International Journal of Research in Medical Sciences
*Cancino LAF et al. Int J Res Med Sci. 2023 Apr;11(4):1338-1342*
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20230886

**Case Report**

# Colocolonic intussusception in an adult secondary to an inflammatory polyp of the transverse colon - clinical case

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**Received:** 03 February 2023
**Revised:** 06 March 2023
**Accepted:** 13 March 2023

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## ABSTRACT

There are multiple causes of colocolonic intussusception in adults, such as tumors, autoimmune pathologies, previous abdominal surgeries, and gynecological conditions. Associated complications are small bowel obstruction, ischemia, necrosis, perforation with peritonitis, and sepsis that require urgent attention. A 78-year-old woman who started with colic in the mesogastrium of 5 months of evolution and changes in bowel habits. She went to the emergency room due to intense pain in the mesogastrium. On physical examination, she presented dehydration of the mucous membranes and pale integuments, pain on superficial and deep palpation in the mesogastrium. Admission laboratories: leukocytosis 17,110/ul, neutrophilia 67.9%, hydroelectrolyte imbalance: mild hyponatremia, mild hypochloremia, slightly prolonged coagulation times, normal blood chemistry. Abdominal ultrasound with "pseudokidney" image. Computed tomography reports an image of the introduction of a segment of the transverse colon into a contiguous segment of the same, with data of associated intestinal pneumatosis. Due to the previous findings, an emergency exploratory laparotomy was performed. Invagination of the transverse colon is located, accompanied by dilation of the vessels of the greater omentum; it is reduced manually, an enterotomy is performed and a tumor dependent on the wall is located, for which a 25 cm transverse colon resection, end colostomy and mucous fistula are decided. Pathology report reports inflammatory polyp. In the postoperative period, the patient improved and was discharged. Abdominal pain is the common presentation of intussusception; however, given its rarity in adults, the possibility of missing the finding on abdominal imaging leads to misdiagnosis.

**Keywords:** Adult, Intussusception, Colonic polyp, Upper abdominal pain, Ultrasound

## INTRODUCTION

The causes of intussusception in adults are multiple and some etiologies, such as neoplasms, autoimmune enteric diseases, intra-abdominal surgeries, and gynecological diseases such as endometriosis, can cause intussusception. Complications associated with this condition include small bowel obstruction, intestinal ischemia, necrosis, intestinal perforation with peritonitis, and sepsis requiring urgent care. In 90% of cases of intussusception in adults, a pathological cause is identified, such as: tumor, pancreas divisum, polyps, Meckel's diverticulum or mesenteric cysts.[1]

In 1956 Dean et al proposed a classification for intussusception in adults that categorized them into four anatomical variants: enteroenteric, which affects only the small intestine; colocolic, which affects the large intestine; ileocecal; and ileocolic.[2] Any segment of the gastrointestinal tract can be affected, but there are some portions where a segment with greater freedom of movement can cross a fixed segment, either due to adhesions or its retroperitoneal location. Therefore, most of these intussusceptions tend to occur within the large or small intestine. Of the small intestine, the ileum is the most frequent location and approximately only 10% is present in extraintestinal locations.[3]

The general incidence is estimated between 2-3 cases/million/year, while it represents only 1-5% of all intestinal obstructions. The male-female ratio is 3:1 in the general population. Any condition that could alter bowel movement can be a reason for intussusception.[4] AI was previously found in 1% of adult patients with intestinal obstruction, and the incidence of ileocolic or colocolic intussusception is 0.3/100,000 inhabitants/year.[5]

## CASE REPORT

A 78-year-old female with a significant history of arterial hypertension of 10 years of evolution, being managed with amlodipine 10 mg every 12h orally, prediabetes for 5 years with response to dietary changes; previous surgical history of laparoscopic cholecystectomy 10 years ago, the rest denied. It begins with colicky pain in the mesogastrium for 5 months with exacerbation for 1 month and changes in bowel habits, bowel movements decreased in consistency alternating with periods of constipation. He went to the emergency room due to intense pain in the midgastrium accompanied by intolerance to the oral route with vomiting of gastric contents, diarrheal bowel movements on three occasions in the last 24 hours, decreased strength to walk, and sudden increase in pain in the lower back. On physical examination, the patient presented frank dehydration of the mucous membranes and pale in teguments, with pain on superficial and deep palpation in the mesogastrium, without signs of peritoneal irritation or involuntary muscle contraction, with decreased strength in all four extremities 4/5 scale of Daniels rest of the examination normal. Laboratory studies are indicated on admission, leukocytosis of 17,110/ul, neutrophilia 67.9%, hydroelectrolyte imbalance: hyponatremia of 133 MEq/l, hypochloremia of 91 Meq/l, slightly prolonged coagulation times, normal QS and PFH. Abdominal ultrasound with an oval image with a hypoechogenic periphery and alternating layers of different echogenicities that give it a "pseudokidney" morphology (Figure 1).

