

An unusual cause of adult transverse colonic intussusception with obstruction: Multiple large submucosal lipomas in a 50-year-old male

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Abstract

Intussusception is a gastrointestinal condition that predominantly affects the pediatric population. Although uncommon, it can occur in adults and is typically due to a pathological lead point that causes telescoping of the intestine during peristalsis. In this case, a 50-year-old male

presents with abdominal pain, distension, diarrhea, and unintentional weight loss, which was revealed to be caused by intussusception that originated at a cluster of submucosal lipomas in the transverse colon. This patient had recently immigrated to the U.S. from Africa, and had missed his colorectal screening, which is recommended at age 45 for every person. It is crucial to accurately screen for, diagnose, and surgically treat this condition to prevent downstream complications such as bowel infarction or perforation.

Keywords : TransverseColon, Intussusception, Submucosal-Lipoma, IntestinalObstruction, ColonCancerScreening, CancerScreening

Case Presentation

A 50-year-old male with a medical history notable for hypertension and recent immigration from Africa presented with a three-week history of worsening abdominal discomfort. The pain, characterized as crampy, was primarily centered around the periumbilical region but occasionally radiated towards the left flank. During this period, the patient experienced unintentional weight loss of 15 lbs. and alternated between episodes of constipation and diarrhea. Despite these symptoms, he continued to pass flatus and had occasional diarrhea.

Two weeks prior to his current presentation, the patient had sought medical attention in the emergency department (ED) for similar abdominal pain, primarily in the epigastric area. During that visit, he was diagnosed with a herniated disc and prescribed muscle relaxants. Notably, there was no history of nausea, vomiting, cough, fever, bloody bowel movements, or blood in his urine. Approximately a decade earlier, he had undergone hernia repair surgery. Importantly, he had no history of smoking, alcohol consumption, or illicit drug use. Additionally, there was no known family history of colon cancer; most family members had succumbed to unknown causes. Notably, the patient had never undergone a colonoscopy [1].

Upon physical examination, the patient displayed abdominal distension and tenderness, primarily in the right upper quadrant. Laboratory investigations revealed a white blood cell count (WBC) of 7.5, hemoglobin (Hg) level of 12.6, mean corpuscular volume (MCV) of 81.1, sodium (Na⁺) level of 136, potassium (K⁺) level of 3.6, calcium (Ca²⁺) level of 8, and

creatinine (Crt) level of 1. Liver enzyme levels were within the normal range, and lactate levels were 0.7.

A computed tomography (CT) scan of the abdomen and pelvis, conducted with intravenous (IV) contrast, disclosed findings of transverse colon intussusception, proximal bowel obstruction, proximal bowel dilation, and multiple small liver lesions (seen in Figures 1-4). Subsequently, a colonoscopy reported the presence of a frond-like/villous, fungating, and completely obstructing large mass in the transverse colon, raising suspicion of a malignant obstructing mass (seen in Figure 5). Surgical consultation was promptly sought in light of these findings. The patient underwent an exploratory laparotomy, during which an area was identified of intussusception in the transverse colon. A palpable intraluminal tumor was also found distal to the intussusception site. Furthermore, two large mesenteric lymph nodes were identified and subsequently excised for further examination.

The colon was cut out, starting roughly 5 inches away from the hepatic flexure and going all the way to the intraluminal tumor that could be felt. Upon thorough dissection of the resected area, it was revealed that the intraluminal mass consisted of multiple masses, each measuring approximately 4 cm in diameter, akin to the size of a golf ball. Notably, there was no evidence of mucosal penetration, and no signs of infiltration were observed on the serosal aspect. Subsequent to the resection, an anastomosis was performed. Due to the absence of bowel preparation, the midline incision was left open above the fascia, and a wound VAC (Vacuum-Assisted Closure) device was placed. Subsequently, the patient underwent a second procedure to facilitate delayed wound closure and the removal of the wound VAC. The patient had an uneventful postsurgical hospital stay, had the wound vac removed, and was discharged home.

The pathology report yielded important findings, indicating that the two excised lymph nodes exhibited benign and reactive characteristics. Furthermore, the intraluminal mass within the colon was identified as a submucosal lipoma, accompanied by reactive changes and evidence of ischemic colitis (seen in Figure 6). Importantly, all analyzed sections were negative for malignancy. In addition, immunohistochemical stains CD117, DOG 1, and SMA were negative, CD34 demonstrates vessels.

