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Case Report

Sigmoid lipoma as an exceptional cause of intussusception and bowel obstruction in adults: A case report and review of literature ☆,☆☆

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ABSTRACT

Acute intestinal intussusception in adults is a rare condition, most often secondary to an organic lesion (tumor or inflammation), representing 1%-5% of intestinal obstructions. Pure colic intussusception on lipoma rectal causing bowel obstruction is an exceptional situation. A 60-year-old man presented to the emergency department for acute abdominal pain with marked abdominal distention and red rectal bleeding. A contrast-enhanced abdominal CT scan was performed, which revealed a recto-sigmoid intussusception on lipoma, causing mechanical intestinal obstruction. The patient underwent a partial reduction of the intussusception with partial sigmoid resection and end colostomy. Colonic lipomas of the recto-sigmoid region represent a very rare condition and a subsequent etiology for intussusception and bowel obstruction in adults. However, it should be considered in the differential diagnosis of such situations.

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Abbreviations: BP, blood pressure; RR, respiratory rate; PR, pulse rate; SMG, stopping of material and gas; WBC, white blood count; CRP, C-reactive protein; VR, volume rendering.

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Introduction

Intussusception in adults is an unusual condition, occurring in less than 5% of all cases of intussusception [1]. Colonic lipoma is rare and can be the starting point for intussusception [2,3]. Occurrence of colo-colic intussusception causing bowel obstruction which the lead point is a sigmoid lipoma is an exceptional condition, our report is one of the few to detail this presentation, concerning a 60-year-old man consulting in the emergency department for acute abdomen and distension, and whom the diagnosis was made by contrast-enhanced abdominal CT scan. Laparotomy with reduction and resection led to excellent results [3].

Case presentation

A 60-year-old man, with no prior medical or surgical history, presented to emergency department for severe abdominal colicky pain, with inability to have a bowel movement or pass gas, which had been evolving for 5 days. Furthermore, the patient reports the notion of small amount of blood mixed in the stool. On physical examination, the patient was afebrile at 36.8°C and the vital parameters were within the normal limits: BP of 11/7 mm/Hg, PR of 82 beats/min, and RR of 17. Abdominal examination revealed frank abdominal distension, generalized abdominal pain on palpation, hypertympany on percussion, and on rectal examination the presence of a painless mass of

about 5 cm from the anal margin. Furthermore, there was no sign of peritonitis.

Routine blood investigatory showed hemoglobin of 16 g/100ml (normal range: 13–16.5), an elevation of WBC to 16,000 cells/mm³ (normal range 4,500 to 10,000), and CRP increased to 125 (normal range < 4), a functional renal insufficiency was also noted: blood urea of 66 g/dl (normal range: 10–44 mg/dl), and normal creatinine of 8 mg/l, there were no hydro electrolytic abnormalities.

Contrast-enhanced abdominal CT scan was performed and revealed large bowel obstruction by recto-sigmoidal intussusception which the cause is a well-circumscribed mass of fatty density (white arrow) measuring about 55 × 50 × 20 mm compatible with typical lipoma. A small amount of intraperitoneal effusion was also noted (Fig. 1).

An emergency decision was taken up for surgery, to relieve the obstruction and intra-operative findings confirmed the initial diagnosis of sigmoid-rectal invagination lipoma. The surgical procedure consists of reducing intussusception which was the seat of a softly rounded mass occupying the sigmoid lumen; the condition of the bowel was not optimal for primary anastomosis given the concomitant occlusive syndrome.

Twelve days later, a follow-up CT scan was made objective the lipoma in its original location after reduction (Fig. 2).

The patient underwent exploratory laparotomy, and a colonic resection was done of around 5 cm upstream and downstream of the sigmoid tumor with a mechanical end-to-end colorectal anastomosis and closure of the stomal site (Fig. 3).