Identifies afferent and efferent loops, both dependent on the transverse colon due to colocolonic invagination, for which a simple and contrast-enhanced computed tomography of the abdomen, reporting an image that suggests the introduction of a segment of the transverse colon into a contiguous segment of the same (Figures 2 and 3).


**Figure 1: The abdominal USG, arrow points to an image of "pseudokidney" dependent on the transverse colon.**

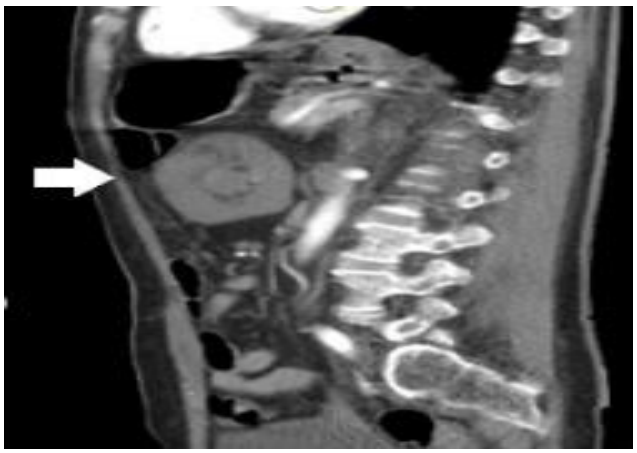

**Figure 2: A sagittal cut of CT scan where the arrow points to an image in "target shooting".**

**Figure 3: The axial section of the CT arrow indicates the site of invagination colocolonic.**

With data suggestive of associated intestinal pneumatosis, without identifying accompanying neoplasms, consistent with the diagnosis of colocolonic intussusception. Subsequently, studies of normal tumor biomarkers are performed. An exploratory laparotomy was performed due to signs of intestinal distress and pneumatosis; Invagination of the transverse colon was located on the contiguous portion, accompanied by dilation of the greater omentum vessels and adhesions, colon-liver-vesicular bed. The invagination is manually reduced, and a mobile mass is palpated inside, an enterotomy is performed and an intraluminal tumor dependent on the wall is located, for which a 25 cm resection of the transverse colon is decided, and a colostomy of the proximal end and a mucous fistula of the distal end with Brooke technique plus omentectomy (Figures 4-6).

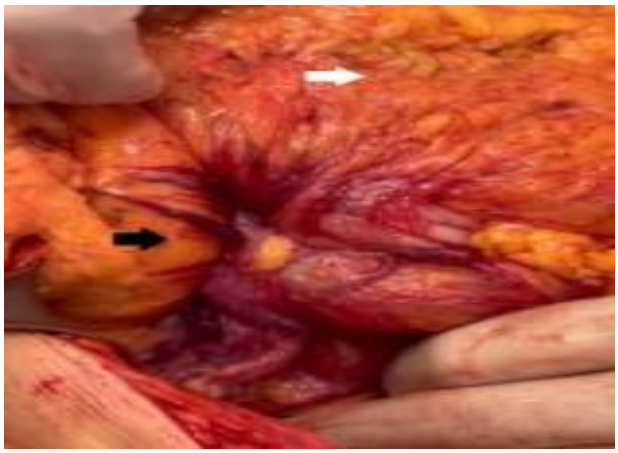

**Figure 4: White arrow: greater omentum; black arrow: dilated omental vessels.**

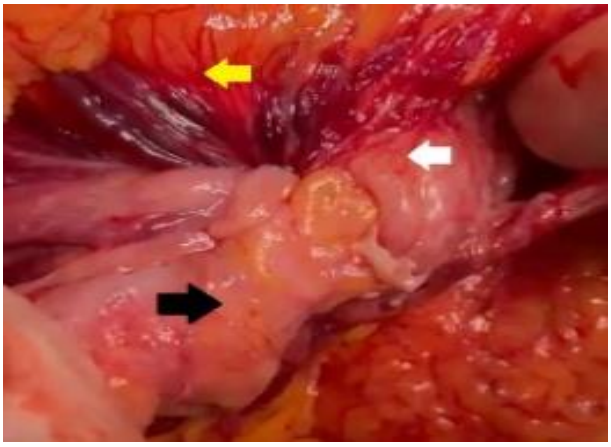

**Figure 5. Black arrow: invaginating colon; white arrow: invaginated colon; yellow arrow: dilated omental vessels.**

The extubated patient leaves the ward and is admitted to the general surgery floor for monitoring plus antibiotic therapy (ceftriaxone) and hourly intravenous analgesia. The next day she starts with a diet of clear liquids with adequate tolerance, channeling gases through colostomy and evolving towards improvement at hospital discharge was decided two days later. Pathology report with a diagnosis of 5×4.5×4 cm inflammatory fibroid polyp. Currently, the patient is being monitored for intestinal restitution when malignancy has been ruled out.