Figure 1

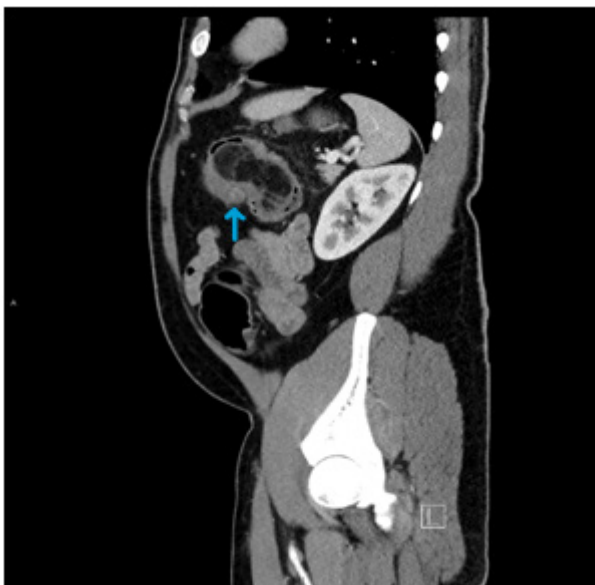


Figure 1: Sagittal section CT abdomen pelvis without contrast (blue arrow is lipoma)

Figure 2

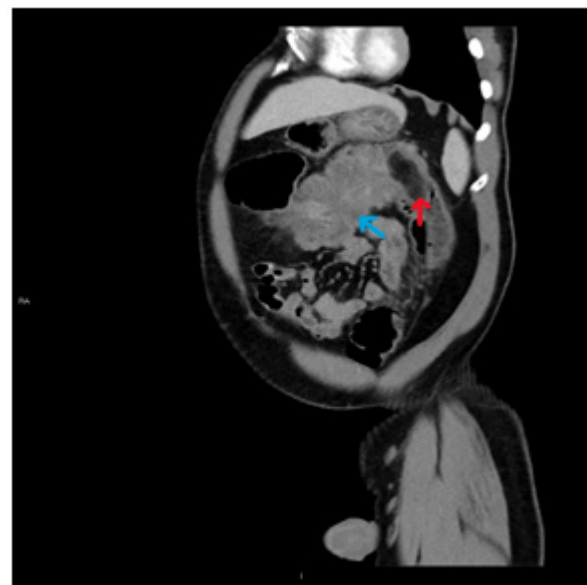


Figure 2 : Oblique coronal section CT abdomen pelvis without contrast (red arrow: intussusception; blue arrow: lipoma)

Figure 3

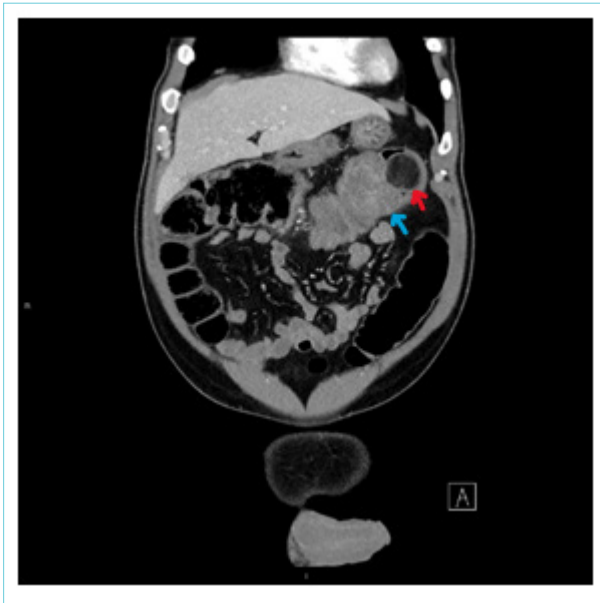


Figure 3: Coronal section CT abdomen pelvis without contrast (red arrow: intussusception; blue arrow: lipoma)

