

## Case Report

# A Giant Colonic Submucosal Lipoma: An Uncommon Cause of Colo-Colonic Intussusception with Review of Literature

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### ABSTRACT

Intestinal intussusception is a rare condition in adult. The early diagnosis is challenging and has chronic or acute subacute course. They often present with nonspecific symptoms. Colo-colonic intussusception in adults is often caused by malignant lesions colonic lipomas are rare mesenchymal tumors and the majority are asymptomatic and their size is usually <2 cm. Giant submucosal lipomas in sigmoid colon are rare mesenchymal tumors and rarely cause colo-colonic intussusception. Abdominal computed tomography and colonoscopy are the choice of modalities for preoperative diagnosis. Segmental colonic resection with lipoma is the choice of therapy in elderly males with symptomatic and larger submucosal lipoma.

**KEYWORDS:** Colon, intussusception, lipoma, submucosa

## INTRODUCTION

Intestinal intussusception is a relatively frequent in children and is a rare condition in adults which account up to 5% of cases of bowel obstruction.<sup>[1]</sup> The early diagnosis is challenging because most cases present with nonspecific signs and symptoms and have chronic or acute subacute course.<sup>[2]</sup>

Colonic lipomas are rare mesenchymal tumors. Incidence ranged from 0.2% to 0.4%. The majority are asymptomatic and their size is usually <2 cm.<sup>[3]</sup> The lipomas >4 cm are called as giant lipomas. Colonic intussusception in adults is often caused by malignant tumors. Colonic lipoma as the main cause of intussusception in adults is an uncommon cause.<sup>[4]</sup>

## CASE REPORT

A 75-year-old male came in surgical outpatient unit with complaints of pain in abdomen, intermittent diarrhea and constipation, burning micturition and abdominal distension since 1 month. There was no major significant past history of illness. Physical examination revealed tender and lump measuring 4 cm × 5 cm in the left iliac fossa.

The routine laboratory investigation was within normal limits except 10–12 pus cells in urine.

The ultrasonography of the abdomen revealed heterogeneously hyperechoic intraluminal mass (8 cm × 7 cm × 4 cm) in the sigmoid colon. They suggested intraluminal lipoma/liposarcoma. The colon proximal to the site showed thickening of the wall. The computed tomography (CT) of the abdomen showed a large well-defined round-to-oval nonenhancing fat density lesion within the submucosal plane of sigmoid colon [Figure 1a]. A diagnosis of large submucosal lipoma of sigmoid colon causing colo-clonic intussusception was made. Colonoscopy suggested lipoma causing colonic intussusception [Figure 1b].

Surgically excised specimen of colon received for histopathological examination showed colo-colonic intussusception and intraluminal yellowish mass (8 cm × 7 cm × 7 cm) arising from the colonic mucosa [Figure 1c]. Histopathological examination of the mass showed a tumor composed of mature adipose tissue surrounded by thin fibrous capsule. There was no nuclear atypia or mitotic activity or spindle cell areas. Muscular propria and serosa of the colon were free from

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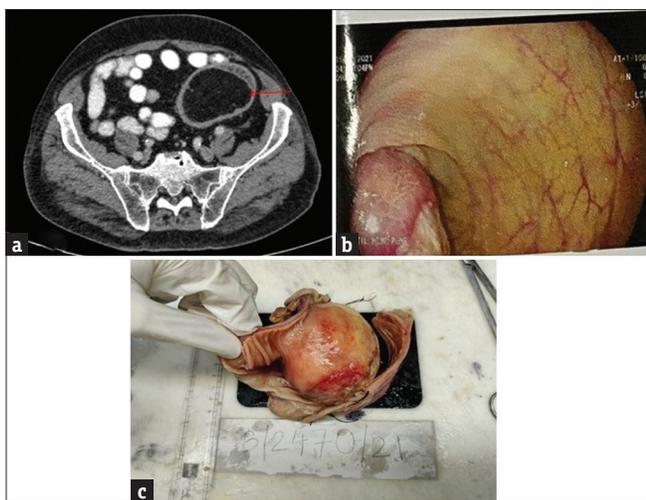
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**Figure 1:** Giant lipoma of colon (a) computed tomography image (red arrow), (b) colonoscopy image, (c) gross image of giant lipoma in the lumen of colon

tumor. A final diagnosis of colonic submucosal lipoma causing colo-colonic intussusception was made.

## DISCUSSION

Intussusception and intestinal obstruction caused by intraluminal lipoma are infrequent. Lipoma >2 cm can cause intussusception without intestinal obstruction. The early diagnosis of intussusception in adults is often difficult. The classic triad of abdominal pain, palpable abdominal mass and hematochezia is frequently observed in children. In adults, abdominal pain is the most common symptom followed by nausea, vomiting, and rectal bleeding.<sup>[5,6]</sup>

The 70%–90% of these tumors are located in the right colon. Other locations in descending order include transverse colon with flexures, descending colon, sigmoid colon and rectum.<sup>[7]</sup> The 90% of colonic lipomas originate from submucosa. The remaining originates from subserosa or muscle layer. Occasionally, they may extend into muscularis propria or sub-serosa.<sup>[8]</sup>

Smaller lipomas of colon are usually asymptomatic. The lipomas >4 cm are likely to develop symptoms. The most common symptoms are intermittent crampy abdominal pain, altered bowel habits and chronic blood loss. Giant colonic lipomas can present with acute complications such as rectal bleeding, intestinal obstruction, and intussusception.

Intussusception is a rare condition in which proximal segment of the intestine invades into adjacent distal segment. The mechanism of invagination is unknown in up to 20% of cases. On the other hand, it is believed that secondary intussusception starts from any pathological

lesion of intestinal wall that alters normal peristaltic activity and serves as a lead point which is capable of initiating an invagination from one segment to another segment of the intestine.<sup>[1]</sup>

Imaging methods can contribute greatly to the diagnosis of these lesions, though smaller lesions less <2 cm are difficult to visualize radiologically. Cases with complications such as intussusception or bowel wall thickening may be misdiagnosed as malignant lesions.<sup>[9]</sup>

Abdominal CT scan is the most sensitive radiological modality with sensitivity from 71.4% to 87.5% and specificity in adults close to 100%.<sup>[1,2,5]</sup> The colonoscopy can confirm the intussusception, direct visualization of submucosal lipoma, indicate the lead point, and also therapeutic option in some cases.<sup>[1]</sup>

Multiple histopathological sections from the lesion showed lipoma. There was no nuclear atypia or mitotic activity which ruled out liposarcoma.

At present, several concerns exist regarding the best treatment of this benign tumor. The choice of surgical intervention method depends on size and location of the lesion. For a small and asymptomatic lesion, a follow-up is sufficient. Endoscopic removal is recommended for lesions <2 cm or pedunculated lipoma. Segmental colonic resection is warranted when lipoma is >4 cm in size, lipoma with intussusception and when the lesion cannot be resected endoscopically due to the involvement of muscle or serosa.

## CONCLUSION

Intussusception in adults is rare and most often caused by underlying malignant tumors. Colonic lipoma as the main cause of intussusception in adults is an uncommon cause. The diagnosis of colonic lipoma can be challenging and require multidisciplinary approach. Abdominal CT and colonoscopy are the choice of modalities for preoperative diagnosis. Segmental colonic resection with lipoma is the choice of therapy in elderly males with symptomatic and larger submucosal lipoma.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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