

Case report

“Giant” lipoma of the sigmoid colon: Spontaneous expulsion 12 days after failure of endoscopic resection. Report of a case and review of the literature

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SUMMARY

Background: Lipomas of the colon are benign tumors which occur rarely. Their size ranges from 2 mm to several cm. They are usually asymptomatic but occasionally they present with clinical manifestations depending on tumor size, localization and complications, which often lead to diagnostic difficulty. **Patient-Methods:** A 78-year-old man presented with a 6-month history of multiple episodes of crampy abdominal pain due to a lipoma of 40 mm x 30 mm x 24 mm located in the sigmoid. Endoscopic resection was performed without success. We report here for the first time, lipoma self-expulsion with the feces 12 days after the endoscopic resection attempt. In this report a review of the literature regarding clinical features, diagnosis and treatment of this uncommon disease is also performed. **Conclusion:** Surgery remains the main therapeutic option, especially for large colonic lipomas, however endoscopic removal would be preferable over surgical excision if it can be done safely.

Key-words: Intussusception, lipoma, colon, tumor, perforation, endoscopy

INTRODUCTION

Lipomas of the colon are rare benign tumors with ex-

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tremely low malignant potential. They are the second most common benign colonic tumor after adenomatous polyps.¹ Most of these tumors remain entirely asymptomatic and are usually detected by chance. Nonetheless, large lesions may occasionally mimic symptoms of colonic malignancies and present with bleeding, abdominal colicky pain, obstruction and intussusception, and in this case they should be resected either endoscopically or surgically.^{1,2}

In this report, we present for the first time in the literature, the case of a patient with a giant lipoma obstructing the sigmoid colon, which was self-amputated 12 days after failure of endoscopic removal.

CASE REPORT

A 78-year-old-man presented to his physician with a six-month history of intermittent episodes of diffuse colicky abdominal pain. Prior to this, during one episode, the patient had presented to the emergency room of a hospital and bowel obstruction had been suspected but symptoms spontaneously resolved. Physical examination revealed mild left abdominal tenderness without rebound tenderness but results were otherwise unremarkable. Normal bowel sounds were auscultated. Colonoscopy revealed a large polyp (>3 cm diameter) in the sigmoid. Biopsies from the lesion were suggesting normal colonic mucosa and the patient was referred to our department for polypectomy. He had a medical history of transurethral prostatectomy and resected transitional cell carcinoma of the urinary bladder. Results of laboratory investigation including carcinoembryonic antigen (CEA) were within normal limits. Abdominal CT detected a 5-cm low attenuation mass at the sigmoid colon. The colonic tract appeared distended above the lesion.

Colonoscopy demonstrated a hemispherical tumor of approximately 45 mm diameter in the sigmoid. The overlying mucosa was smooth and the lesion was soft and compressible. The lesion appeared to be pedunculated with a short stalk of approximately 2 cm. The “tenting sign” (grasping the overlying mucosa), the “cushion sign” (flattening and restoration of the shape of the lipoma), and the “naked fat sign” (extrusion of fat after biopsy of the colonic mucosa) were demonstrated, suggesting a diagnosis of benign sub-mucosal lipoma although malignancy could not be excluded. Based upon the appearance of the lesion (it seemed to be a large pedunculated polyp), a decision was made to attempt colonoscopic resection. The patient was informed for increased risk of perforation and bleeding during endoscopic removal and an informed consent was obtained. A large hexagonal electro-surgical snare (Olympus, Tokyo, Japan) was needed to ensnare the lesion near its base (figure a). Subsequent excision of the lesion was unable to be performed despite use of an excessive amount of electro-surgical monopolar current. The snare was easily removed from around the base of the lesion. One week later, repeated colonoscopy was performed showing piecemeal necrosis and regression of the lesion (figure b). Given the size of the lesion, and that the patient had presented with episodes of intermittent obstruction, surgical resection for both diagnostic and therapeutic purposes was recommended and the patient was scheduled for sigmoidectomy. On the 12th day after endoscopic removal attempt, the patient presented reporting defecation of the polypoid mass into the stool, apparently due to self-amputation of the mass (figure c). Histological examination revealed characteristic lipoma of colon. Subsequent colonoscopy one week later, revealed a large crater of 4 cm of diameter (figure d). Further histology of the forceps biopsy from the crater margins revealed