Figure 4

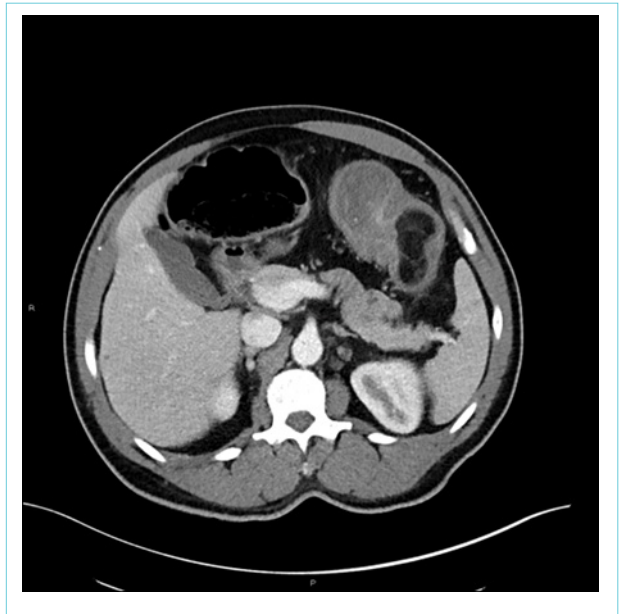
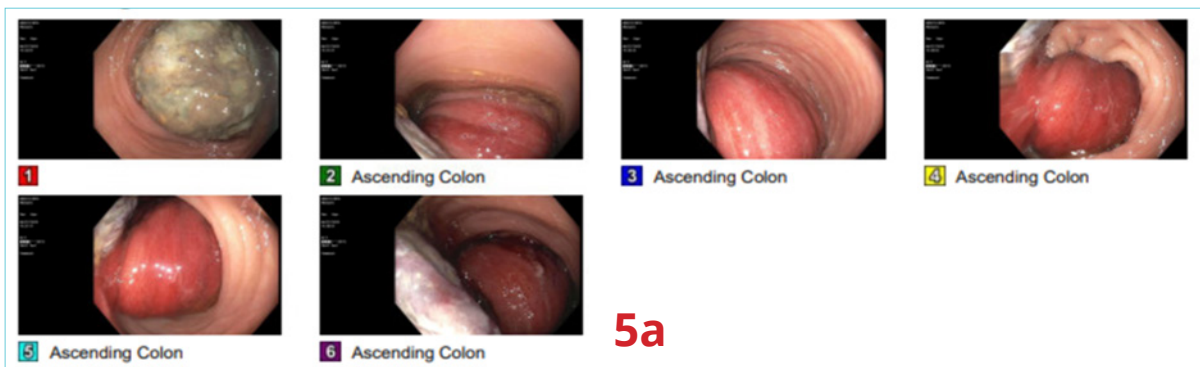
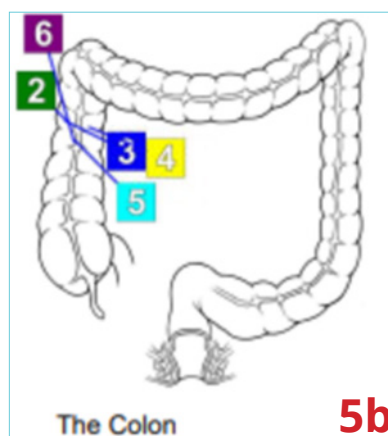


Figure 4 : Axial CT abdomen and pelvis without contrast

Figure 5 : Colonoscopy with a mass in the transverse colon



5a



5b

Figure 6

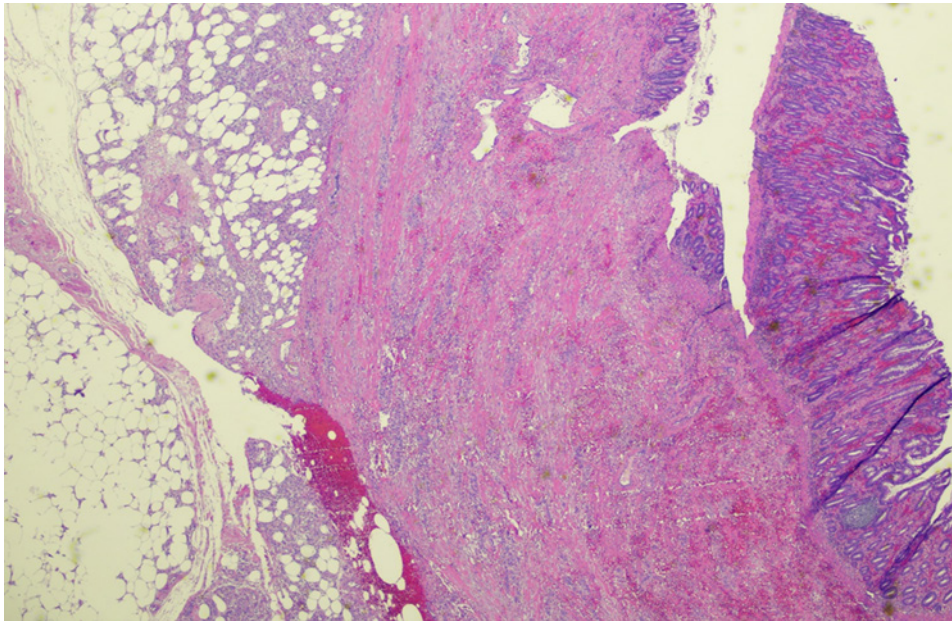


Figure 6 : Pathology showing mature adipocytes in the submucosa, accompanied by reactive changes and evidence of ischemic colitis.

