



**Case Report**

**A Case of Colo- colic Intussusception Caused by Poorly Differentiated Colonic Adenocarcinoma in an Elderly Patient**

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**Abstract**

**Introduction:** Intussusception, the telescoping of one segment of the intestine into an adjacent portion, is a rare surgical emergency in adults, primarily linked to tumoral processes. The rarity and severity of this condition warrant timely surgical intervention, while the imprecise clinical symptoms often lead to misdiagnosis.

**Case Presentation:** A 58-year-old male patient sought medical attention for persistent abdominal pain and distention over the preceding 2 months. Physical examination revealed a palpable, non-tender, 6x4 cm lump extending up to the epigastrium. Radiological investigations unveiled a 7x6x4 cm soft tissue mass located in the middle third of the transverse colon, causing luminal constriction and stranding of the transverse mesocolon. These findings strongly suggested a neoplastic origin. Additionally, a 7 cm long colo-colic intussusception was identified, with the mass serving as the leading point. Subsequent histopathological examination of the surgical specimen confirmed the presence of a poorly-differentiated colonic adenocarcinoma.

**Clinical Discussion:** Adult intestinal intussusception differs significantly from its pediatric counterpart and presents a diagnostic challenge due to its vague clinical manifestations. Consequently, it is frequently mistaken for other causes of intestinal obstruction and are also known to trigger colo-colic intussusception.

**Conclusion:** This case underscores the importance of recognizing that intussusception can manifest as a surgical emergency, even in elderly patients, necessitating swift surgical intervention to prevent intestinal ischemia and gangrene. The rarity of adult intussusception, especially when associated with colonic adenocarcinoma, necessitates heightened awareness among clinicians and underscores the urgency of appropriate management.

**Key words:** *Colo- colic Intussusception, Elderly patient, Poorly Differentiated Colonic Adenocarcinoma.*

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## INTRODUCTION

An intussusception is a type of bowel blockage in which a segment of the bowel telescopes into the nearby distal bowel (intussusciens) with its mesenteric fold (intussusceptum). Contrary to pediatric intussusception, intestinal intussusception is uncommon in adults, making up just around 5% of all instances [1]. Intussusception affects only 1% of cases of intestinal blockage in adults and is frequently a complication of a pathological illness, but in children it is typically idiopathic [2,3]. According to its location (enteroenteric, ileocolic, or colocolic), cause (idiopathic, benign, or malignant), and presence or absence of a lead point, intussusception can be classified. Colocolic intussusceptions in adults are the least common form of the three types of gastrointestinal intussusceptions, accounting for just 8–19% of cases. Ileocaecal intussusceptions are the most common, followed by entero-enteric intussusceptions. Adult intussusception is most commonly treated with surgical resection since intestinal malignancies are typically the inciting lesion [3,4]. Post-trauma, Meckel's diverticulum, surgical adhesions, lipomas, and adenomatous polyps are a few additional causes [5]. Adult intussusception can appear clinically in a variety of ways. Its preoperative clinical diagnosis is difficult since it rarely exhibits the traditional triad of vomiting, abdominal discomfort, and passage of blood via rectum. The preferred imaging technique for determining the presence of intussusception in adults is abdominal computed tomography (CT). The inner and outer intussusceptums both have "target" or "sausage-shaped" masses as pathognomonic indicators of the disorder [6,7]. We describe a rare instance of colo-colic intussusception in an older patient in this study. An abdominal CT was used to make the patient's diagnosis, which emphasizes the critical need of imaging in the diagnosis of adult intussusception.

## CASE PRESENTATION

A 58-year-old man arrived at the emergency room with the main complaint of insidious onset, colicky, moderately severe, and non-radiating abdominal pain combined with abdominal fullness for the previous 2 months and a lump in the epigastric area. He additionally mentioned a non-bloody diarrheal event that had occurred around three weeks earlier. He had a diminished appetite and inadvertently lost 5 lbs., but he denied having ever had fever, vomiting, nausea, or hematochezia or melanosia. He had no relevant past medical history and no relevant family history. Positive social histories of infrequent alcohol and cigarette use existed with no history of any drug use. The patient was conscious during the examination, and his vital signs were in the normal range. He was afebrile, with a blood pressure of 120/78 mmHg, a pulse rate of 85 beats per minute, a respiratory rate of 17 breaths per minute, and a saturation of 98% in ambient air.

On abdominal examination, there was just mild epigastric discomfort and no rebound or guarding. An ill-defined soft, smooth mass could be palpated on the upper mid abdomen. There was abdominal distention with increased bowel sound with no signs of peritonitis. All the hernial sites were intact. On digital rectal examination, no mass could be felt. Other systemic examinations were found to be normal. Laboratory investigations were within normal limits with hemoglobin of 13 g/dL, total leucocyte count of 9,000/ $\mu$ L, platelets of 2,59,000/ $\mu$ L, serum sodium of 142 mEq/L, serum potassium of 3.5 mEq/L, random blood sugar level of 5.7 mmol/L, urea of 3.5 mmol/L, and creatinine of 74  $\mu$ mol/L. Abdominal CT unveiled a 7x6x4 cm soft tissue mass located in the middle third of the transverse colon, causing luminal constriction and streaking of the transverse mesocolon along with colocolic intussusception involving 7 cm long segment in middle third of transverse colon with mass serving as the lead point of intussusception.

