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Ileocolic Intussusception Secondary to a Large Tubulovillous Polyp

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Background	This is a case report of a patient presenting with anemia who was found to have ileocolic intussusception secondary to a large tubulovillous polyp.
Summary	The patient is a 72-year-old male patient who presented with symptoms of anemia and a hemoglobin level of 9.1 g/dL. On colonoscopy, the patient was found to have a large cecal mass. Biopsies were consistent with tubulovillous adenoma. Computed tomography showed a 5.2 cm cecal mass prolapsed into the transverse colon. A laparoscopic converted to open right hemicolectomy with ileotransverse anastomosis was performed, and the patient did well postoperatively. Final pathology showed no evidence of malignancy.
Conclusion	Adult intussusception of the large bowel has a high incidence of malignancy. A full metastatic workup is essential and an oncologic resection is the treatment of choice.
Keywords	Adult intussusception, ileocolic intussusception, tubulovillous adenoma

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The authors have no conflicts of interest to disclose.

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Case Description

The patient is a 72-year-old male with a past medical history of hypertension and hyperlipidemia who presented with symptoms of fatigue and weight loss and was found to be anemic with a hemoglobin of 9.1 g/dL. Subsequently, the patient underwent upper endoscopy and colonoscopy and was found to have a large cecal mass. Biopsies showed fragments of tubulovillous adenoma with foci of high-grade dysplasia. MLH1, MSH2, PMS2 and MSH6 were normal. Preoperative CEA was 1.5.

CT scan showed a cecal mass measuring 5.2 cm prolapsed into the transverse colon, causing intussusception of the ascending colon, terminal ileum, and appendix (Figure 1). On CT, there was a subcentimeter hypodensity in segment 6 of the liver, which was consistent with hepatic cyst on follow-up MRI.

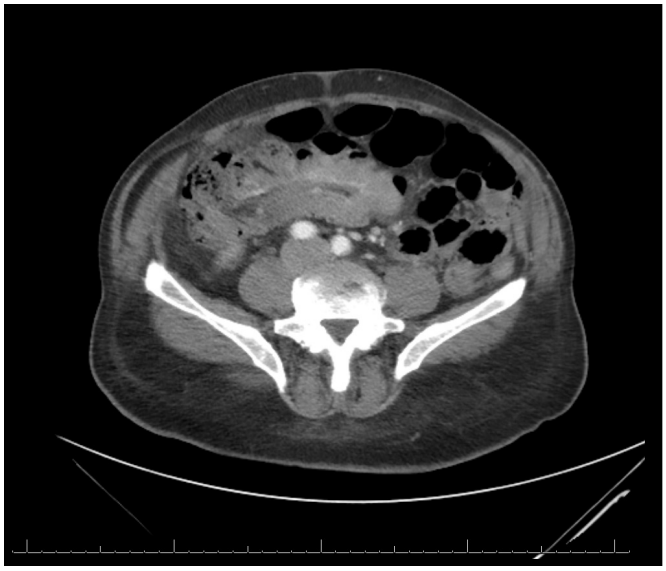

Figure 1. Cecal mass prolapsing into the transverse colon

The patient underwent a laparoscopic converted to open right hemicolectomy with ileotransverse anastomosis. On laparoscopic exploration, no signs of metastasis were noted, and the intussusception of the ileum and cecum into the ascending colon was confirmed. Because of the intussusception, the mesentery was folded on itself, and the ileocolic pedicle could not be isolated laparoscopically. The abdomen was subsequently opened and a lateral to medial approach was used to perform the ileocolectomy ensuring and adequate lymph node harvest. A side-to-side functional end-to-end anastomosis was constructed using a GIA stapler and the mesenteric defect was closed. The patient had return of bowel function on day 2 and was discharged. On outpatient follow-up, his anemia was resolving.

The pathology of the cecal mass was a 9.3 x 7.4 x 5.2 cm sessile tubulovillous adenoma with multiple scattered foci of high grade dysplasia and focal surface ulceration. There was no evidence of invasive neoplasia, and the margins of the specimen were clear. Twelve lymph nodes were all negative for disease. The vermiform appendix showed a simple mucocele with xantho-granulomatous inflammation likely secondary to obstruction of the appendiceal orifice.