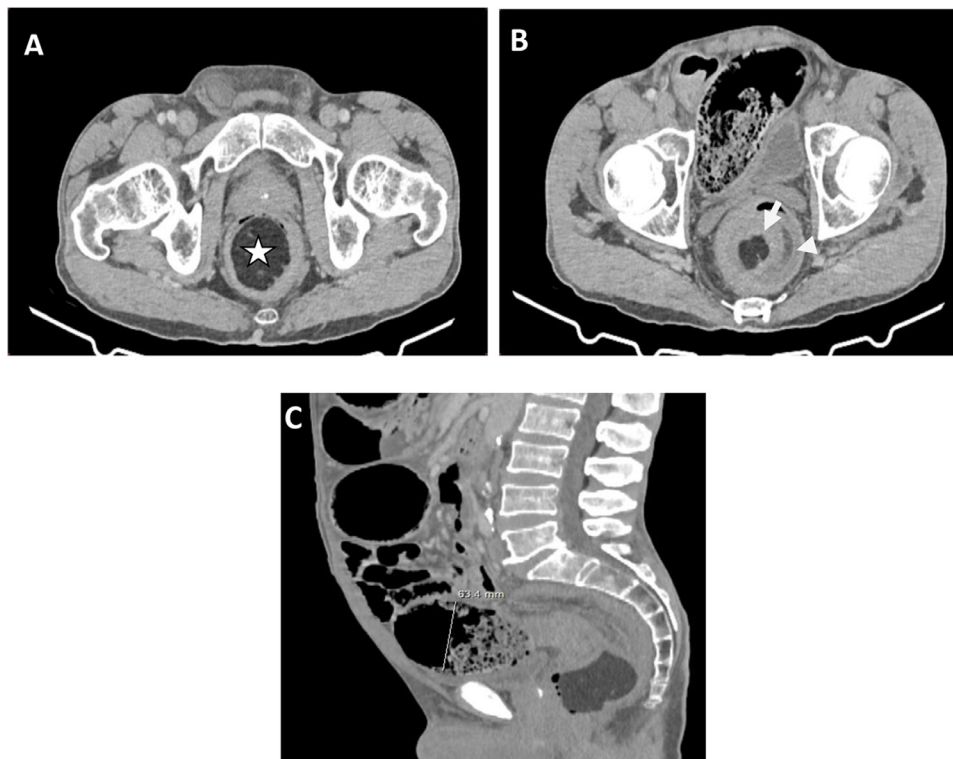


Fig. 1 – Axial-enhanced abdominal CT scan (A, B) Showing a recto-sigmoidal intussusception (sigmoid wall: arrow, rectal wall: arrowhead) on lipoma (asterix), sagittal reformation shows distention of colon to up to 6 cm.

