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Left Sided Colonic Lipoma Causing Intussusception - A Rare Case Report With Review of Literature

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Abstract

Background: *Intussusception is a frequent cause of bowel obstruction in children but is rare in adults. In about 90% of cases, adult intussusception has identifiable cause acting as the lead point. A lipoma may develop as a benign tumor in any organ but rarely in large or small intestines. Intussusception due to a gastrointestinal lipoma constitutes an infrequent clinical entity. We present a case of intussusception due to a lipoma in the sigmoid colon that was surgically resected.*

Case report: *Elderly female of 76 years presented to emergency department with the complaint of something coming out of rectum and bleeding per rectum for 5 days. She also complained of abdominal fullness and not passing stool for 2 days. Rectal examination revealed a mass protruding from rectum on straining along with blood stained mucus and a patulous anal sphincter. Colonoscopy was not performed in view of clinical features of sub-acute intestinal obstruction. Contrast Enhanced Computed Tomography (CECT) of the abdomen revealed rectosigmoid intussusception. On exploration, bowel appeared congested, edematous and unhealthy. A soft rounded mass was found at the tip of the intussusceptum. Segmental resection of the rectosigmoid junction was performed and bowel continuity was achieved with primary anastomosis. A defunctioning loop colostomy was fashioned to protect the anastomosis. Biopsy of the specimen revealed hemorrhagic infarction of the affected colon with a submucosal lipoma of the sigmoid colon 2.5 x 2 x 1.5 cms in size.*

Conclusion: *Intussusception in adults is rare and usually caused by organic lesions. Abdominal CT is a sensitive, non-invasive method for diagnosis. A colonic lipoma as the principal point for intussusception even though not common can predispose to colonic intussusception.*

Keywords: *colonic lipoma; adult intussusception; left sided.*

I. Introduction

Lipomas of the gastrointestinal tract are rare benign, non-epithelial (mesenchymal) fatty tumours. Lipoma is the third most common benign tumour of the colon after hyperplastic and adenomatous polyps with a reported incidence of 0.2% to 4.4%[1]. Most often they are found incidentally during a colonoscopy, computed tomography (CT) scan, surgery, or autopsy[2]. On endoscopy, colonic lipoma is seen as a well-delineated, soft, round, sessile or pedunculated mass. In 90% of cases, the lipoma arises from the submucosa, the remainder are subserosal or intramucosal in origin. 70% of these tumours are located in the right hemicolon[3]. Symptoms correlate with tumour size. Tumours <2 cm are generally asymptomatic and do not require treatment. However, 25% of colonic lipomas are known to develop symptoms, particularly when their diameter is >2 cm [4]. Symptoms include abdominal pain, constipation, diarrhoea, bleeding, anemia and intussusception. The size of lipomas reported in the literature varies from 2 mm to 30 cm. Lesions larger than 4 cm are considered giant and produce symptoms in 75% of cases[12]. Perforation or gastrointestinal bleeding due to ulceration of the lesion can occur. Extremely uncommon, transformation to liposarcoma has been documented[5].

Lipoma may develop as a benign tumor in all organs but rarely in large or small intestines and intussusception due to a gastrointestinal lipoma constitutes an infrequent clinical entity [6, 7].

Barbette of Amsterdam reported intussusception for the first time in 1674. Adult intussusception represents 1% of all bowel obstructions and 5% of all bowel intussusceptions[7, 9]. Intussusception in adults presents with a variety of acute, intermittent, and chronic symptoms which makes preoperative diagnosis difficult. In a series by Taraneh et al, preoperative diagnosis of intussusception was made in only 32% of patients[8].

We present a case of colonic intussusception in a 76 yr old female due to a lipoma in the sigmoid colon that was surgically resected.

II. Case profile

A 76 year old female presented with a history of something coming out of the rectum on straining associated with bleeding per rectum for duration of 5 days. She also gave a history of constipation off and on. There was no history of malignancy in her family. General and systemic examinations were unremarkable. Per-rectal examination revealed a smooth rounded mass in the rectum and the examining finger could be probed all around the apex of the mass but upper extent of the mass could not be reached. A provisional diagnosis of intussusception was made with the differential diagnosis of rectal growth due to advanced age of the patient.

