



# Large Colonic Lipoma, Presentation and Treatment: Case Reports and Literature Review

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## Abstract

Colonic lipomas are uncommon tumors that may remain asymptomatic and seen incidentally on endoscopy, surgery, or autopsy. They can cause constipation, bleeding that may lead to anemia, and acute abdominal pain due to intussusception if larger than five centimeters, particularly when pedunculated. Colonoscopy can reveal a protruding luminal mass, whereas a Computed Tomography (CT) can precisely localize, indicate the nature, and characterize the composition. Removal by endoscopy in smaller and surgical resection remains the treatment of choice for larger lesions by open laparotomy or laparoscopy. We describe a case series of three patients who underwent laparoscopic resection of the colon for symptomatic large lipomas in our hospital.

**Keywords:** *Colonic lipoma, intussusception*

## Introduction

Colonic lipomas are rare non-epithelial benign tumors found in any part of the gastrointestinal tract [1-3]. The peak incidence is observed in 50-60 years of age and more commonly seen in women [4,5]. Most often found in ascending colon 45%, followed by sigmoid 30.3%, descending colon 15.2% and the transverse colon 9.1% in decreasing order of frequency [6-10]. Although majority (90%) arise from the submucosa, other intestinal layers can be a source of origin in the some of the patients [10,11]. Mostly sessile but may have peduncle, and overlying mucosa may show ulceration or necrosis [12]. The symptoms depend on the size, if more than two cms, and vary from asymptomatic to bleeding, abdominal pain, constipation, and occasionally intestinal obstruction by intussusception [13,14]. If protruding in the intestinal lumen, they can be picked up by colonoscopy, whereas Computed Tomography (CT) provides accurate location and character of the lesion [15]. Endoscopic removal of the smaller lesion can be carried out, but larger ones need bowel resection. Histopathology determines the exact nature as they may easily be misdiagnosed as villous adenoma or carcinoma as reported in the literature [1]. All three patients were treated in the Colorectal Department of Hamad Medical Corporation, Qatar.

## Case 1

A 52 years old male had recurrent attacks of left sided abdominal pain, minimal rectal bleeding, and constipation for three months without any history of cancer in the family or weight loss. Abdominal examination showed a mildly tender mass in the left hypochondrium. Digital rectal examination (DRE) was unremarkable, whereas his hemoglobin was 15.7 g/dL. An abdominal CT scan showed a fat density mass (-67 Hounsfield units), 5.6 x 4.4 cm, in the descending colon, causing proximal colo-

colic intussusception associated with mesenteric congestion. (Fig. 1). Colonoscopy showed a broad-based pedunculated mass almost occupying the lumen. (Fig. 2). Laparoscopic exploration showed intussusception between descending and transverse colon at the splenic flexure. A left hemicolectomy was performed. Fig. 3 shows the specimen before the release of the intussusception. Fig. 4 shows the lesion after opening the bowel. Histopathological examination confirmed the diagnosis of lipoma with extensive necrosis of overlying mucosa.



Fig 1: Lipoma seen in the left side of colon. (Case 1)

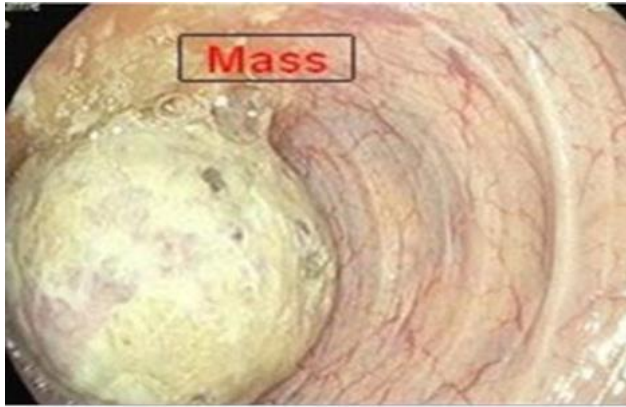


Fig 2: Colonoscopic view (Case 1)

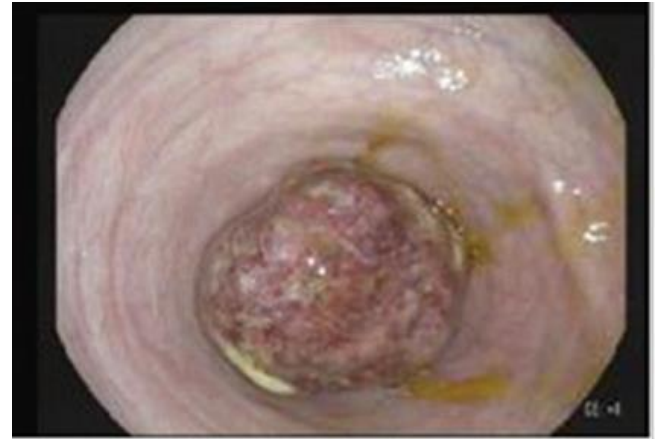


Fig 5: Colonoscopy in case 2, mass almost occupying the whole lumen



Fig 3: Excised colon showing intussusception. (Case 1)



Fig 6 and 7: CT findings of lipoma in left colon in case 2



Fig 4: Pedunculated lipoma in case 1 after opening the colon

## Case 2

A 58 years old male patient presented left-sided abdominal pain and bleeding per rectum for six weeks, with a history of perianal fistula operated ten years ago without complications or recurrence. His abdominal examination did not reveal any abnormal findings. His hemoglobin level was 14.6 g/dL, and all other investigations were within normal limits. Colonoscopy showed a mass in the sigmoid colon obstructing the lumen, and the scope could not be passed proximally. (Fig. 5).

