

Giant Submucosal Lipoma of the Cecum: Report of a Case and Review of Literature

Gheorghe Ghidirim, Igor Mishin, Eugen Gutsu, Ion Gagauz, Alexander Danch, Sergei Russu

1st Department of Surgery "N.Anestiadi" and Laboratory of Hepato-Pancreato-Biliary Surgery, Medical University „N.Testemitsanu“, Emergency Municipal Hospital, Kishinev, Moldova

Abstract

Lipoma of the colon is a relatively rare benign tumor. A case with intermittent subacute colon obstruction due to a giant lipoma of the cecum is reported. A 51-year-old woman presented with intermittent, abdominal crampy pain in the right upper and lower quadrants, accompanied by alternative episodes of diarrhea and constipation. She had had similar symptoms over the last three months. A double-contrast barium enema showed a large (~7cm in diameter) polypoid mass occluding the lumen of the cecum and the ascending colon. Colonoscopy revealed a submucosal mass suspected of benign tumor but too large for endoscopic resection. Surgery revealed a hard elongated mass in the right colon, which telescoped into the transverse colon and caused colocolonic intussusception. Right hemicolectomy was performed and pathology documented a mature, submucosal lipoma of the cecum. Six years after the surgery, the patient has not showed any of the previous symptoms. Along with a review of the literature, the incidence, diagnosis complications and treatment of colonic lipomas are discussed.

Key words

Lipoma - cecum - surgery- diagnosis - intussusception

Rezumat

Lipomul colonului este o tumoră relativ rară. Este prezentat un caz de obstrucție colonică intermitentă datorată unui lipom cecal gigant. O femeie în vârstă de 51 de ani s-a prezentat pentru dureri intermitente, colicative în hipocondrul drept și fosa iliacă dreaptă, însoțite de episoade alternative de diaree și constipație. Anterior prezentase episoade similare

de 3 luni. O clismă baritată cu dublu contrast a evidențiat o masă polipoidă mare (~7 cm) care ocluziona lumenul cecului și colonului ascendent. Colonoscopia a relevat o masă submucoasă suspectată a fi o tumoră benignă, dar prea mare pentru rezecție endoscopică. La intervenția chirurgicală s-a găsit o tumoră dură, alungită, în colonul drept, care prin telescopare în colonul transvers producea invaginație colocolonică. S-a practicat hemicolectomie dreaptă, iar examenul histopatologic a relevat un lipom submucos al cecului. După 6 ani de la intervenție, pacienta nu prezenta nici unul din simptomele anterioare. Lucrarea trece în revistă literatura de specialitate și discută incidența, metodele de diagnostic, complicațiile și tratamentul lipomului de colon.

Introduction

Colonic lipomas are rare benign tumors, although they constitute the most common nonepithelial (mesenchymal) neoplasm of the gastrointestinal tract (1,2). Only 275 cases of such tumors were reported in the English literature until 2001 (3).

Accurate preoperative diagnosis of colon lipoma often becomes difficult (4-6). Although new imaging techniques (CT and MRI) are available, these lesions are frequently diagnosed by laparotomy and definitive diagnosis is made on the basis of histopathological examination (2,7).

There is a general consensus that small (<2 cm) pedunculated lipomas may be safely removed colonoscopically (8,9). Endoscopic resection of large colonic lipomas remains a subject of considerable controversy (9-12).

Open surgery is a well-established treatment policy for large symptomatic colon lipoma and consists of a wide range of operative techniques, including colotomy and excision, segmental colonic resection and hemicolectomy or subtotal colectomy (1,5,6,12-14). Surgical resection is recommended for larger lipomas to relieve the symptoms or exclude malignancy (2,8).

We report the case of a giant lipoma of the cecum and discuss some aspects of diagnosis and treatment.

Case Report

A 51-year-old woman was referred to the Kishinev Municipal Emergency Hospital in May 1999. She complained about intermittent abdominal crampy pain in the right abdomen and alternative episodes of diarrhea and constipation lasting for approximately 3 months. There was no history of loss of appetite or weight. Upon physical examination, a 10 x 7cm solid, mobile mass was palpated in the right side of the abdomen. All routine laboratory tests were within normal limits.

