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Case Report

Tricky lipoma or bad neighborhood: a case of ileocolic intussusception

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ABSTRACT

Colonic lipomas (CLs) are an infrequent, benign, non-epithelial, adipose tissue tumour. Most of the CLs are asymptomatic, but around 25% of patients may develop symptoms, such as ileocolic intussuception. Surgical or endoscopic resection of the lesion is the treatment of choice. We present a case of ileocolic intussusception caused by colonic lipoma in an adult patient. The patient underwent surgical resection, and the diagnosis was confirmed by histopathological examination of the specimen.

Keywords: Lipomas, Gastrointestinal, Ileocolic intussusception

INTRODUCTION

Colonic lipomas (CLs) are benign tumors of adipose tissue that are often asymptomatic, but they may present with hemorrhage or obstructive symptoms, such as intussuception.[1] These tumors are rarely encountered within the gastrointestinal system, incidentally discovered in most cases and can mimic malignant tumors in appearance.[2] The prevalence of this lesion ranges from 0.2% to 4.4%, representing 1.8% of all benign colonic lesions, after hyperplastic and adenomatous polyps.[1] There is a slight predominance of this lesion in females between the 5th or 6th decade of life and it is primarily localized to the right colon.[2] The lesion usually affects only one segment of the colon, although cases of lesions evolving multiple segments have been reported in the literature, which are typically small and asymptomatic. Multiple lipomas have been reported in 10% to 20% of the cases, mostly in the cecum.[1] A variety of diagnostic methods are available, including ultrasound, computed tomography (CT), magnetic resonance imaging (MRI), and endoscopic ultrasonography (EUS). Surgical resection or endoscopic removal of tumors have been shown to be successful in their management.[1] Segmental resection, hemicolectomy or subtotal colectomy are recommended when the diagnosis is questionable or when a complication occurs. Indeed, only histopathological analysis of the tumor can provide a definitive diagnosis.[2]

CASE REPORT

A 42-year-old woman with no relevant personal or family history and no usual medication, but with previous multiple admissions to the emergency room complained one more time of intermittent abdominal pain, initially periumbilical and then generalized to all abdomen associated with anorexia. On physical examination the abdomen was painful to palpation at the transition of the right quadrants and mild pain on decompression, without other changes.

Blood tests showed no anemia, leukocytosis, neutrophilia or significant elevation of inflammatory parameters. Due to persistent pain, an abdominopelvic CT scan was performed, which identified an image compatible with ileocecal intussusception conditioned by the presence of an expansive formation of lipomatous nature measuring approximately 54 mm in longest axis. Some ileocecal lymph node images with a larger peri-centimetric axis of

a probable inflammatory nature were also identified. The patient was admitted for surveillance and further investigation. A colonoscopy was performed on the 2nd day of hospitalization, which was inconclusive due to poor preparation. Due to worsening of the clinical condition, such as lack of intestinal transit, at 4th day of hospitalization, another CT scan was performed, showing an ileocolic invagination with 12 cm of extension, probably caused by the expansive formation of lipomatous nature and because associated peritoneal fluid. Therefore, in this clinical context, surgical approach was decided on the 4th day of hospitalization. Intraoperatively an ileocolic invagination was identified evolving terminal ileum, cecum, appendix and right colon. A right hemicolectomy with latero-lateral anastomosis was the performed. The patient was discharged on the 9th day, without perioperative complications. Histopathological analysis confirmed the suspicious diagnosis of lipoma.

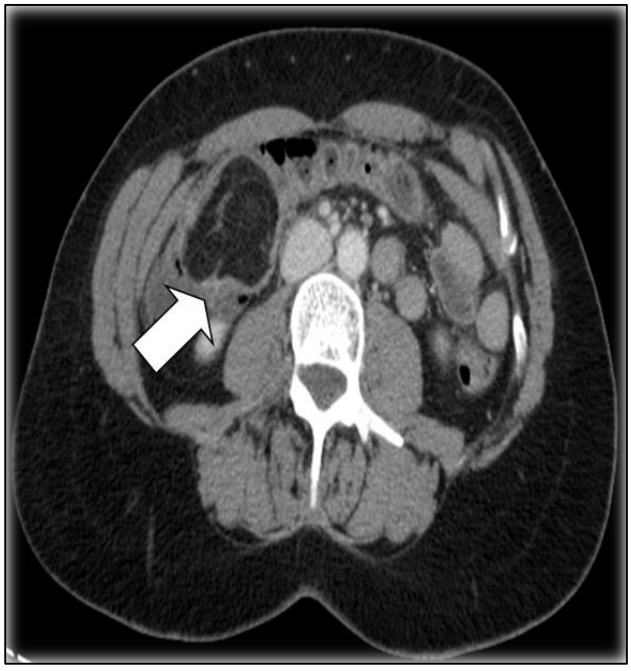

Figure 1: CT scan image with expansive formation and densification of ileocecal fat.

