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Case Report
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A Rare Case of Cancer on Intestinal Invagination

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Abstract

Introduction: Intestinal intussusception is a rare disease in the adult population compared to children. It can manifest clinically with abdominal pain. We will discuss a case of ileocolic intussusception sustained by adenocarcinoma of the transverse colon in a young woman.

Case Report: A 30-year-old woman visits the emergency room for abdominal pain. The direct abdominal X-ray and abdominal ultrasound raise the suspicion of mechanical occlusion, highlighting signs of hydro-gas overdistention pertaining to the small mesentery on X-ray and a hyperechoic mass with a "target" appearance in the mesogastric region on ultrasound. CT abdomen without and with intravenous contrast reveals an ileocolic intussusception extending up to the distal transverse colon with lymphadenopathy. A transit with gastrografin via rectal probe is performed as a diagnostic and therapeutic procedure without however resolution. The colonoscopy identified a colonic neoformation from adenocarcinoma, for which the patient underwent exploratory laparoscopy and subsequently intestinal resection. The analysis of the surgical specimen confirmed the neoplastic nature of the lesion.

Conclusion: Our experience shows that intussusception, despite the non-specific symptoms, can be diagnosed immediately with an abdominal CT scan without and with intravenous contrast before performing endoscopic and/or surgical tests.

Keywords: Intussusception; Colonic adenocarcinoma; Tomography

Introduction

Intussusception is a rare disease in the adult population compared to the infantile population [1]. It can manifest clinically with abdominal pain, but often presents with intermittent and nonspecific symptoms [2-5]. In most cases it is associated with an organic pathology. We describe a case of ileocolic intussusception caused by an adenocarcinoma of the transverse colon in a young woman who came to the emergency room for abdominal and bowel pain.

Case Presentation

A 30-year-old woman enters the emergency room for abdominal pain, reporting episodes of alternate bowel movements and nonspecific and intermittent symptoms such as nausea and vomiting. The direct abdominal X-ray highlighted overdistension and intestinal fluid and air levels pertaining to the central abdominal small intestine (Figure 1). Ultrasound analysis revealed a gross hyperechoic formation with a "target" appearance in the mesogastric region (Figure 2). In the suspicion of a mechanical occlusion, an abdominal CT scan was performed without and with intravenous contrast medium which highlighted an ileocolic intussusception extending up to the distal transverse colon associated with lymph node enlargement (Figure 3). A transit with gastrografin is subsequently performed using a rectal probe as a diagnostic and therapeutic procedure with regular transit until ileocolic intussusception, confirming the finding without, however, resolution (Figure 4).

The patient therefore underwent a colonoscopy with exploration conducted up to the right colon and interrupted there due to failure of the instrument to progress due to non-reducible torsion of the colonic viscera. In the transverse colon, a spherical vegetative formation measuring approximately 4 cm in diameter is found and subjected to endoscopic marking. Histological analysis identified a colonic neoformation from adenocarcinoma, for which the patient underwent exploratory laparoscopy which confirmed the radiological picture and subsequently underwent intestinal resection surgery. The analysis of the surgical specimen confirmed the neoplastic nature of the lesion (Figure 5).

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Figure 1: Abdomen X-ray: Signs of hydro-gas overdistension of the loops pertaining to the small mesentery.

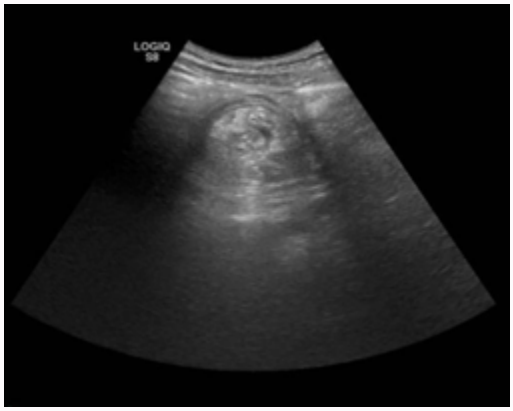

Figure 2: Ultrasonography of the abdomen: "target sign" in transversal scan.

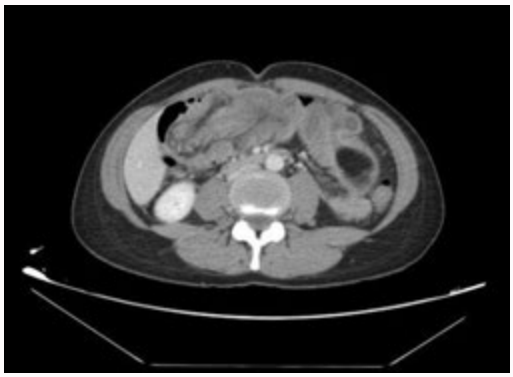

Figure 3: CT abdomen with contrast medium, portal phase, axial scan: Ileocolic intussusception extending up to the distal transverse colon.

