

Giant submucosal lipoma cause colo-colonic intussusception

A case report and review of literature.



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BACKGROUND: *Lipoma of the large intestine is rare, with a reported incidence ranging between 0.2% and 4.4%. We present a case of a giant colonic lipoma causing descending-colonic intussusception.*

AIMS: *A 54-year-old woman visited our emergency room with sudden onset of intermittent abdominal cramps. She was nauseous and had rectal blood loss for three days.*

Physical examination showed a tender palpable mass in the left lower abdominal quadrant. Rectal examination showed little blood on the glove. A CT scan demonstrated a clear intussusception of the descending-colonic (Fig. 1). Since the clinical presentation was that of an imminent ileus a laparotomy was performed. The intussusception was found in the descending colons (Fig. 2), en-bloc resection with left hemicolectomy and was performed with end-to-end anastomosis.

DISCUSSION: *Lipomas of the gastrointestinal tract are rare conditions first described by Baurer in 1757. Lipomas in the intestinal tract are still relatively rare, however, being present in only 0.2% of a large autopsy series of 60 000 cases reported in 1955. In 90% of cases, lipoma of the colon are localized at submucous level.*

Submucosal lipomas are usually asymptomatic but may cause bleeding, obstruction, intussusception, or abdominal pain. Accurate preoperative diagnosis is difficult and lipoma is often mistaken for adenomatous polyp or carcinoma.

CONCLUSION: *Differential diagnosis includes malignancy, diverticulosis, adenomatous polyps and previous anastomosis. CT is the examination of choice. Surgical approach remains the treatment of choice for large colon lipoma.*

KEY WORDS: Colonic lipoma, Intestinal obstruction, Intussusception, Submucosal

Introduction

Lipoma of the large intestine is a rare, fatty benign tumor, with a reported incidence ranging between 0.2% and 4.4%¹. Colonic lipomas are rare benign tumors,

although they constitute the most common nonepithelial neoplasm of the gastrointestinal tract².

The most common site of lipomas in the large intestine is the right hemicolon. They arise from the submucosa in approximately 90% of cases, but occasionally extend into the muscularis propria; up to 10% are subserosal³. The size of lipomas described in the literature ranges from 2 mm to 30 cm. The majority of patients are between 40 and 70 years of age.

Colonic lipomas are more common in women than men⁴. Multiple lipomas are noted in 10-20% of cases, particularly when a lipoma is found in the cecum⁵.

Most colonic lipomas are asymptomatic and need no treatment. Only 25% of patients with colonic lipoma

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develop symptoms, including bowel obstruction and intussusception⁶. Lipomas larger than 4 cm are considered giant and produce symptoms in 75% of cases⁷. There is general consensus that small (< 2cm) pedunculated lipomas may be safely removed colonoscopically⁸. Endoscopic resection of large colonic lipomas remains a subject of considerable controversy⁹.

Open surgery is a well-established treatment policy for large symptomatic colonic lipoma and consist of a wide range of operative techniques, including colostomy and excision, segmental colonic resection and hemicolectomy or subtotal colectomy¹⁰.

In this case report, we present a giant colonic lipoma causing descending-colonic intussusception and leading to left hemicolectomy.

Case report

A 54-year-old woman visited our emergency room with sudden onset of intermittent abdominal cramps. She was nauseous and had rectal blood loss for three days. Physical examination showed a tender palpable mass in the left lower abdominal quadrant. Rectal examination showed little blood on the glove. Laboratory examination revealed no abnormalities. Ultrasound showed a target lesion in the left lower abdominal quadrant. A consecutive CT scan demonstrated a clear intussusception of the descending coloni (Fig. 1). Since the clinical presentation was that of an imminent ileus a laparotomy was performed. The intussusception was found in the



Fig 1 CT of the abdomen. Intussusception of a mass in descending-colonic. Density resembles fat tissue



Fig. 2: Intraoperative finding. Intussusception of the descending-colonic

descending coloni (Fig. 2), en-bloc resection with left hemicolectomy was performed with end-to-end anastomosis. The postoperative course was uneventful and the patient was discharged on day six postoperative. The pathology report revealed a 6 cm submucosal lipoma of the descending colon with reactive changes. Postoperative colonoscopy showed no further abnormalities.