DISCUSSION

CLs are uncommon in adults and are often discovered incidentally during imaging studies.[3] The exact cause of CLs is still unclear, but it has been suggested that chronic irritation of the intestines, inflammatory responses, and the accumulation of fat tissue may contribute to their development.[3] Other theories propose a link between trauma to soft tissue and lipoma formation, as well as the occurrence of pseudo-lipomas due to the prolapse of fat tissue or the proliferation of pre-adipocytes stimulated by circulating cytokines.[4] Certain genetic mutations, such as those found on chromosome 12q13-15, deletions on 13q, and rearrangements on 6p21-33, have also been associated with the formation of lipomas. Furthermore, intestinal lipomas can be linked to other disorders, including multiple hereditary lipomatosis, adiposis dolorosa, Gardner syndrome, and Cowden syndrome. Histologically, these lipomas are classified as mesenchymal tumors made up of well-differentiated adipocytes surrounded by fibrous tissue.[4] They typically originate in the submucosa but may occasionally extend into the muscularis propria, with about 10% being sub serosal, while transmural occurrences are extremely rare.[6] Malignant transformation of these lipomas has not been documented, although some may display atypical histological features referred to as "pseudosarcomatous."[6]

In approximately 25% of cases, patients may experience obstructive symptoms.[5] Intussusception happens when a part of the bowel folds into another segment.[7] A clear cause for intussusception can be identified in 70% to 95% of cases, with benign or malignant tumors accounting for around 40% of these instances, with malignancies being particularly prevalent.[5] Malignant tumors leading to colonic intussusception include adenocarcinoma, metastatic carcinoma, primary adenocarcinoma, gastrointestinal stromal tumors, lymphoma, carcinoid tumors, and metastatic malignant tumors localized in the intestines.[8] Benign tumors causing intussusception include leiomyomas, adenomas, lipomas, Brunner cell hamartomas, hemangiomas, adenomyomas, neurofibromas, and desmoid tumors.[8] Many patients with intussusception exhibit a range of nonspecific symptoms, such as nausea, vomiting, and abdominal pain.[6]

One ongoing challenge in managing CLs is achieving a preoperative diagnosis.[5] While ultrasonography is a quick, non-invasive option, factors like mass size, the patient's high body mass index, and the presence of intestinal gas can complicate the diagnosis.[8] For patients displaying typical CL characteristics, CT scans reliably confirm the diagnosis, with a sensitivity of 71.4% to 87.5% and 100% specificity in adults.[5] However, diagnosing small lipomas can be challenging with CT. MRI may also aid in diagnosis, especially for larger colon lipomas, due to its effectiveness in highlighting fat lesions.

CLs can be treated endoscopically or surgically.[5] The literature presents conflicting views on the maximum size of lesions that can be safely treated endoscopically; many authors suggest that a diameter of 2 cm is the upper limit to minimize the risk of perforation.[8] This approach is not recommended for patients with acute conditions due to inadequate bowel preparation or in cases of intussusception due to the potential for ischemia in the affected segment, which increases the risk of perforation.[7] Endoscopic techniques should be limited to tumors located in the submucosa, as the likelihood of perforation rises significantly when deeper layers are involved. The location of the tumor also influences the choice of procedure, as interventions in the right colon are more prone to perforation than those in the left colon.[6]

If the lesion is too large for endoscopic resection, surgery becomes the only option. When feasible, colotomy with lipectomy is the preferred method if there are no complications.[9] In cases of diagnostic uncertainty or acute intussusception, segmental colonic resection should be considered.[9] For uncertain cases or when preoperative diagnosis is not possible due to an acute presentation, a hemicolectomy with D2 lymphadenectomy is recommended if malignancy cannot be ruled out.[10] If a lipoma has already been diagnosed and the patient presents acutely, it is advisable to reduce the affected segment to prevent excessive bowel resection.[10]

CONCLUSION

CLs are benign mesenchymal tumors of the gastrointestinal system with a female predominance and are observed within the 5th or 6th decades of life.

Surgical resection is the treatment of choice, but minimally invasive endoscopic approaches have also been shown to be successful.

Although rare, CLs should be considered in the differential diagnosis of large intestine tumors.

Larger lipomas can present with symptoms, such as abdominal pain, hemorrhage, vomiting, and intestinal obstruction. For lesions measuring up to 2 cm in diameter, endoscopic removal is the procedure of choice. If endoscopic techniques fail, the only alternative is surgery which can be performed using either open or laparoscopic techniques.

Colotomy with lipectomy or segmental resection is the procedure of choice.

CLs can also lead to acute intussusception in which case surgical treatment including segmental resection, hemicolectomy, or subtotal colectomy are options.

Whenever possible, differentiating a benign lipoma from a malignant process before surgery is useful because the diagnosis affects the extent of surgical resection. If this is not possible, particularly in older patients without a previous colonoscopy, its licit to considerer that the condition is malignant, and apply the principles of oncological surgery.

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