Discussion

Intussusception of the bowel occurs when a proximal portion of bowel (intussusceptum) telescopes into the lumen of the adjacent distal segment (intussuscipiens). Adult intussusception is quite rare compared to pediatric occurrences, accounting for only five percent of all cases. The pathophysiology and management of adult intussusception differs from pediatric intussusception due to the fact that a pathologic lesion is present in 70 to 90 percent of cases.[1]

Presentation of intussusception in adults can be acute, chronic, or silent, as in our patient. Adult patients generally present with symptoms of bowel obstruction including nausea, vomiting, and abdominal pain. Guaiac positive stool, weight loss, and a palpable abdominal mass can occur but are less common.[1] Our patient's presentation with anemia, weight loss, and fatigue without any abdominal symptoms is rather uncommon.

Diagnosis of intussusception uses a number of modalities including abdominal films, upper gastrointestinal series, barium enema, ultrasound, colonoscopy, and CT and MRI imaging—abdominal CT imaging is the most sensitive test, with up to 78 percent accuracy.[2] The classic finding is a target shaped mass. There is no standard algorithm for imaging and diagnosis of adult intussusception due to the nonspecific presentation of the disease and numerous underlying types of pathology. Our patient's initial presentation with anemia led to screening colonoscopy, which identified the mass. This was followed up with CT and MRI, with a presumed diagnosis of colon cancer to further evaluate the mass as well as the possibility of metastatic disease. As imaging modalities improve, idiopathic and asymptomatic intussusception are being more commonly diagnosed. Clinical evaluation is important in determining operative management. Patients with a palpable mass, obstructive symptoms, obstruction, gastrointestinal bleed, or a lead point on CT scan warrant an operative exploration.[3]

The definitive treatment of intussusception in adults is surgical resection. The extent of resection is debated in the literature, but often, an oncologic resection is necessary due to the high incidence of carcinoma as the underlying cause.[4] If there is a known benign lesion of the small bowel manual, reduction can be performed with success.[1] The mesentery is often carried forward and trapped between overlapping layers of bowel, which can lead to vascular compromise and ischemic necrosis.[1] In our case, the trapping of the mesentery led to difficult visualization and resection during the laparoscopic approach, which required conversion to an open procedure. An oncologic resection is the standard of care with a working diagnosis of cancer until proven otherwise; our patient turned out to have a large high-grade tubulovillous adenoma in the cecum.

Intussusception is divided into four categories: enteric, colonic, ileocolic, and ileocecal. Ileocolic occurs when the terminal ilium prolapses into the ascending colon, whereas ileocecal occurs when the ileocecal valve acts as the lead point. In a review of 1,048 cases, 64 percent of cases were found to be in the small bowel.[1] Of cases in the small bowel, 63 percent were benign, 14 percent were malignant, and 23 percent were idiopathic. Intussusception of the large bowel accounted for 36 percent of total cases, of which 58 percent were malignant (e.g., adenocarcinoma, lymphoma, and lymphosarcoma), 29 percent were benign (e.g., lipoma, adenomatous polyps, endometriosis and prior anastomosis), and 13 percent were idiopathic.[1]

Benign causes of intussusception in the large bowel are less common. The lead point in our case was due to a large 9.3 cm tubulovillous polyp, which is quite rare. A few isolated case reports of intussusception secondary to tubulovillous adenomas are noted in the literature. In one case, a 90-year-old male presented with symptoms of bowel obstruction for two weeks and a large friable mass protruding from his anus. CT scan revealed cecoanal intussusception, and the patient underwent a subtotal colectomy for a 4 cm tubulovillous adenoma in the cecum.[5] In a second case, a 67-year-old male with one year of abdominal pain was found to have a 5.5 x 4.5 cm tumor in the cecum, which acted as the lead point for appendiceal intussusception. Pathology in this case revealed an underlying well-differentiated adenocarcinoma.[6] Our case differs due to the total absence of abdominal symptoms. Although tubulovillous adenomas are benign lesions, their high risk of dedifferentiating into carcinoma should be weighed in the management, as shown by the second case.

Conclusion

Most patients presenting with intussusception present with symptoms of bowel obstruction, but nonspecific symptoms such as anemia or weight loss can be the only signs of disease. There is a high incidence of malignancy as the lead point in cases of large bowel intussusception; therefore, a full metastatic workup should be considered. In these cases, resection rather than reduction is the treatment of choice. Oncologic principles should be followed with a minimum of 12 lymph nodes for staging. Laparoscopic surgery is desirable, but the complexity of these cases often leads to laparotomy for adequate resection.

Lessons Learned

Intussusception of the bowel in adults is rare. Due to the high risk of malignancy in large bowel intussusception, a full metastatic workup should be pursued, and an oncologic resection should be performed.

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