Discussion

Lipomas of the gastrointestinal tract are rare conditions and were first described by Baurer in 1757¹¹. Lipomas occur throughout the intestinal tract, from the hypopharynx to the rectum, with the highest incidence in the colon, where lipoma is the commonest benign neoplasm after adenomata. The incidence of lipomas relative to all polypoid lesions of the large intestine is reported to range from 0.035% to 4.4%^{1,12}. Lipomas of the intestinal tract are still relatively rare, however, being present in only 0.2% of a large autopsy¹³.

The tumor is more prevalent in women than men, the peak incidence being recorded in the fifth-sixth decade of life^{4,8,11}.

Postmortem series have shown that up to 4% of gastrointestinal tumors are lipomas¹⁴.

In the majority of the patients its appearance is isolated, while in approximately 10% there are multiple lipomas.

Preferential location is the right sided hemi colon, accounting for nearly 90% of cases¹⁵.

In 90% of cases, lipoma of the colon are localized at submucous level.⁴ Most of the time the lipoma is situated submucosally, but it can also be subserosal, originating from an appendix epiploica.

The size may vary from 0.5 to as much as 10 cm.

Small lipomas are usually asymptomatic and are found incidentally during colonoscopy. Large lipomas are usually symptomatic and may mimic clinical signs almost identical to malignant tumors¹⁶.

Colon lipomas become symptomatic when their diameter exceeds 3 cm⁸. When present, symptoms are generally non-specific and have a long duration. A study from Mayo Clinic showed that only 6% of colon lipomas were symptomatic, whereas 46% were incidentally discovered in surgical specimens removed for other large bowel diseases¹. Abdominal pain, constipation and rectal bleeding was the most common clinical presentation of the colon lipomas^{4,11}.

The symptoms of large lipomas are mainly due to mechanical interference with the colonic passage caused by acute or intermittent colo-colonic intussusceptions or to lower gastrointestinal bleeding due to ulceration of the mucosa covering the lipoma^{4,5}.

Spontaneous expulsion of a sigmoid lipoma has also been recorded¹¹.

Intussusception is often not considered clinically in the differential diagnosis of adult patients with vague abdominal complaints.

Recent reports in the literature have suggested that abdominal CT scanning is the preferred noninvasive radiologic modality for diagnosing intussusception from colonic lipomas^{5,12}.

CT characteristics of lipoma include a spherical or ovoid shape; smooth, sharply demarcated margins with thin fibrous septa; and homogeneous fatty density with CT values between 40 and 120 Hounsfield units¹⁷.

Overall, CT is an excellent method to diagnose giant colonic lipomas¹⁸. The ultrasonic features of this benign tumor are rather characteristic. Magnetic resonance imaging has been recently used successfully, but further evaluation is still necessary¹⁹.

Colonoscopy may allow direct visualization of the submucosal lipoma, which appears as a mass covered by normal mucosa, and some of endoscopic features have been described including "tenting sign" (grasping the overlying mucosa), "cushion sign" (flattening and restoration of the shape of lipoma), and the "naked fat sign" (extrusion of fat after biopsy of the colonic mucosa)^{3,12}.

Colonoscopic biopsy is usually performed to confirm the nature of the tumor. However, inadequate tissue samples often indicate nonspecific colitis because of adjacent mucosal inflammation produced by the lipoma¹⁵.

Barium-enema studies are not diagnostic for lipoma, but for intussusception is a good means¹².

Despite recent diagnostic innovations, it has been reported that the total preoperative diagnostic accuracy is only about 62%.

The general agreement is that colon lipomas < 2cm in diameter are more accessible for lipomas larger than 2 cm is not widely used because of risk of complications, such as hemorrhage and perforation. Despite this opinion recent reports demonstrated safety of endoscopic removal using a bipolar snare and clipping the mucosa of the defective region in case of large colonic lipoma²⁰.