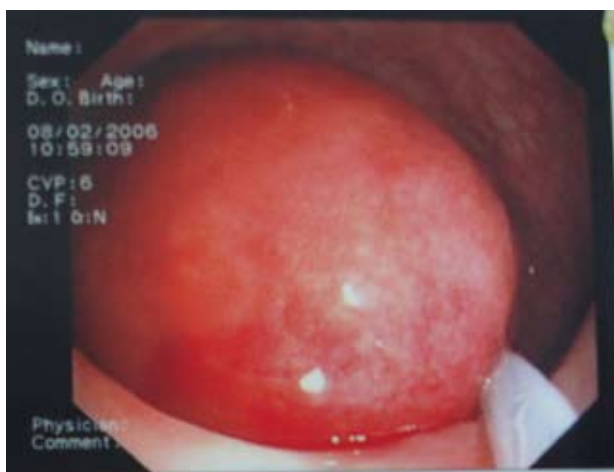


Figure a. Endoscopic attempt of removal of the colonic lipoma

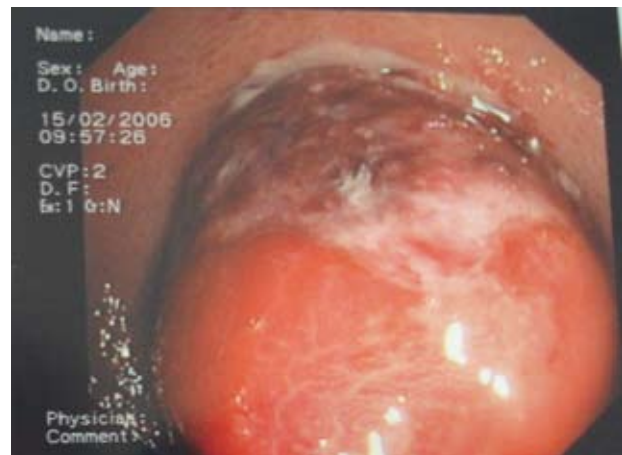


Figure b. Endoscopic view of the lipoma one week after endoscopic removal failure.

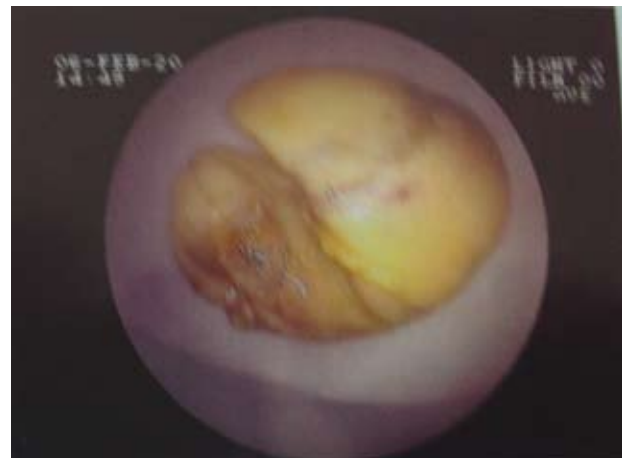


Figure c. The auto-amputated lipoma.

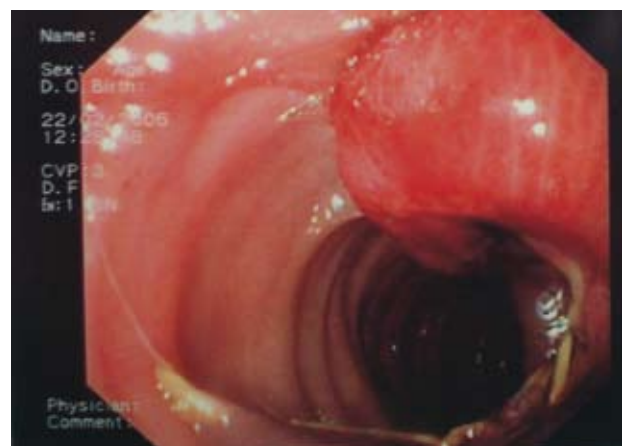


Figure d. The lipoma was auto-amputated leaving a large crater in its place.

no evidence of malignancy and findings typical of non-specific inflammation. The patient was free of symptoms during the 11-month follow-up period.

DISCUSSION

Lipomas of the large bowel are uncommon benign fatty neoplasms, with a reported incidence ranging between 0.2% and 4.4%.³ The most common sites of lipomas in the large intestine are the cecum, ascending colon, and sigmoid colon, in decreasing frequency; 70% are localized to the right hemicolon. Lipomas arise from the submucosa in approximately 90% of cases and from the subserosa and intermucosa in the remaining cases. Colonic lipomas are more common in women than in men, the peak incidence being recorded in the fifth-sixth decade of life, with a predilection for the right colon in women and the left colon in men.¹⁻⁴

Although the majority remain asymptomatic, colonic lipomas may present with symptoms such as pain, diarrhoea, obstruction, and bleeding. Colonic lipomas size ranges from 2 mm to 30 cm. Size (>2 cm) appears to correlate with symptoms and 75% of patients with a lesion larger than 4 cm have symptoms.⁵ A large lipoma may present abdominal pain due to intermittent intussusception^{2,3,6,7,8} or partial bowel obstruction, as was the case of our patient. In the Mayo Clinic series, 46% of large-bowel lipomas were discovered incidentally in specimens removed for other diseases, 11% were resected because of a neoplasm suspected of being a carcinoma, and 6% were symptomatic.²