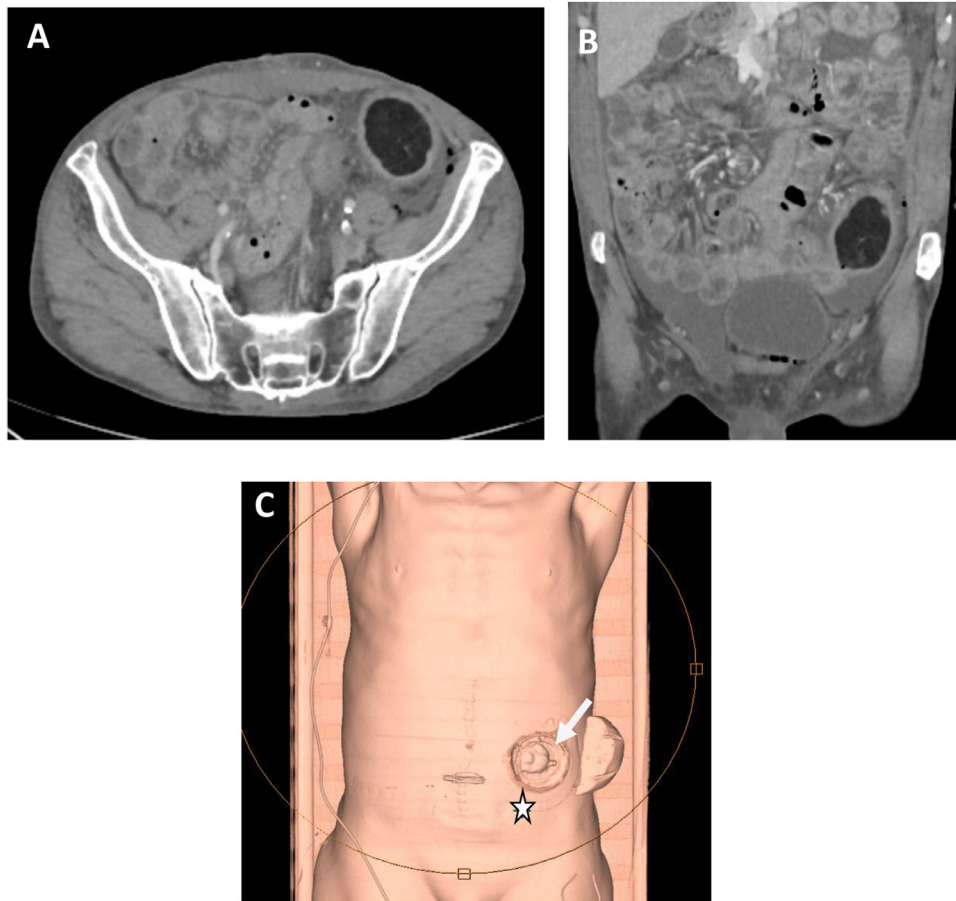


Fig. 2 – Follow-up contrast-enhanced CT axial view (A), and coronal reformation (B) showing the endoluminal lipomatous mass in the sigmoid, after intussusception reduction. 3D VR reformation (C) objective the precise site of lipoma at 25 mm from the umbilicus (asterix). Note the ostomy pouch in the left iliac fossa (white arrow).



Fig. 3 – Intraoperative finding of sigmoidal resection piece with the lipoma.

Post-operatively, the patient was managed with bowel rest, appropriate fluid, optimum analgesia, and antibiotics, and has been following up for the last 2 months with no symptoms.

Discussion

Lipomas of the gastrointestinal tract are not unusual, but they very rarely cause symptoms in case of complications such as intestinal obstruction or intussusception, requiring urgent surgery [1,2]. The co-association of both intussusception and obstruction which the cause is lipoma represents an exceptional condition in adults.

In absence of a starting point, intussusception is classified as primary and is most likely to occur in the small bowel, elsewhere it is secondary to an entry point that has been identified [3]. Secondary intussusception may be due to benign, malignant, or even iatrogenic causes [4]. In adults, large bowel intussusception has an identifiable etiology in almost all cases [3] of which 60-65% of cases have a malignant etiology [7]. In the series by Leon et al. [6] of 24 cases of intestinal intussusception in adults, only one case was secondary to a lipoma. In another series by Lebeau et al. [6] of 20 cases of acute intestinal intussusception in adults, no case of lipoma was described.

Early diagnosis of intussusception in adults is challenging, as the classical triad of abdominal pain, palpable abdominal mass, and rectal bleeding are often absent, unlike in children [5].

Contrast-enhanced abdominal CT scan is the main diagnostic tool and the only one to make an indisputable diagnosis of certainty in adults for confirming gastrointestinal tract lipoma and its complications, with a sensitivity of 58%-100% [8]. A typical radiographic appearance is known as a "target sign" if the scan section is axial or a "doughnut sign" on coronal sections [8]. If large enough, an ovoid mass will be visible on CT of 40-120 Hounsfield units (HU), typical of fat and its pathognomonic for benign lipoma, in absence of atypical scannographic signs suggesting malignancy: thick septations, tumor enhancement, and size greater than 5 cm.

Surgical resection is required for symptomatic lipomas either intussusception, bowel obstruction, or both [9]. Preoperative diagnosis of a benign etiology makes a more limited resection possible [10]. The laparoscopic approach is slowly gaining acceptance to manage these cases. It allows confirmation of the diagnosis, identifies the site, and enables bowel resection [10,11]. Several authors have suggested surgical resection without reduction (en bloc resection) as the preferred treatment for such situations. Azar et al. have suggested that surgical resection without reduction is the preferred treatment in adults, as almost 50% of cases of colonic intussusception are associated with malignancy [11]. However, the reduction is acceptable in post-traumatic cases, idiopathic cases, and typical benign cases, such as our patient.

Conclusion

The occurrence of complications such as intussusception and occlusion due to digestive lipoma is an extremely rare condition in adults. In contrast to children, where abdominal ultrasound plays an important role in diagnosis. In adults, abdominal CT is the standard imaging modality. Laparotomy with "en bloc" or 2-stage bowel resection is the reference treatment in these situations.

Patient consent

I, the author of the article: "Sigmoid lipoma as an exceptional cause of intussusception and bowel obstruction in adult: A

case report and review of literature," approve that the patient gives her consent for information to be published in *Radiology Case Reports*.

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