Colocolic intussusception in an adult
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Section: Abdominal imaging
Area of Interest: Abdomen Colon
Procedure: Diagnostic procedure
Procedure: Biopsy
Procedure: Surgery
Imaging Technique: Conventional radiography
Imaging Technique: CT
Special Focus: Neoplasia Case Type: Clinical Cases
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Patient: 69 years, female

Clinical History:

The patient presented to the ER with a history of mild intermittent upper abdominal pain and involuntary weight loss for the past 6 months. She reported worsening of symptoms 2 days before with constipation, vomiting and abdominal distention. No evidence of peritonitis was present at physical examination.

Imaging Findings:

Plain film of the abdomen was obtained at ER admission and revealed no signs of intestinal obstruction and a normal pattern of gas distribution (Fig. 1). A CT examination was performed for aetiological investigation and revealed focal parietal thickening of the transverse colon serving as leading point for a colocolic intussusception, approximately 15 cm in length, shown by typical bowel-within-bowel appearance on axial images (Fig. 2). Mild dilatation of the ascending colon was noted. We found no evidence of abdominal lymphadenopathy or distant metastases. A small amount of fluid was present in Douglas pouch.

At surgery, no evidence of peritoneal seeding or macroscopic liver metastases was found. A subtotal colectomy was performed and pathology revealed poorly differentiated adenocarcinoma (Fig. 5-6).

Discussion:

Intussusception refers to invagination of a bowel loop and its mesenteric fold (intussusceptum) into the lumen of an adjacent portion of bowel (intussusciptens), resulting from peristalsis [1]. Intussusceptions are classified according to their location (eg. ileoileal, ileocolic, colocolic), cause (benign, malignant, idiopathic) and whether a leading point is present [1, 2]. This entity is rare in adults (5%) and a demonstrable cause can be identified in up to 90% of cases [3, 4]. It is believed that intussusceptions with leading point occurs when a mass in the bowel provokes abnormal peristaltic movement with resultant invagination of the bowel wall [2, 5]. As for intussusception without leading point, its pathophysiology is not well understood, with some authors ascribing them to dysrhythmic bowel contractions [1]. Intussusceptions usually present with mild abdominal pain, nausea and vomiting [1, 2, 5]. Symptoms are usually of a long duration (weeks to months), although the patient may rarely present with an acute abdomen [2]. Since their protracted and vague nonspecific nature, imaging plays a major role in the diagnosis.

Although ultrasound is a reliable imaging method for the diagnosis of intussusception in children, CT imaging is mandatory in adults not only to diagnose, but also to determine the underlying cause and to access for possible
complications [3, 4]. It can also be helpful in distinguishing intussusception with and without leading point and can potentially reduce the prevalence of unnecessary surgery [1]. Three different patterns of imaging appearance have been described at CT: a target-like appearance is seen early, when the beam is perpendicular to the longitudinal axis of the intussusception; a sausage-shaped mass with intervening high and low attenuation areas (representing mesenteric fat and bowel wall) is seen with the beam parallel to the longitudinal axis of the intussusception; finally, a reniform-like appearance (pseudokidney) can develop due to oedema, bowel wall thickening and vascular compromise [2, 3].

Adenocarcinoma is the most common malignancy associated with colonic intussusception and can usually be suspected from an enhancing mass within the bowel invagination (such as the presented case) [1, 3]. Therapeutic options for adult intussusception remain controversial, but surgical treatment is generally required for colonic disease [2, 4]. In the presented patient, the clinical picture of bowel obstruction and suspected colonic mass from CT lead to urgent surgery.

**Differential Diagnosis List:** Colocolic intussusception due to colonic adenocarcinoma., Ischaemic colitis, Idiopathic inflammatory bowel disease, Infectious colitis

**Final Diagnosis:** Colocolic intussusception due to colonic adenocarcinoma.

**References:**


Description: No signs of intestinal obstruction and normal pattern of abdominal gas distribution. No evidence of soft tissue masses was found. Origin: Carvalho A, Department of Radiology, Hospital de São João, Porto, Portugal
Description: Parietal thickening of the colon (arrow, 2a) acting as a leading point for a colocolic intussusception represented by target appearance (arrow, 2b) and sausage-like pattern with alternating areas of low and high attenuation (arrow, 2c). Origin: Carvalho A, Department of Radiology, Hospital de São João, Porto, Portugal
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**Description:** Parietal thickening and enhancement of the transverse colon (blue arrow) and colocolic intussusception show bowel-in-bowel sign (orange arrow). **Origin:** Carvalho A, Department of Radiology, Hospital de São João, Porto, Portugal
Figure 4

a

Description: Segmental colectomy surgical specimen. Origin: Fernandes M, Department of Pathology, Hospital de São João, Porto, Portugal

b

Description: Detailed view of surgical specimen showing vegetating neoplasm (arrow). Origin: Fernandes M, Department of Pathology, Hospital de São João, Porto, Portugal
Figure 5

Description: Poorly differentiated adenocarcinoma (HE, 100x magnification). Origin: Fernandes M, Department of Pathology, Hospital de São João, Porto, Portugal
**Description:** Poorly differentiated adenocarcinoma (HE, 200x magnification). **Origin:** Fernandes M, Department of Pathology, Hospital de São João, Porto, Portugal
Description: Parietal thickening and enhancement of the transverse colon (blue arrow) and colocolic intussusception show bowel-in-bowel sign (orange arrow). Origin: Carvalho A, Department of Radiology, Hospital de São João, Porto, Portugal