Discussion

Intussusception is a mainly pediatric disease that rarely occurs in the adult population [1,2]. In adults it can manifest clinically with abdominal pain, but often presents intermittent and non-specific symptoms such as nausea, vomiting and alternate bowel movements [2-5] suggestive of incomplete intestinal obstruction. In pediatric age, however, it presents with three symptoms: abdominal pain, palpable abdominal mass and small stools.

Figure 4: EnteroCT with gastrografin: Regular transit of the contrast medium until ileocolic intussusception.

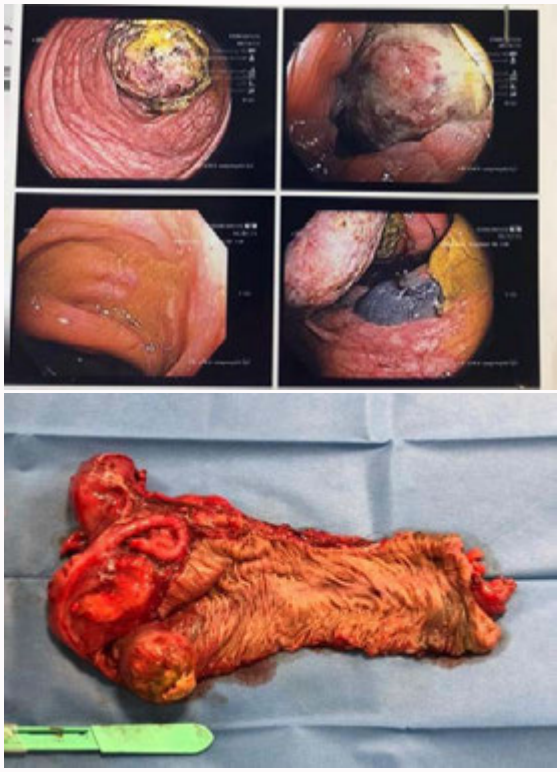

Figure 5: Colonoscopy and histological analysis: on the left, spherical vegetative formation measuring approximately 4 cm in diameter subjected to endoscopic marking; on the right adenocarcinoma of the transverse colon.

Intussusception is divided into primary and secondary. Primary or idiopathic intussusception represents approximately 8% to 20% of cases [3,5,6]. Secondary intussusception occurs more commonly in adults. The exact mechanism is still unknown. It is thought that any lesion in the intestinal wall or lumen that modifies normal peristalsis can trigger the process of intussusception [7]. This causes one segment of intestine to invaginate with its mesentery into the next segment. This phenomenon can cause intestinal obstruction, vascular damage, inflammatory damage, with ischemia and even necrosis [8-10].

The triggering causes can be intraluminal lesions (inflammatory

lesions, Meckel's diverticula and polyps) or extraluminal lesions (adhesions, metastases, lipomas and lymphomas). Malignant lesions are the cause of 30% of small intestinal intussusceptions and 66% of large intestinal intussusceptions [11,12]. The most common malignant neoplasms are lymphomas and adenocarcinomas [13].

Based on the location, intussusceptions are classified into: Enteroenteric, colocolic, ileocolic and ileocecal [8,14,15]. The lesion causing the intussusception can be identified before laparotomy surgery through various imaging techniques. The first level methods are direct abdominal X-ray and ultrasound [1]. These methods allow us to understand the patient's clinical picture in the first instance. In our case, the abdominal X-ray examination allowed us to suspect mechanical occlusion, which was then confirmed by abdominal ultrasound. This examination highlighted the typical signs of intussusception, such as: "the target sign" and "the donut sign" in transverse view and "the pseudokidney sign" in longitudinal view [3,16]. The limitations of ultrasound in this case are intestinal meteorism and operator dependence [3,16,17]. The second level method is abdominal CT without and with intravenous contrast medium. CT allows us to identify the cause and location of the pathology, its possible nature and relationships with the surrounding organs. This information, in addition to allowing the diagnosis, helps the staging of the neoplastic lesion [18]. In our case the abdominal CT was decisive for the diagnosis. Typical cross-sectional features show 3 concentric rings: The lumen of the invaginating intestinal segment as the outer layer, the mesenteric fat as the middle layer, and the canal and wall of the invaginating segment as the inner layer [14,19]. This radiographic pattern has a positive predictive value of 67% to 78% for intussusception [20-22].

After the imaging phase, colonoscopy becomes decisive in the evaluation of intussusception [3], in order to obtain a preoperative diagnosis that will guide the surgical approach [23,24].

Conclusion

Our experience shows that intussusception, despite the non-specific symptoms, can be diagnosed immediately with an abdominal CT scan without and with intravenous contrast before performing endoscopic and/or surgical tests.

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