Abdominal ultrasound showed a rounded lesion with a smooth margin in the right colon lumen. A double-contrast barium enema revealed a large, radiolucent, well-circumscribed and mobile intraluminal lesion in the cecum and ascending colon (Fig.1).



Fig.1 Barium enema showing a polypoid soft-tissue mass with a diameter of ~7cm in the cecum, obstructing the right colon.

Colonoscopy disclosed an exophytic submucous mass completely obstructing the right colon. Colon mucosa overlying the lesion was edematous and with erosions. Although a giant cecum lipoma was suspected, accompanying lesions or malignancy could not be excluded.

Surgery approach revealed a hard, elongated mass in the right colon, which had telescoped into the transverse colon causing colo-colonic intussusception. No ascites or peritoneal dissemination were observed. Given the uncertain

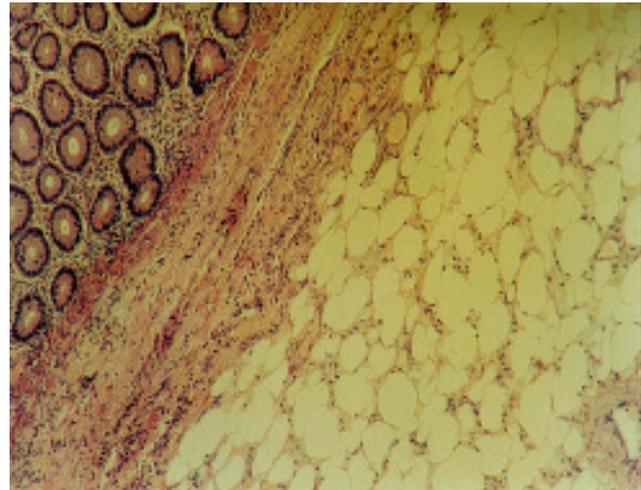


Fig.2 Mature lipoma of the cecum with ischemic mucosal necrosis (H&E).

nature of the lesion, as well as its size and presence of the intussusception in the right colon, right hemicolectomy was performed. The postoperative course was uneventful.

Grossly, the resected specimen was a yellowish, oval and broader-based homogeneous tumor, 10 x 7 x 6 cm in size, rising from submucosal layer of the colonic wall. Microscopic examination of the surgical specimen showed that the cecum tumor was composed of mature fat cells, focal ulceration and necrosis of the overlying colonic mucosa, consistent with a submucosal lipoma of the cecum (Fig. 2). Six years after the operation, the patient is well without any signs of disease.

Discussion

Lipomas of the gastrointestinal tract are rare conditions and were first described by Bauer in 1757 (13). Lipomata of the large bowel represent uncommon adipose neoplasms, with a reported incidence ranging between 0.15 and 4.4% of cases (8). The tumor is more prevalent in women than men, the peak incidence being recorded in the fifth-sixth decade of life (1,8,13,15).

The commonest location for solitary colonic lipoma is the ascending colon and cecum, followed by transverse colon, including both hepatic and splenic flexure, descending colon, sigmoid colon and rectum (1,16). Most lesions (65%) were identified in the right colon (13).

In 90% of cases, lipomas of the colon are localized at submucous level (1). Only few reports were published regarding its localization in the subserosal plane (17). Usually this tumor is solitary, but cases of multiple lesions have been reported (1,13,15). It has been well documented that symptomatic large bowel lipomata may be of considerable size, with the largest diameter from 3.5 to 30 cm (1,5,8,12, 15,18).

Colon lipomas become symptomatic when their diameter exceeds 3 cm (1,7,8). When present, symptoms are generally nonspecific 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 diseases (16). Abdominal pain, constipation and rectal bleeding was the most common clinical presentation of the colon lipomas (1,8,12,13,18). The symptoms of larger lipomas are mainly due to mechanical interference with the colonic passage caused by acute or intermittent colo-colonic intussusception or to lower gastrointestinal bleeding due to ulceration of the mucosa covering the lipoma (3,5,7,14-16,19). Spontaneous expulsion of a sigmoid lipoma has also been recorded (13).