**Figure 6. Black arrow: tumor dependent on the transverse colon. White arrow: enterotomy transverse colon.**

**Figure 7: Surgical specimen of the transverse colon and intraluminal fibroid polyp.**

## DISCUSSION

Abdominal pain is the most common symptom of intussusception; however, given its low frequency in the adult population, the possibility of missing the finding on abdominal imaging leads to misdiagnosis. It has been shown that in 22% of cases, an initial abdominal computed tomography (CT) scan could miss the intussusception.[6]

The clinical picture and clinical history of these patients needs to give us an accurate diagnosis starting from the type and onset of pain to a frank intestinal obstruction. Typically, patients present with chronic intermittent pain lasting weeks to months and persistent symptoms despite using different treatments. Dagistanli et al presented a case of colocolonic intussusception due to a giant lipoma of the transverse colon with good results for the patient.[7]

Chiam et al in their clinical case also found that adult-onset colonic intussusception is rare with a reported incidence of 5%, which in turn accounts for only 1-5% of all adult intestinal obstructions.[8] In 90% of cases, an organic pathology is identified as the starting point. Of these etiologies, colonic adenocarcinoma is reported to be found in 65-70% of cases.

Intussusception is comparatively common in pediatrics and adults and is also a rare entity. Adult intussusception should be evaluated in any patient with subacute abdominal discomfort, taking into account the higher rate of malignancy and the lower rate of benign tumors. Bowel resection without reduction is recommended for colonic intussusceptions.[9]

Moon et al present a 58-year-old woman, who had no previous medical history and visited the emergency department of another hospital with symptoms of abdominal pain and fever, 1 day after multiple colonoscopic polypectomies.[10] An abdominopelvic computed tomography scan (CT) demonstrated colocolonic intussusception. CT showed colocolonic intussusception with Post-polypectomy electrocoagulation syndrome (PPES) without evidence of obstruction. The physical examination showed localized mild tenderness on the right-sided abdomen. The patient fasted and was admitted for treatment with intravenous antibiotics. After admission, the symptoms got better and a follow-up CT scan demonstrated the resolution of the PPES and intussusception. The patient was discharged on hospital day. Colocolic intussusception can occur with PPES, and it can be properly treated conservatively.

On the other hand, colonic lipomas are an extremely rare cause of intussusception. The most common location is the ascending colon (45%), and tumors larger than 2 cm are associated with a high risk of intussusception. The symptoms are non-specific and the bypass point causing the intussusception is usually detected by advanced imaging studies.[11]

Adult intussusception does not have specific clinical manifestations, unlike the classic triad of pediatric intussusception symptoms such as: abdominal pain, vomiting, and jam-like stools. Abdominal CT scan is considered the most useful examination for these cases, but specific causes require intraoperative detection or postoperative pathology to clarify. 90% of intussusceptions in adults are caused by tumors, polyps, diverticuls, mainly. However, 70% to 90% of intussusceptions in adults require surgical treatment.[12]

Pure colonic intussusception on rectal lipoma causing intestinal obstruction is an exceptional situation. Aassouani et al present the case of a 60-year-old male who attended the emergency department for acute abdominal pain with marked abdominal distension and red rectal bleeding.[13] A contrast-enhanced abdominal CT scan was performed, which revealed a rectosigmoid intussusception over the lipoma, leading to intestinal obstruction. The patient underwent partial reduction of the intussusception with partial resection of the sigmoid and end colostomy.

Scheppach et al also present the case of a 61-year-old male patient who underwent a colonoscopy for upper abdominal pain.[14] They observed an endoscopically unresectable ulcerated mass in the transverse colon. The patient spontaneously excreted in the feces a 4.1×3.5×2.8 cm tumor nodule with histological characteristics of a submucosal lipoma four days after colonoscopy. A benign lipoma was surgically confirmed. It is extremely rare for a tumor nodule to be shed in the stool. If the benign nature of the entire lesion is in doubt, standard oncologic procedures are recommended.

Sun et al recruited 51 adults with intussusception, the mean age was 54 years, and 42 patients were diagnosed by abdominal ultrasound and abdominal CT scan.[15] Among them, 76% had abdominal pain, 12% had blood in the stool, and 6% had a palpable abdominal mass. Of these, 63% had malignant tumors 39% and benign 23%. CT is the preferred imaging method with a sensitivity of 92%, while colonoscopy provides a complementary diagnosis in patients involving the colon. All patients underwent surgical treatment, including 22% laparoscopic surgery, 74% open surgery, and 6% intraoperative reduction of intussusception. The overall hospital stay had an average of 16 days.

## CONCLUSION

Colocolonic intussusception can present as a surgical emergency due to intestinal vascular compromise and exploratory laparotomy is necessary to avoid complications such as ischemia, necrosis, and intestinal perforation with consequent intra-abdominal sepsis.

*Funding: No funding sources*
*Conflict of interest: None declared*
*Ethical approval: Not required*

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**Cite this article as:** Cancino LAF, Patiño RO, Guerrero JB, López AAF, Martínez LAA, Vallejo SY, et al. Colocolonic intussusception in an adult secondary to an inflammatory polyp of the transverse colon - clinical case. Int J Res Med Sci 2023;11:1338-42.