Traditionally, surgical treatment has been the therapy of choice for symptomatic large colon lipomas^{1,11}. It is generally accepted that the difficulty of obtaining a preoperative diagnosis influenced the type of surgical treatment undertaken. Colotomy with lipomectomy and limited colon resection are considered an adequate treatment modality for certain colon lipomas diagnosed preoperatively¹¹.

On the other hand, a segment resection, hemicolectomy or subtotal colectomy may be necessary in isolated cases when diagnosis is questionable or when a complication occurs^{1,2,11}.

With regard to surgery, we fully agree with other authors⁵ that surgery enucleation of lipomas should be reserved only for uncomplicated cases with a confirmed preoperative diagnosis.

Recently, laparoscopic procedure and minilaparotomy approach¹⁰ were reported as an alternative to conventional laparotomy used in removal of large colonic lipomas. The experience with these approaches is very limited and requires further analysis in large series.

A definitive diagnosis of colonic lipomas is often obtained from histopathological examination of the resected specimen^{1,4}, as shown in the present case.

Colonic lipomas are benign well-differentiated tumors arising from adipose tissue in the bowel wall.

Malignant transformation has never been reported although when examined histologically some lipomas have atypical "pseudosarcomatous" features²¹.

In general, recurrence of colon lipoma after surgical treatment has not been documented.

Conclusion

In conclusion, it should be noted that colon lipomas, although rare, should be considered in the differential diagnosis of large bowel tumors.

The most important factor for establishing the diagnosis of intussusception caused by a submucosal lipoma is awareness of the possibility, especially in adult patients with abdominal symptoms and prior episodes of partial intestinal obstruction. Submucosal lipomas are usually asymptomatic but may cause bleeding, obstruction, intussusception, or abdominal pain.

Accurate preoperative diagnosis is difficult and lipoma is often mistaken for adenomatous polyp or carcinoma.

Differential diagnosis includes malignancy, diverticulosis, adenomatous polyps and previous anastomosis. CT is the examination of choice.

Surgical approach remains the treatment of choice for large and broad-based colon lipoma, and the type of procedure depends on the correct preoperative diagnosis, size and localition of tumor, as well as presence of complications.

Riassunto

INTRODUZIONE: Il lipoma del colon è raro, con un incidenza tra 0.2% and 4.4%. Presentiamo un caso di lipoma gigante del colon come causa di un intussuscezione del colon discendente.

MATERIALI E METODI: Trattasi di una paziente di 54 anni che si è presentata al nostro pronto soccorso con improvvisa insorgenza di dolori addominali crampiformi intermittenti. Aveva nausea e perdite di sangue rettali da 3 giorni. All'esame fisico presenta una massa palpabile nel quadrante addominale inferiore sinistro e all'esplorazione rettale si notano tratti di sangue. Si esegue una TC che mostra una chiara invaginazione del colon discendente.

Dal momento che la presentazione clinica era quella di un imminente ileo si esegue una laparotomia.

L'intussuscezione si è trovata nel colon discendente, si esegue una resezione in blocco con anastomosi termino-terminale.

DISCUSSIONE: Lipomi del tratto gastrointestinale sono condizioni rare e sono stati descritti da Baurer nel 1757. Lipomi nel tratto intestinale sono relativamente rari, ed è presente solo nel 0,2% di una serie di 60.000 autopsie. Nel 90% dei casi, i lipomi del colon sono localizzate a livello sottomucoso.

I Lipomi della sottomucosa sono di solito asintomatici, ma possono causare sanguinamento, ostruzione, intussuscezione, o dolori addominali.

Un'accurata diagnosi preoperatoria è difficile e spesso viene confuso per carcinoma o di polipi adenomatosi.

CONCLUSIONE: La diagnosi differenziale include malignità, diverticolosi, polipi adenomatosi e anastomosi precedenti. La TC è l'esame di scelta.

L'approccio chirurgico rimane il trattamento di scelta, per il lipoma del colon di grande dimensioni.

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