow).

though the preliminary images suggested a benign lesion, the physical findings during the laparotomy raised doubts, which prompted the surgeons to opt for a more radical approach. A left colectomy was performed and the patient had an uneventful recovery, reporting mild pain 3/10, and she was satisfactorily discharged without complications on her 4th postoperative day. Post-op recommendations included relative rest and pain management. The patient was received asymptomatic in the ambulatory clinic one month after the surgery for a follow-up examination, which resulted in a satisfactory evolution.

Histologic examination reported a $6 \times 4.5 \times 3$ cm polypoid tumor composed of mature fat cells, with a 2×2 cm pedicle, compatible with a submucosal colonic lipoma (Fig. 2a and b).

3. Discussion

Lipomas in the colon are usually single tumors but may occasionally present as multiple masses. 90% arise from the submucosa and 10% from the serosa [3–5,11,12]. Their peak incidence is during the 5th and 6th decades of life, predominantly favoring women. Statistically, they mostly appear at the ascending colon and cecum [4–6,9–15], in contrast with our patient whose lipoma was located at an unusual site. There is currently no explanation for their preference of the right side of the colon, or for the prevalence in the female population.

Adult intussusception is extremely rare, it has non-specific symptoms, and can sometimes mimic a malignant tumor when presenting with signs of bowel obstruction. Occasionally patients may present with intermittent abdominal pain, nausea, vomiting, lower gastrointestinal bleeding, diarrhea, constipation and obstruction, with the latter two being the most common symptoms [1,3,5,9–15].

The malignant transformation of a lipoma is extremely uncommon, and as of the date of this publication, a recurrent colonic lipoma has never been reported [12].

Since the review of this subject by Stetten in 1909 (which included 77 cases), roughly 500 cases of colonic lipomas have been reported in the literature [5], however, only about 50 cases of adult intussusceptions caused by this tumor have been described [1]. Additionally, there is no data of the reported incidence of a colonic lipoma directly causing an intussusception.

There are numerous therapeutic interventions for the treatment of a colonic lipoma, which vary according to the preoperative diagnosis and intraoperative findings, which range from a partial colectomy, segmental resection or local excision, to endoscopic removal of small lipomas [1,9,15,17].

Jiang et al [15], describe several indications for surgical removal of colonic lipomas, which include: a sessile or pedunculated lipoma with a diameter greater than 4 cm, when there is an unclear preoperative diagnosis, when there is a lipoma causing an intussusception, when there is involvement of the muscular layer or serosa or finally when there is a lesion that cannot be completely removed by advanced endoscopic techniques.

Our patient opted for a left colectomy because a definite diagnosis at the time of surgery was not clear. Two-thirds of colonic intussusceptions are associated with primary adenocarcinoma, whereas most small bowel intussusceptions are secondary to benign tumors [13,18] therefore, a colonic mass of unknown origin prior to surgery must be interpreted as a malignant tumor.

Lipomas can be diagnosed through a variety of radiologic and invasive and non-invasive imaging studies, including conventional endoscopy, capsule endoscopy, endoscopic ultrasound, barium studies and, most importantly a CT scan. The CT scan is the study of choice as it has a sensitivity of 71.4–87.5% and specificity near

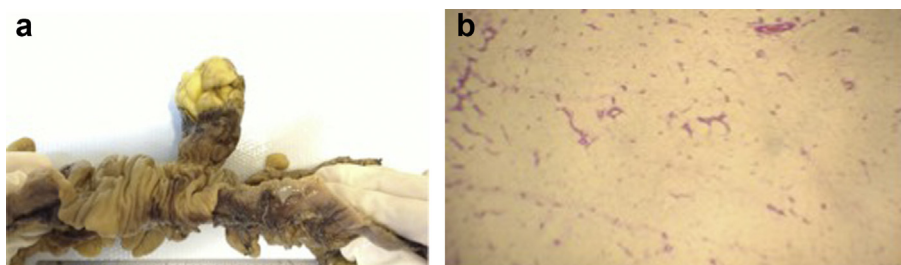


Fig. 2. (a) Polypoid lesion consistent with a colonic submucosal lipoma $6 \times 4.5 \times 3$ cm. (b) Histological image showing fat cells, consistent with a lipoma.

100% [9,13]. On a CT scan, a lipoma has a uniform appearance with fat-equivalent density and smooth borders, however when there is intussusception associated, it may show a heterogeneous appearance reflecting the degree of the ischemia and necrosis [1,9–13,15]. On the other hand, a colonoscopy may be useful to distinguish between a malignant and a benign lesion. Typical endoscopic features include a smooth, yellowish surface with pedunculated or sessile base [1,6,9,12,14,15,19].

Endoscopic ultrasound (EUS) has been used to assist in the diagnosis of colonic lipomas. EUS typically demonstrate a hypoechoic lesion originating in the submucosal layer, which is generally diagnostic of lipoma [6].

4. Conclusion

Lipomas of the large bowel are uncommon and are mostly asymptomatic, however they have the potential to present as a colo-colonic intussusception in adults. When diagnosed preoperatively, the treatment of choice is segmental resection, however, if the diagnosis is uncertain it should be managed by extensive resection due to the higher incidence of large bowel adenocarcinomas presenting with intussusception.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Ethical approval

Not apply.

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Author contribution

Mauricio Gonzalez- Urquijo: He is a first year general surgery resident. He was the leader of the work, he design the case report. He recollect data, and wrote the manuscript.

Mario Rodarte-Shade: He is the attending and surgery professor in charge of the case. He operated on the patient along with his resident and he revised the manuscript.

Samuel E. Kettenhofen: He is a second year radiology resident. He diagnosed the condition in the image study. Also he was involved in the manuscript and helped write it.

Conflict of interest statement

None.

Guarantor

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