

Colocolic Hepatic Angle Intussusception due to Ascending Colon Giant Lipoma: A Case Report and a Review of Literature

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Abstract:

Background: Colon lipomas are rare benign lesions taking place mostly in the right colon with a female predomination. They are mainly submucosal and symptomatic when becoming more than 2 cm in size.

Case Report: This is the case of a 43 years old female patient presenting with bowel obstruction associated with colocolic intussusception due to a giant colonic lipoma. A segmental partial colectomy has been performed followed by a favorable postoperative course.

Conclusion: Giant colon lipomas presenting with intussusception is a rare finding. Surgery is the major treatment but, unfortunately, there is no clear consensus on the recommended procedure in the literature.

Keywords: colonic lipoma, colonic obstruction, intussusception, partial colectomy, review of literature, case report,

Introduction

Colon Lipomas (CLs) are rare nonmalignant non-epithelial tumors composed of adipose tissue. They occur mostly in females during their fifth-sixth decade. They represent 1.8 % of all benign colonic lesions [1]. CLs arise in 90 % of cases in the submucosa, where they can be sessile or pedunculated, and 10% in the subserosa. They are usually asymptomatic, but as they grow more than 2 cm in size, they can manifest symptoms such as abdominal pain, hematochezia, and changes in bowel habits or even may lead to life-threatening conditions [2]. They take place mostly in the caecum, ascending colon, and sigmoid. Giant CLs (GCLs) are explained in the literature as being larger than 4 cm in size [3]. Treatment is indicated in symptomatic cases, and it depends on the location, where surgery is the mainstay in most cases [2]. Herein, we present a case of ascending colon GCL causing colocolic intussusception, treated by partial colectomy, as well as a review of twelve recent cases and the current surgical management of right-sided CLs.

Case Report

A 43-year-old female patient with no significant medical or surgical history, was admitted to the emergency department by her family physician for intermittent cramping abdominal pain and bloating of two weeks duration. It was accompanied by some episodes of postprandial nausea and vomiting. She denied any febrile episodes, changes in bowel habits, or any blood in stools. She has a history of constipation from several years ago. She stated the occurrence of the same symptomatology five years ago that was treated medically at home. Upon presentation, she was hemodynamically stable and afebrile. She had a good general status, conscious and oriented. Her abdominal examination revealed a soft abdomen, but right-sided abdominal tenderness with guarding. There were no inflammatory signs on her blood tests or anemia. Abdomen and pelvic computed tomography scan with Intravenous (IV) contrast (Figure 1) confirmed

the presence of bowel obstruction associated with right colon colocolic intussusception with 86.5 x 42.1 mm (Figures 2 and 3) intraluminal colonic lipoma, where the ascending colon is the intussuscepted element, and the transverse colon being the intussusceptum.



Figure 1: Colocolic intussusception at the level of right hepatic angle shown on coronal section of Computed Tomography scan with Intravenous contrast material due to a intracolonic lipoma (arrow).

An urgent exploratory laparotomy through a midline incision was performed, unveiling the existence of right/transverse colocolic intussusception at the hepatic angle due to intraluminal pedunculated colonic lipoma of the ascending colon (Figures 4 and 5). A partial colectomy (right colonic angle resection) was then carried out with termino-lateral manual colocolic (ascending-transverse colon) anastomosis. After a total operative time of two hours, she had an uneventful hospital stay, leaving home on her sixth postoperative day tolerating a normal diet, and having normal bowel movements. The anatomy-pathology results confirmed the lipomatous aspect with no signs of malignancy. Her one month follow-up showed no significant findings.

Discussion

CLs are very well described in the literature as yellowish well delineated mostly submucosal masses ranging from several millimeters to 30 cm [4].



Figure 2: Coronal view of Computed Tomography showing the maximal width of the sub mucosal Giant Colonic Lipoma of 42.1 mm.



Figure 3: Abdominal Computed Tomography scan showing the colocolic intussusception at the level of right hepatic angle (arrow) and the intraluminal Lipoma (arrow).

