



## A Rare Cause of Adult Colo-Colonic Intussusception: Colonic Lipoma

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### Abstract

Symptoms of adult intussusception are nonspecific and vague, thus the diagnosis of intussusception is often missed or delayed resulting in adverse consequences such as bowel obstruction, ischemia and gangrene [1,2]. Colo-colonic intussusception may account for about 17% of adult intussusceptions [3,4]. Colonic intussusception most commonly occurs in flexible regions such as the sigmoid and transverse colon and the cecum [5]. The common reason of intussusception in an adult is malignant tumor, but very rarely benign lesions can also be the cause. The present study describes a case of sigmoid colo-colonic intussusception caused by a colonic lipoma in a 50-year-old Caucasian male. The patient presented with a history of recurrent left lower abdominal pain and bloody diarrhea and was referred for a Gastroenterology consultation. A near obstructing globular lesion was found in the sigmoid colon during colonoscopy. The computed tomography (CT) scan of the abdomen was suspicious for intussusception. At the laparoscopy, the patient was found to have an intussusception in the sigmoid colon, caused by a colonic lipoma, a rare nonepithelial benign neoplasm.

**Keywords:** Colo-Colonic; Intussusception; Adult

### Introduction

Intussusception is the most common cause of bowel obstruction in infants and children between six months to eighteen months of age and peaks from age four to nine months [6]. However, intussusception occurs rarely in adults and the presentation, etiology and treatment differ from that of pediatric population [8]. Adult intussusception was first reported in 1674 by Barbette of Amsterdam and further presented in a detailed report by John Hunter as a rare form of bowel obstruction in the adult [9-11]. It may commonly present with colicky abdominal pain, vomiting, and nausea and less commonly present with symptoms such as melena, fever, weight loss, constipation, diarrhea, and a palpable abdominal mass [2]. Almost 90% of adult cases are due to an underlying pathological lead point. Most of the adult intussusceptions due to intraluminal pathological lesions are managed with exploratory laparotomy or laparoscopy with resection of the pathological lead point [7]. On the other hand, idiopathic, non-obstructive, transient

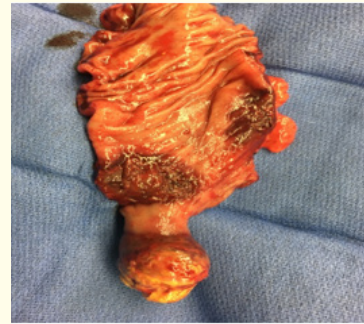
intussusceptions without an underlying pathological lead point may resolve spontaneously without intervention [12]. In this case study we report an adult case of colo-colonic intussusception due to a sigmoid colonic lipoma, a rare nonepithelial, benign neoplasm, which was successfully resected through laparoscopic surgery.

### Case Report

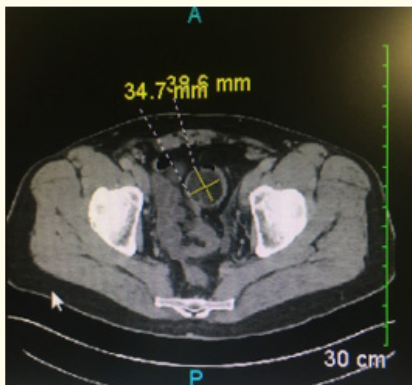
A 50-year old Caucasian male presented with recurrent left lower abdominal pain and bloody diarrhea to the Gastroenterologist. The patient was recommended to have a colonoscopy for further evaluation in addition to the above symptoms he never had a screening colonoscopy in the past. The colonoscopy revealed an ulcerated globular lesion (Figure 1) in the sigmoid colon almost obstructing the ileum. The scope could not be passed beyond the lesion and the patient was referred for surgical management. He underwent a CT scan of the abdomen and pelvis which revealed the same lesion, but suspicious of a colo-colonic intussusception (Figure 2).



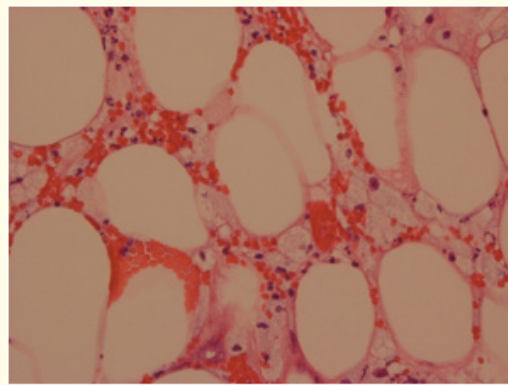
**Figure 1:** Colonoscopy showing a near obstructing globular lesion in the sigmoid colon.