Many imaging modalities can be used in the diagnosis of colonic lipoma. In spite of this, colonic lipomas continue to present difficulties in the preoperative differentiation between malignant and benign colonic neoplasm (1,2,4,7,15). As a rule, they can not be precisely diagnosed before surgery (1,17). Only a few reports demonstrated accurate preoperative diagnosis of symptomatic large colonic lipomas (12,19).

On barium enema examination, colon lipomas may appear as ovoid, well delineated and smooth radiolucent mass (1). Another characteristic feature is the "squeeze sign" with changes in size and shape of the mass caused by peristaltic bowel movements (15). Barium enema can detect lipomas, but it is not specific and the lesion can be mistaken for another type of neoplasm, if it is largely ulcerated or located in the right colon (13). Based on the typical radiological findings and giant size of the lesion, preliminary diagnosis of cecum lipoma was presumed in our case.

Lipomas of the large bowel can be visualised, however, by means of colonoscopy. These neoplasms have a characteristic endoscopic appearance, as a submucosal mass covered by normal mucosa. The characteristic findings include: elevation of mucosa over lipoma with biopsy forceps (tent sign), indentation of lipoma with biopsy forceps (cushion sign), or the "naked fat sign" where fat can be extruded after biopsy (13,20).

CT scan is a useful method for demonstration of large colon lipoma and can provide definitive preoperative diagnosis (1,6,12,19,21). CT characteristics of a lipoma are: spherical or ovoid mass with sharp margins and absorption densities of - 40 to - 120 Hounsfield units typical of fatty composition (1,4). Recently, Buetow et al (7) reported that colon lipomas might have atypical CT appearance when intussuscepted due to varying degrees of infarction/fat necrosis. In this situation, colon lipomas may be mistaken for other neoplastic causes of intussusception, such as adenocarcinoma, lymphoma and metastasis. Recently, few reports described the detection of these fatty lesions by MR imaging, but further evaluation is still necessary (1, 21).

The general agreement is that colon lipomas < 2 cm in diameter are more accessible for endoscopic treatment (8,9,11). Endoscopic removal of colonic lipomas larger than 2 cm is not widely used because of the risk of complications, such as hemorrhage and perforation (11). Despite this

opinion, recent reports (10,11,20) demonstrated safety of endoscopic removal using a bipolar snare and clipping the mucosa of the defective region in case of large colonic lipoma. Removal of large colonic lipomas with the assistance of EUS reduces the risk of perforation (11). In our opinion, along with others (12,20,22), when considering colonoscopic removal the size of the stalk is more important than the diameter of lipoma. In our case, tumor size and broad base practically excluded complete tumor removal by endoscopic approach without potentially life-threatening complications.

Traditionally, surgical treatment has been the therapy of choice for symptomatic large colon lipomas (13,14,17). 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 preoperatively (12-14,18). On the other hand, a segmental resection, hemicolectomy or subtotal colectomy may be necessary in isolated cases when diagnosis is questionable or when a complication occurs (2,5,6,13,17,19).

With regard to surgery, we fully agree with other authors (16,17) that surgical enucleation of lipomas should be reserved only for uncomplicated cases with a confirmed preoperative diagnosis. On the other hand, we believe that the choice between colotomy with lipomectomy and colonic resection should be made on a case-by-case basis.

Recently, laparoscopic procedure (8,23) and minilaparotomy approach (12) 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 lipomata is often obtained from histopathological examination of the resected specimen (1,6,17), 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" features (24). In general, recurrence of colon lipoma after surgical treatment has not been documented.

In conclusion, it should be noted that colon lipomas, although rare, should be considered in the differential diagnosis of large bowel tumors. Accurate preoperative diagnosis is difficult and lipoma is often mistaken for adenomatous polyp or carcinoma. 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 location of tumors, as well as presence of complications.

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