70% of reported CLs occur in the right hemi-colon, mostly occurring in the caecum while less commonly in ascending colon [2]. Many studies showed that the mean size is 5.09 cm [5]. Larger CLs are symptomatic only in 25 % of cases [6]. As they grow in size and become symptomatic, they may yield life-threatening conditions such as intestinal obstruction, intussusception, and volvulus that necessitate urgent surgical intervention [5]. Most intussusceptions usually present as intermittent abdominal pain, change in bowel habits, and blood in stools. GCLs presenting as colocolic intussusception and causing intestinal obstruction is rare [4]. Silent CLs are usually hard to diagnose except with colonoscopy or by autopsy.

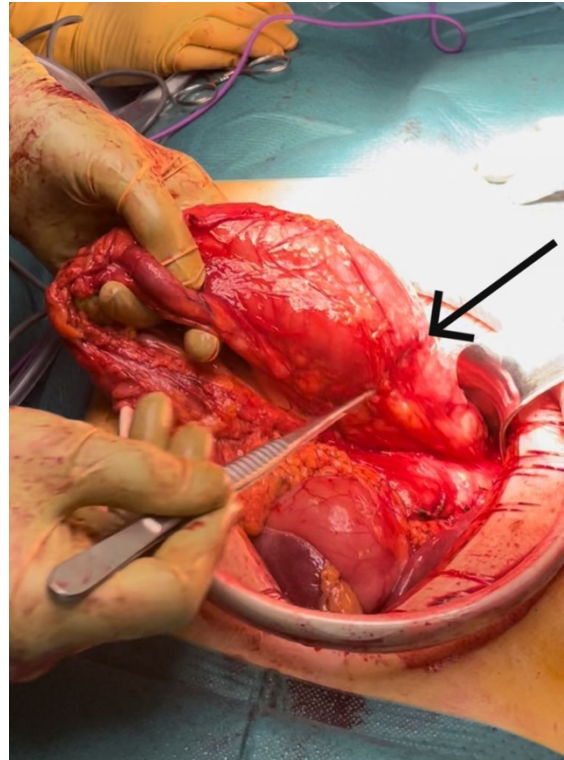


Figure 4: Image taken during Laparotomy showing the intussusception at the colon hepatic angle after its mobilization. (arrow: Colocolic intussusception).

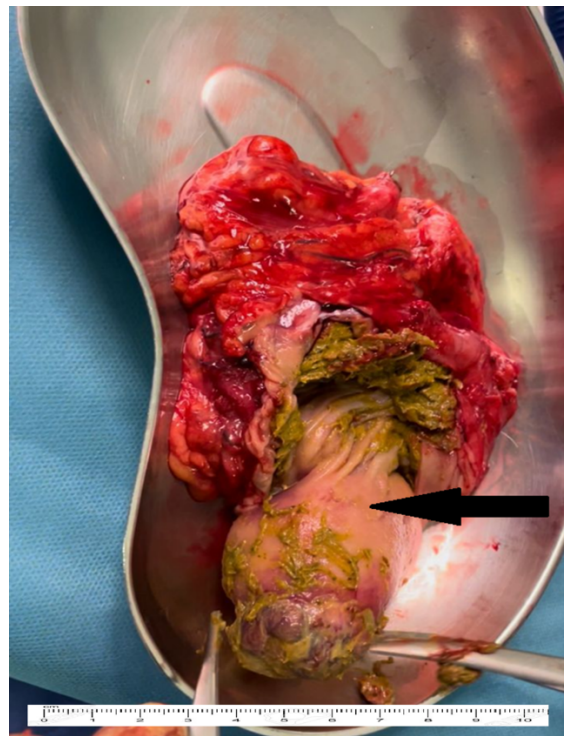


Figure 5: Partial Colectomy with the intraluminal pedunculated Giant Colonic Lipoma (arrow).

As they grow in size, GCLs can be accessible to be viewed on Computed tomography (CT) scans, Magnetic Resonance Imaging (MRI), or on abdominal Ultrasound (US) in well-experienced hands [7]. CT scans provide a very accurate description of the size and topography of the lesion [4]. When available, MRI is more sensitive in detecting intestinal lesions and adds a better idea about their nature [6]. The US can detect large-sized lesions as homogeneous and echogenic and can help in the examination of their vasculature [8]. Endoscopic US has a limited role in diagnosing CLs, although it may aid in detecting the depth of extension and may distinguish between them and other lesions such as schwannoma and leiomyoma [5]. It is hard to confirm the malignant potential without a biopsy, thus, a colonoscopy has a major role in diagnosis. Indeed, as with almost all causes of intussusception, CLs colocolic intussusception preoperative diagnosis is not always easy [6].