Abdominal CT scan showed a rounded intraluminal mass in the sigmoid colon measuring 3.5 cm with central necrosis impressive of a carcinoma; however, the possibility of lipoma was not completely ruled out. (Fig. 6&7) A laparoscopic sigmoid colectomy was performed, and the Fig. 8 shows cross-sections of the mass, which is submucosal and consists of fat lobules. Histopathology examination revealed 4x3x3 cm colonic angiolipoma with overlying mucosal ulceration.



Fig 8: Cut surface of resected colon showing clear fatty appearance of lipoma (Case 2)



### Case 3

A 37-year-old male with a history of left-sided abdominal pain and constipation for six months did not respond to treatment with laxatives. He had minimal tenderness over the left lower abdomen, but no mass was palpable. Colonoscopy showed a large mass at 45 cm from the anal verge (Fig. 9). CT scan showed the mass in the proximal descending colon with features suggestive of lipoma (Fig 10). He underwent laparoscopic left hemicolectomy, and histopathology confirmed lipoma.



Fig 9: Colonoscopy showing luminal mass in third patient. (Case 3)



Fig 10: CT scan abdomen showing the almost completely obstructing lesion in descending colon. (Case 3)

### Discussion

An adenoma is the most common benign tumor of the colon, followed by lipoma, which has a reported incidence of 0.2-4.4% in the literature [16]. Bauer in 1757 described the first case of colonic lipoma [17]. Most of the lipomata are found in ascending colon, but all of our patients had tumor on the left side. Frequently found lesions are smaller than 2 cms, asymptomatic, and therefore treatment is not needed [18]. Giant lipomas (>5cms) are associated with intermittent intussusception [19] (Case number 1), abdominal pain, bleeding, and rarely constipation due to obstruction (Case 3).

Colonoscopy can show the luminal mass with stalk, and superficial biopsy may reveal alteration in the mucosal lining like hyperplasia, [20] ulceration, [21,22] necrosis, [23] and as Moschetta reported, tubulovillous epithelial changes [1] in his patient. A contrast-enhanced CT scan can accurately diagnose the lesion's

density that ranges between -40 and -120 (mean value -100 Hounsfield) [1].

The etiology remains obscure, but mostly these are true lipomatous neoplasms [24]. They usually originate from the submucosa with a polypoid appearance and may occasionally extend to muscularis propria or even subserosa and protrude in the lumen. Sometimes, chronic inflammation can give rise to lipoma, particularly in the cecum. Intestinal motility may be altered due to chronic inflammation that can pull mucosa from the submucosa and form a tissue space, which may cause fat deposition later on. The deposited adipose tissues lack well-defined margins with the surrounding, and the overlying and adjacent colonic mucosa show inflammatory changes. It is better called a "pseudolipoma" to differentiate it from the true neoplastic lipoma. However, the differentiation of neoplastic lipoma and pseudolipoma is still controversial; however, no malignant association has been described in the literature [10,24].

Complete excision can be accomplished by endoscopic means if the lesion is small or pedunculated with a thin stalk, [1,24]. Still, larger one's mandate surgical resection for complete histopathological examination and rule out any associated malignancy [24,25]. Surgical options include colectomy with local excision, limited colon resection, segmental resection, hemicolectomy, or subtotal colectomy [24]. Laparoscopy has replaced open surgery as it offers less pain and early recovery [26,27]. We performed laparoscopic segmental resection and hemicolectomy in all three cases.

Reduction of intussusception is debatable, but generally, primary resection without reduction is acceptable for most ileocolic and colo-colonic intussusception due to increased risk of covert malignancy [28].

Spontaneous expulsion was reported first by Backenstone in 1940, and almost 20 cases in the literature have appeared since then, [29,30] all were attributed to total or partial separation or large ulceration of the luminal part of lipoma preceded by abdominal pain and relief after the mass is expelled through the anus.

### Conclusion

Colonic lipomas can be asymptomatic or present with abdominal pain, bleeding, and occasionally intussusception. Colonoscopy and CT abdomen with contrast are the main diagnostic tools, and endoscopic or surgical excision offers the cure. Histopathology is mandatory to rule out malignancy.

### Ethics approval and consent to participate

Waiver of the Ethical Committee as the identification of subjects were made anonymous according to institutional policy.

### List of abbreviations

CT: Computed Tomography  
DRE: Digital Rectal Examination

### Data Availability

The data is available with corresponding author and all the references have been mentioned in the "Reference Section."

### Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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## Authors' contributions

SSA and FS initially drafted the manuscript. SMA performed the revision and discussion. MHA and AP finally edited and approved the manuscript.

## Supplementary Materials

No supplementary material used.

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