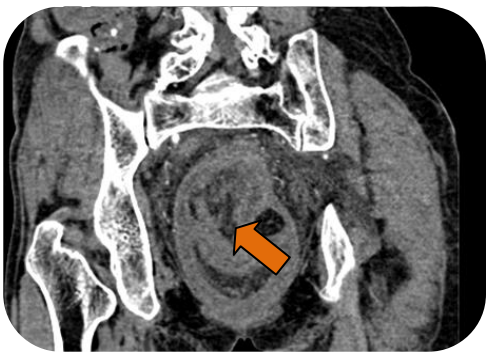


Figure: 1

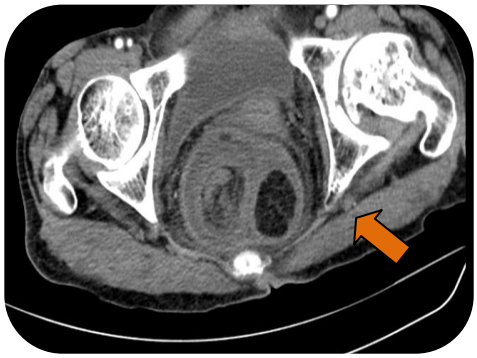
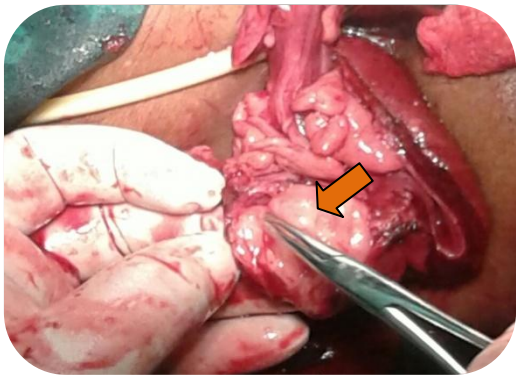


Figure: 2

Figure 1 & 2: Coronal and axial CT sections showing bowel within bowel appearance in the rectum suggestive of intussusception with a well defined fat attenuating lesion along the left side of the bowel suggestive of lipoma.

The patient was evaluated by contrast enhanced computed tomography (CECT) of abdomen which revealed a recto-sigmoid intussusception (Figure: 1), starting from 13 cms proximal to anal verge and reaching up to the anorectal junction with features of impending necrosis of the rectal wall. A lead point measuring 2.4 x 3 cms with fat attenuation suggesting a lipoma was seen in the intussusceptum (Figure: 2). There was indrawing of the sigmoid mesentery into the intussuscipiens associated with dilatation of the large bowel proximally. No lymphadenopathy was noted. The patient was taken up for exploratory laparotomy.



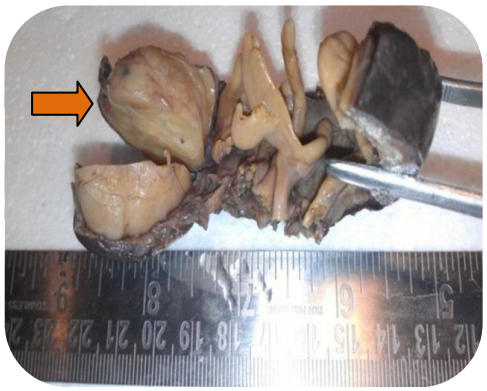


Figure 3: Lipoma at tip of intussusceptum (Arrow) **Figure 4:** Gross specimen of lipoma with resected sigmoid Colon (Arrow)

On exploration, intussusception of the sigmoid colon into rectum with gangrenous changes of the intussusceptum formed by sigmoid colon containing was found. There was dilatation of the large bowel proximal to the point of invagination. The tip of the intussusceptum contained a soft round tumour mass (Figure 3). Segmental resection of the rectosigmoid junction containing the mass lesion was performed and bowel continuity was achieved with primary anastomosis. A defunctioning colostomy was fashioned to protect the anastomosis.

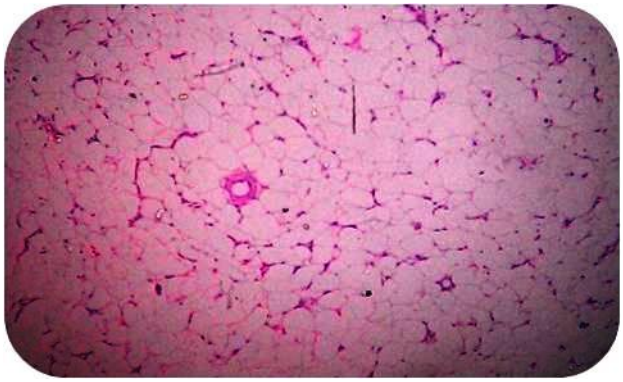


***Figure: 5** Mature adipocytes with congestion and infiltration of inflammatory cells (H & E)*

The resected specimen was submitted for histopathological examination and biopsy was reported as submucosal lipoma of the sigmoid colon with hemorrhagic infarction of the affected colon. Grossly, the tumor measured 2.5 x 2 x 1.5 cms. It has a lobulated appearance and cut section showed soft yellow tissue (Figure: 4). Histology of the tumour showed mature adipocytes with inflammatory cell infiltration (Figure 5). There was no evidence of malignancy.