Treatment of CLs depends on their size, place, and malignancy suspicion. Symptomatic cases are usually treated by resection. Pedunculated submucosal CLs lesser than 2 cm are easily handled by endoscopic resection [9]. Larger CLs are nowadays approached by new endoscopic techniques to achieve complete resection in cases as long as the pedicle is free of muscular or serosal layers [10]. Otherwise, sessile lesions are difficult to ensnare, so their resection poses a high risk of perforation [6]. Adults' intussusception treatment usually includes surgical resection yet 30 % of lead points can be malignant [7]. Surgical intervention is indisputable for the treatment of large CLs presenting with surgical emergencies such as intussusception/intestinal obstruction, as well as with the suspicion of malignancy, CL's surface ulceration, size > 4 cm, extension into muscular or serosal layers, and absence of clear pedicle [1,3,5]. Among the twelve of the recently reported right-sided CLs cases in the literature (Table 1), right hemicolectomy was the most utilized method.

Other methods include partial segmental colectomy, ileo-caeectomy, and excision through colonotomy are equally reported in the literature [1]. Hence, there is no clear consensus on the surgical procedure. While preferring radical treatment in suspicious giant right CL cases to avoid a second intervention, limited segmental partial colectomy is still considered to limit morbidity [3]. Certainly, there is no data available on surgical resections in treating right colon intussusceptions or giant CLs. Taking into account the anastomotic leaks, should we go for the right hemicolectomy with ileocolic anastomosis? In managing right colon cancers, right hemicolectomy with ileocolic anastomosis, with a preference for mechanical, has been correlated with a lesser rate of anastomotic leaks when compared to colocolic anastomosis in segmental colectomies [11]. According to Marinello *et al.*, ileocolic anastomosis has a 7.2% anastomotic leak risk in comparison to 5.2% in colocolic anastomosis [12].

Besides conventional laparotomy, lesser invasive approaches have been realized through mini-laparotomy, laparoscopy, and laparoscopic-assisted procedures coupled with a better tolerated postoperative course [6]. CLs recurrences after surgical resection have not yet been documented [5].

Conclusion:

Right GCL is a rare phenomenon that may cause gastrointestinal complications such as intussusception leading to intestinal obstruction. Computed Tomography scanning indisputably helps in preoperative diagnosis as well as colonoscopy in non-urgent cases. Apart from this case report and the review of literature of several similar cases, surgical treatment through right hemicolectomy is the most utilized intervention. In the absence of clear recommendations about the choice of the surgical method in literature, more case reports and reviews are needed.

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Appendix:

Table 1: Review of 12 recent cases of right colon lipomas and their surgical management.

Name	Age/sex	Lesion location	Size	Type of surgery
Abid et al ¹³	77/F	Ascending colon	6 cm	Right hemicolectomy
Farfour et al ⁵	56/F	Ascending colon	4 cm	-
Yaman et al ⁶	56/F	Proximal transverse colon	8 cm	Laparoscopic right hemicolectomy
Cordeiro et al ⁸	69/M	Hepatic flexure	5 cm	Right hemicolectomy
Kwag et al ²	54/F	Ascending colon	5.5 cm	Laparoscopic Right hemicolectomy
Boler et al ⁹	74/M	Caecum	7.2 cm	Laparoscopic Right hemicolectomy
Boler et al ⁹	65/M	Caecum	3.5 cm	Laparoscopic ileocecectomy
Peters MB et al ¹⁴	62/F	Ascending colon	3.8 cm	Segmental colon resection
Atmatzidis et al ¹⁰	34/F	Caecum	6cm	Right hemicolectomy
Ozen et al ⁴	30/F	Ascending colon	5 cm	Right hemicolectomy
Mouaqit et al ¹⁵	55/M	Ascending colon	4.5 cm	Right hemicolectomy
Vinay et al ¹⁶	68/F	Hepatic flexure	6 cm	Right hemicolectomy