Discussion

This case report emphasizes the significance of taking unusual etiologies into account in cases of adult intussusception by highlighting the uncommon occurrence of adult transverse colon intussusception due to a colonic submucosal lipoma [2-4]. The patient, a 50-year-old male who recently immigrated from Africa, presented with abdominal pain, distension, diarrhea, and weight loss. His case underscores the significance of timely colorectal screening, especially in higher-risk populations.

A physical examination revealed right upper quadrant tenderness and abdominal distension, prompting further evaluation. Laboratory tests showed no specific abnormalities. A contrast-enhanced CT scan identified transverse colon intussusception, proximal bowel obstruction, and multiple small liver lesions, initially raising concerns of malignancy. A colonoscopy revealed an obstructing mass, later identified as multiple submucosal lipomas.

This case aligns with similar reports of colonic submucosal lipomas causing intussusception [5-7]. It underscores the importance of early surgical intervention to alleviate symptoms and prevent complications. Additionally, our findings are consistent with recent studies emphasizing the need for prompt management of adult intussusception [8-9]. Incorporating insights from comprehensive reviews of adult intussusception cases, this case's rarity and unique etiology became evident [10]. While adult intussusception remains infrequent, it can arise from diverse pathologies, including lipomas. Moreover, considering laparoscopic management and early resection of colonic lipomas in selected cases, this case adds to the understanding of treatment options [11-12].

Conclusion

This case underscores the importance of considering colonic submucosal lipomas as potential lead points in adult intussusception cases. Timely diagnosis and surgical intervention are crucial in preventing complications, highlighting the significance of colorectal screening. Continued reporting of such cases contributes to understanding adult intussusception's diagnostic and management challenges.

REFERENCES

1. Rex DK, Johnson DA, Anderson JC, et al. American College of Gastroenterology guidelines for colorectal cancer screening 2009 [corrected]. *Am J Gastroenterol.* 2009;104(3):739-750.
2. Marinis A, Yiallourou A, Samanides L, et al. Intussusception of the bowel in adults: a review. *World J Gastroenterol.* 2009;15(4):407-411.
3. Gayer G, Apter S, Hofmann C, et al. Intussusception in adults: CT diagnosis. *Clin Radiol.* 1998;53(1):53-57.
4. Eisen LK, Cunningham JD, Aufses AH Jr. Intussusception in adults: institutional review. *J Am Coll Surg.* 1999;188(4):390-395.
5. Wang N, Cui XY, Liu Y, Li Y, Li JS. Lipoma causing adult colocolic intussusception: A rare case report. *Chin J Dig Dis.* 2004;5(1):42.

6. Sondela F, Plange-Rhule J, Kwesiga A. A Giant Lipoma: Rare Cause of Colo-Colonic Intussusception. *J Am Acad Physician Assist.* 2021;34(12):e603-e605.
7. Ologun G, Oladele AO, Ologun A, Alayande A, Awolesi K, Ologun AS. Lipoma-Associated Intussusception of the Transverse Colon: A Rare Cause of Adult Intestinal Obstruction. *Cureus.* 2021;13(10):e18261.
8. Patel V, Kataria R, Hinton A. Adult Ileocecal Intussusception and the Role of Timely Surgical Intervention: A Case Report. *Cureus.* 2019;11(2):e4093.
9. Chen CY, Liu YF, Chen CL. Intussusception in adults: 7 years' experience and literature review. *Dis Colon Rectum.* 2003;46(8):1161-1169.
10. Agha FP, Ghahremani GG, Panella JS, et al. Intussusception in adults. *AJR Am J Roentgenol.* 1986.
11. Mori S, Suzuki H, Suzuki Y, Fujishiro M, Ishii E, Koike Y. A case of a lipoma in the colon complicated by intussusception. *Eur J Gastroenterol Hepatol.* 2002;14(6):677-679.
12. Byrne MF, Farrell MA. Intestinal lipomatosis: an unusual cause of recurrent intussusception. *Eur Radiol.* 1999;9(7):1403-1404.