Colonoscopy may allow direct visualization of the submucosal lipoma, which appears as a mass covered by normal mucosa. Endoscopic features to facilitate colonic lipoma diagnosis have been described including “tenting sign” (grasping the overlying mucosa), “cushion sign” (flattening and restoration of the shape of the lipoma), and the “naked fat sign” (extrusion of fat after biopsy of the colonic mucosa).^{2,3,6,7} Colonoscopy is reliable for the diagnosis of a typical lipoma, but it may prove to be of no help when the lesion is atypical. Computed tomography (CT) has been proposed as a non-invasive means of diagnosis despite well-known limitations of the method in detecting endoluminal structures.^{3,4,8,9} The CT characteristics of lipoma include a spherical or ovoid shape; smooth, sharply demarcated margins; and homogeneous density with CT values between -40 and -120 HU. Not all intussuscepted lipomas are characterized by homogeneous low attenuation on CT, and a study by Buetow and colleagues⁷ showed that they might be mistaken for other neoplastic causes of intussusception such as adenocarcinoma, lymphoma, and

metastasis. In this particular case, CT scanning was accurately suggestive of a colonic lipoma.

Pathologically, lipomas are well-differentiated tumors arising from deposits of adipose connective tissue in the bowel. Sarcomatous changes, in colonic lipomas have not been reported, but intermittent torsion and relative ischemia can give rise to a pseudomalignant appearance. The greatest clinical significance of lipomas lies in their potential to be confused with adenomatous polyps or other aggressive pathology.¹⁰ Despite recent diagnostic innovations it has been reported that the preoperative diagnostic accuracy is only about 62%.⁴ In most cases therefore the histological diagnosis is arrived at only after excision of the tumor. However, although most lipomas are incidental findings and require no treatment, there is a small subgroup that does require surgical intervention, including those with suspicion of malignancy, symptomatic lipomas, surgical emergencies such as intussusception and obstruction with ulceration and bleeding, and very rarely massive hemorrhage.¹¹ In our patient, the lipoma removal was decided given the size of the tumor (4.5 cm in the sigmoid colon before excision), its position and the occurring symptoms.^{5,12}

The decision whether to remove lipomas and which method is the best option, either endoscopically or surgically remains controversial. Because the majority of lipomas are submucosal, endoscopic removal entails high risk of morbidity due to perforation compared with adenomatous polyps, since its high water content requires a tremendous amount of heat to cut through the lipoma. Colonoscopic polypectomy of large lipomas is difficult, although possible in selected cases (especially if pedunculated) as it both is reported in the literature^{2,3,5,10,13-19} and observed in case-series of our centre (Katsos et al, personal communication, 1994). In the series by Pfell et al,¹⁰ 3 of 7 patients had a subsequent perforation after endoscopic removal of colonic lipomas. Surgery remains an option, especially for large colonic lipomas. However, endoscopic removal would be preferable over surgical excision if it can be done safely. In more recent endoscopic series, various techniques such as saline injection assisted polypectomy and the use of endoscopic ultrasound had been advocated to reduce the risk of perforation.^{13,17} On the other hand, conventional open colonic resection is considered a major undertaking with considerable morbidity, especially in elderly patients with coexisting medical conditions. Recently, laparoscopic colonic resection has been shown to be associated with less postoperative pain, shorter duration of ileus, and quicker recovery; therefore, it is recommended for the treatment of benign colorectal conditions such as large polyps.^{20,21} In our case, a detailed endoscopic examination of the base

of the lesion was performed as suggested¹³ and a stalk of 2 cm was demonstrated. Furthermore, the lesion was located in the sigmoid where the bowel wall is thicker than in the ascending colon or the cecum. As noted by Christie¹⁴ et al and Stone et al,²² removal of truly pedunculated lipomas does not provide any increased risk as compared with the removal of any pedunculated adenomatous type polyp. However, it has been reported, that in some cases, what it is considered to be a stalk is rather a pseudopodicle caused by serosal invagination which might include the muscularis propria and the serosal layers, and in this case cutting could be disastrous.²³ Considering that this might be the cause of endoscopic removal failure after excessive amount of electrosurgical current in our case, we decided to refer the patient for surgical resection.

To our knowledge, this is the first report of lipoma expulsion with the feces subsequent to failed endoscopic removal. Spontaneous expulsion of a sigmoid lipoma has also been recorded.^{4,24} This might be explained by the existence of a large visible blood vessel in the stalk of the colonic lipoma which, if for some reason occluded (i.e. thrombosis), then the lipoma is subsequently self amputated. In cases of large vessels in the stalk, placing a hemoclip before or after polypectomy is recommended to decrease post-procedure bleeding.¹² Recently, in a similar context, Murray et al¹⁸ and described a novel endoscopic technique with detachable nylon loop placement in stalks of diameter over 4mm to minimize risk of post-procedural bleeding. Raju et al¹⁹ reported placement of detachable nylon loop in the stalk of a large lipoma that was left in place. In their case, the lipoma regressed progressively probably due to ischemia. We believe that in our case electrosurgical current achieved thrombosis of lipoma vessels, followed by lesion necrosis and self-ambutation.

In conclusion, it should be noted that colon lipomas, although rare, should be considered in the differential diagnosis of large bowel tumors. Endoscopic approach remains a safe and effective option for giant lipoma resection, provided each case is selected carefully and procedures are performed by skilled endoscopists in centres with experience.

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