These findings strongly suggested a neoplastic origin. The patient's clinical and imaging results demonstrated that the colocolic intussusception that resulted in the closed-loop intestinal obstruction. Following immediate intravenous fluids and antibiotic administration, the patient underwent nasogastric decompression. A big

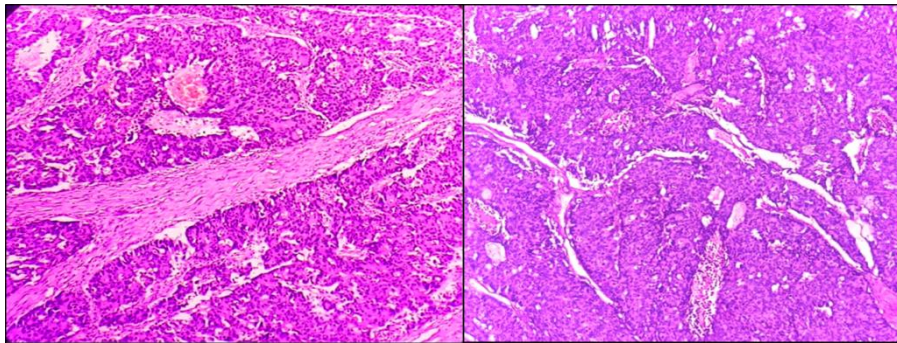
bowel loop invaginating into the transverse colon with a huge colonic mass as the lead point was discovered during an emergency laparotomy. The mass in the colon appeared to be malignant in origin.

Thus, a standard subtotal transverse colectomy was performed and the excised specimen was subjected to histopathological analysis.

Gross examination of the specimen revealed an exophytic, solid mass of size 5.5×4.5×5 cm seen arising from the posterior wall of the transverse colon (Figure 1).



**Figure 1** Transverse colectomy specimen showing segment of transverse colon with colocolic intussusception along with a exophytic solid growth of 5.5x5x4.5cm. Cut section showing solid creamish white areas.



**Figure 2&3** H&E stained section shows sheets of atypical bizarre cells with focal gland formation and intraluminal necrosis.

Histopathological examination of the cut sections from mass showed sheets of atypical bizarre cells along with focal tubular to cystic glands infiltrating the mucosal lamina propria, submucosa, muscularis propria. These glands were lined by pseudostratified columnar epithelium with loss of polarity and nuclear hyperchromasia (Figure 2 & 3). Mitosis constituted 12/10 HPFs and intraluminal necrosis was present. 1 Lymph node was submitted and it was involved by the tumor. This led to the diagnosis of poorly differentiated adenocarcinoma, Grade 3 (pT2 N1 Mx). The post-operative period was uneventful and the patient transferred to the oncology department for further management.

## DISCUSSION

Intussusception is an infrequent cause of intestinal blockage in adults, accounting for 1% of all bowel obstructions and 0.003% to 0.02% of all hospitalizations [8]. It is a serious medical condition that necessitates prompt diagnosis and treatment to avoid intestinal gangrene and death. Any peristaltic action is regarded to be a risk factor for intussusception [9]. In children, intussusception is mostly idiopathic, while in adults, it is typically tied to a specific etiology. More than 80% of cases of gastrointestinal intussusception are caused by a malignant tumor, specifically adenocarcinoma (the most common cause of colorectal carcinomas), as found in our patient [9,10]. Large bowel intussusception is related with malignant tumors in 65-70% of instances, whereas small bowel intussusception is only associated with malignancy in 30-35% of cases [11]. Intussusception with a lead point can manifest clinically in a variety of ways. Patients most typically report intermittent or episodic discomfort, blood in the stool, nausea, and vomiting. Complications such as intestinal blockage, infarction, bleeding, perforation, or peritonitis may alter the clinical picture. Weight loss, melena, constipation, overall fatigue, and a palpable lump on physical examination are all symptoms of a neoplastic condition [11,12]

There was bowel obstruction, weight loss, and a palpable mass on physical examination which suggested the presence of a tumor. Radiological testing can greatly aid in the diagnosis of intussusception. An abdominal X-ray reveals occlusive syndrome-related air-fluid levels and dilated bowel loops. The conventional target sign can be visualized with ultrasonography in a transverse view. With a diagnostic accuracy of 83%, abdominal CT is the most sensitive scan for diagnosing intussusceptions and is recommended more than other radiological investigations such as colonoscopy, ultrasonography, X-ray, and small bowel series [13]. An abdominal CT scan confirms the occlusive syndrome diagnosis and reveals the invagination, its specific location, and cause. Characteristic features of CT include the target-like picture or sausage-image seen in this case in the transverse colon. Due to the high prevalence of intestinal ischemia and gangrene, early surgical intervention is essential immediately after diagnosis [14].

The majority of adult intussusception cases are caused by cancer of the bowel necessitating proper tumor excision [3,5]. On laparotomy, dilated proximal bowel loops with imminent perforation were observed in this case. An exophytic solid mass was discovered intraoperatively in the transverse colon in this patient. The lump was histopathologically diagnosed as a poorly differentiated adenocarcinoma. Nearly 20% of colorectal adenocarcinomas are identified as poorly differentiated carcinoma in practice [14]. Attempts at intussusception reduction prior to resection should be performed only if there is no pathological cause in the intestine.

## CONCLUSION

Intussusception of the colon in the elderly occurs rarely and typically arises secondary to malignancy. This article describes the case of an old man who had colo-colic intussusception secondary to colonic adenocarcinoma. Thus, if a patient has a long history of unexplained stomach pain and weight loss, intussusception should be investigated in the differential diagnosis. At the time of presentation, the workup must include further radiographic examinations, such as an ultrasound or CT scan of the abdomen. Finally, due to the high risk of cancer in the elderly, necessary surgical intervention is required after the diagnosis of intussusception.

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