The patient had an uncomplicated recovery and closure of the colostomy was done after 3 months. The patient was doing well at 6 months of follow-up.

III. Discussion

Adult intussusception has a non-specific presentation and is often not considered in the differential diagnosis for abdominal complaints. The classical paediatric triad of abdominal pain, bloody diarrhoea and a tender abdominal mass is rarely seen in adults[6]. Abdominal CT is considered the most sensitive radiological method for diagnosis of intussusception, with characteristic features of a 'target' or 'sausage' shaped soft tissue mass with a layering effect [6]

A lipoma is the most common benign tumor of the colon that causes colonic intussusceptions in adults [21]. Colonic intussusception is a rare complication of colonic lipoma[11]. In 20% to 50% of cases of adult intussusception, the etiologic agent is a malignancy [23-26]. Barium enema examinations may show a spherical filling defect that is radiolucent with well-defined margins. Both radiolucency and the "squeeze sign", indicating a change in size and shape of a radiolucent lesion in response to peristalsis, have been considered pathognomonic of colonic lipomas. CT scan has been proposed as a non-invasive method of diagnosis. CT characteristics of a lipoma are: ovoid or spherical mass with sharp margins and absorption densities of – 40 to – 120 Hounsfield Units typical of fatty composition[13,14]. Like computed tomography, Magnetic Resonance Imaging may be useful in the detection of lipomas as the signal intensity is characteristic of adipose tissue on T1-weighted and fat-suppressing images. Endoscopic ultrasonography is a potent adjunct modality for characterization of submucosal tumors. Colonic lipomas appear as hyperechoic lesions with regular borders in the three layers[15]. At colonoscopy, lipomas are seen as smooth, rounded yellowish polyps with a thick stalk or broad based attachment. Three signs may contribute to the diagnosis, including "cushion sign" (pressing forceps against the lesion results in depression or pillowing of the mass), "tenting effect" (grasping the overlying mucosa with the biopsy forceps presents a tent-like appearance), and the "naked fat sign" (biopsies may result in an extrusion of yellowish fat)[13, 16]. Indications of endoscopic removal of large lipomas remain controversial because of prior reports of a high rate of perforation[17].

tissue contains low water content and therefore conducts electrosurgical current less efficiently[12]. Therefore, increasing the power to assist the endoscopic resection may lead to increased heat production and damage to the adjacent bowel wall with subsequent perforation[18]. Li Jiang *et al.*[19] believe that surgical removal should be the preferred choice for the following indications: (i) lipoma with a diameter of > 4 cm, with a sessile appearance or limited pedicle; (ii) unclear preoperative diagnosis; (iii) lesions with a significant symptoms, especially the appearance of intussusception; (iv) involvement of the muscular layer or serosa; and (v) lesion cannot be resected radically under colonoscopy. About 57% of colonic lesions are benign and 43% to 63% are malignant[8,20]. Laparoscopic procedure is an alternative to laparotomy for colorectal lipomas[13]. Kevin *et al.*[22], opined that laparoscopy does not permit palpation of the remainder of the gastrointestinal tract in a search for other lipomata or co-existing malignancies, so open surgical resection is recommended, especially in elderly patients presumptively as the potential for malignant etiology is comparatively more than in younger patients. Xiao-Cong Zhou *et al.*[27], recommended open surgery combined with use of
intraoperative frozen section for large symptomatic colonic lipomas accompanied by colonic

intussusception, to avoid unnecessary radical resection.
Definitive diagnosis of colonic lipoma is established from histopathological examination of the resected specimen.

IV. Conclusion

Intussusception in adults is uncommon. Clinical presentation is varied and atypical with acute or chronic symptoms. Typical features as usually observed in the paediatric population may not be present. Adult intussusception is usually caused by organic lesions and a colonic lipoma can act as as the principal lead predisposing to colonic intussusceptions. Abdominal CECT is a sensitive, non-invasive imaging tool with ability to establish the diagnosis of intussusception and identification of lipoma.

Conflicts of interest: The authors declare no competing interests.

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