**Figure 3:** Pedunculated lipoma with ulcerated overlying mucosa.



**Figure 2:** CT scan of the Abdomen depicting a globular lesion (Intussusceptum) causing the Intussusception.



**Figure 4:** Resected lipoma: Area of fat necrosis within lesion, showing foamy histiocytes and inflammatory cells (H&E, X400).

Elective laparoscopic surgery was performed. The surgical exploration revealed the presence of a fixed and irreducible intussusception in the left- mid- colon. This was about 30 cm proximal to the dentate line and about 15 cm proximal to the sacral prominence. There was moderate distension of the large bowel proximal to the intussusception. Left- hemicolectomy was performed. Macroscopic assessment of the resected specimen showed the presence of a pedunculated polypoid tumor, measuring 5"x 4"x 3", with ulcerating overlying mucosa causing intussusception in the sigmoid colon (Figure 3). The intestinal continuity was restored with a side-to-side functional end-to-end anastomosis. The histology report confirmed a lipoma (Figure 4). The postoperative course was uneventful and the patient was discharged home without complications.

## Discussion

Intussusception is a process that occurs when a proximal segment of the bowel wall telescopes into the adjacent lumen of distal segment of bowel wall [9]. Adult intussusception is a rare condition. It accounts only for about 1-5% of all cases of bowel obstructions and only for about 5% of all cases of intussusception [13]. In adults, intussusception may present as acute, intermittent, and chronic forms [1]. Almost 90% of adult cases are due to an underlying pathological lead point including malignant or benign neoplasms, intestinal polyps, Meckel's Diverticulum, postoperative adhesions, inflammatory bowel disease, motility disorders and iatrogenic causes such as gastric tubes [2,13]. The remaining 10% cases are idiopathic.

The exact pathophysiology of causing a colonic intussusception by an underlying lesion, lead point, has not been clearly understood [12]. However, it has been explained that such a pathological lead point in the bowel lumen can alter the normal peristaltic activity and result in the narrowing of the bowel segment proximal to the lead point and relaxing of the bowel segment distal to the lead point [14]. Consequently, the narrowed proximal bowel segment, also called intussusceptum, telescopes into the distal bowel segment causing an intussusception [14]. Adult intussusception is categorized according to the presenting location as entero-enteric (small intestine only), colo-colic (large intestine only), ileocolic (terminal ileum telescopes into ascending colon), and ileocecal (ileocecal valve is the lead point) [7,9]. It can also be categorized according to the etiology of intussusception as malignant, benign, and idiopathic [9]. The most common locations of adult intussusception include entero-enteric and ileocolic sites [3]. Colo-colonic intussusception may account for about 17% of adult intussusceptions [3,4]. The location of the intussusception may predict the underlying cause of the lead point [15]. Malignant neoplasms, predominantly adenocarcinomas, account for about 30% cases of small intestines and about 66% of cases of large intestine intussusception [9,14]. An abdominal CT scan is the most sensitive and specific imaging study and is the diagnostic test of choice [12].

The majority of the adult colo-colonic intussusceptions caused by a pathological lead point are due to primary carcinomas – 65-70% [17]. In the present case, a rare case of sigmoid colo-colonic intussusception caused by a lipoma of the colon was described. Colonic lipomas are more common in women than in men peaking between 50 and 60 years old [17]. A majority of the colonic lipomata are submucosal, while some can occur as subserosal or intramucosal forms [19]. They present as sessile or pedunculated masses and are incidentally found during imaging studies or surgery [16,18,19]. Colonic lipomata are rarely symptomatic [18]. However, if they grow large enough, diameter greater than 2cm, like in this case it may give rise to symptoms of intermittent partial intestinal obstruction or rectal bleeding [16,17]. More than 70% of the lipomata occur in the right hemi-colon [19]. However, in our case it was found in the sigmoid colon. The abdominal CT scan is the test of choice as it demonstrates a characteristic fatty densitometry. However, in some cases with atypical CT presentations accurate preoperative diagnosis of colonic lipoma can be difficult [16].

## Conclusion

Colo-colonic intussusception is a rare cause of abdominal pain in adults. While majority of the colo-colonic intussusceptions are caused by primary carcinomas, this case highlights a benign lesion, a submucosal lipoma, in the left colon as the cause of intussusception. CT scan remains the choice of diagnostic test and the recommended management is surgical resection which usually has a favorable outcome. However, if not managed in a timely fashion, intussusception may lead to significant morbidity which includes complete bowel obstruction, ischemia, gangrene, perforation, peritonitis and life threatening sepsis.

## Conflicting Interest

The authors declare no conflicting interests.

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