

Two intussusceptions in a single infant

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Abstract

Acute intestinal intussusception (AII) is the telescoping of one segment of the intestine and its mesentery into the lumen of the adjacent intestine. It is the most common abdominal emergency in young children between 3 months and 3 years old but can occur at any age. We report the case of a 4-month-old infant.

Keyword: Intestinal Intussusception; Infant; Diagnosis; Management

1. Introduction

Intussusception is the most common cause of intestinal obstruction in infants, occurring most frequently in children aged 3 months to 2 years, especially those under 10 months old. The most common form in pediatric age is ileocolic (80%), followed by rare ileo-ileal and colo-colic forms. [1]The combination of two intussusceptions in the same patient has never been described in the literature.

2. Clinical case

It concerns a 4-month-old patient with no notable medical history from a non-consanguineous marriage; admitted to the pediatric emergency department for isolated abdominal pain with vomiting, treated as gastroenteritis. The patient returned to the emergency department 36 hours later with a presentation of rectal bleeding, crying, and vomiting. On clinical examination, the patient was in fairly good general condition with normal-colored conjunctiva. Abdominal palpation revealed an intussusception mass in the hypochondrium and right iliac fossa. The patient underwent laboratory tests which showed a positive CRP and an abdominal X-ray which revealed multiple levels of air-fluid levels. An ultrasound was performed and showed two intussusception images, one colo-colic (Figure 1) and the other grelogrelic (Figure 2).

The decision to operate on the patient was quickly made. Intraoperative exploration revealed two intussusceptions, one ileo-ceco-colic (Figure 3) which was gently reduced, revealing intestinal ischemia with necrotic areas (Figure 4), and the other jejunojejunal which spontaneously reduced. A decision was made to resect the affected area and create a stoma. The postoperative course was uneventful, and the patient underwent stoma closure without any subsequent complications.

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3. Discussion

The diagnosis of intussusception should be considered when a child aged three months to three years, more frequently a boy than a girl, presents urgently with the "classic triad": intermittent abdominal pain; vomiting; and bloody, mucus-like stools, but only 20% of intussusceptions have such a presentation. [1] On the other hand, the vast majority of cases presented with two of the three symptoms of the triad, mainly abdominal pain and vomiting. For some authors, vomiting is replaced in the triad by the presence of a palpable abdominal mass. [1] Clinical manifestations depend on the progression of the disease and thus the degree of strangulation of the involved intestine. If it persists and involves a larger part of the distal ileum, the consequences on intestinal perfusion then become apparent (pain, vomiting, and rectal bleeding. [2] In our case, our patient was misdiagnosed from the beginning, leading to the evolution of her symptoms towards the complete triad. Abdominal ultrasound, performed by an experienced radiologist, is currently the preferred test for confirming the diagnosis of intestinal intussusception. The sensitivity and specificity of this examination are close to 100% [3]. In our patient, ultrasound revealed two images of colo-colonic and grelogrelic intussusception, prompting the decision to operate, which, according to our research, has not been reported in the literature. A plain abdominal radiograph (X-ray) without preparation, despite its very low predictive value, can show an empty area or signs of obstruction. In a 2008 Canadian study involving fourteen pediatric emergency physicians, the X-ray did not change the clinical suspicion of intussusception in 41% of cases. The interpretation of the X-ray by emergency physicians had a false negative rate of 11%, values also found in other studies (4 to 23%) [4]. In our case, the X-ray of our patient showed signs of non-hydroaeric (NHA) indicative of an obstruction. When intestinal intussusception is confirmed by ultrasound and in the absence of complications such as ileus or intestinal ischemia (lack of blood flow on color Doppler or a fluid crescent within the intussusception), treatment with an enema may be considered. However, this was not the case for our patient. A study conducted by Curtis et al.[5] in a tertiary hospital demonstrated that despite a failed reduction by enema performed previously at a referring hospital, their success rate was identical compared to patients treated initially by their team of experienced pediatric radiologists. They therefore conclude that it is advisable to attempt a second enema in a specialized center before considering surgical treatment. Indications for surgical management of intussusception are contraindications to enema (poor general condition, signs of necrosis or intestinal perforation)[5-6]; in our patient, the non-hydroaeric areas (NHA) on X-ray and signs of ischemia necessitated surgical treatment. After reduction, it is important to assess the vitality of the involved intestinal segment and to look for possible perforation to decide if intestinal resection is necessary. According to studies[6-7], the rates of surgical treatments (23%-75%) and resections (5%-39%) vary widely. As an alternative to laparotomy, laparoscopic reduction of intussusceptions has been reported with success rates and postoperative outcomes similar to laparotomy,[8] considering a well-selected patient population: children with an early diagnosis (<1.5 days), without signs of peritonitis, and in the absence of primary intestinal involvement. Unfortunately, the diagnosis of intussusception was made very late in our patient, leading to the realization of a resection with stoma.

4. Conclusion

Despite its low incidence, it is essential to recognize clinical signs suggestive of intussusception as prompt management improves prognosis. A high index of suspicion should be maintained in children under three years with acute abdominal pain, initially intermittent. Waiting for the full "classic triad" of symptoms before conducting diagnostic tests would be a mistake. According to our research the combination of more than one intussusception has never been described in the literature.

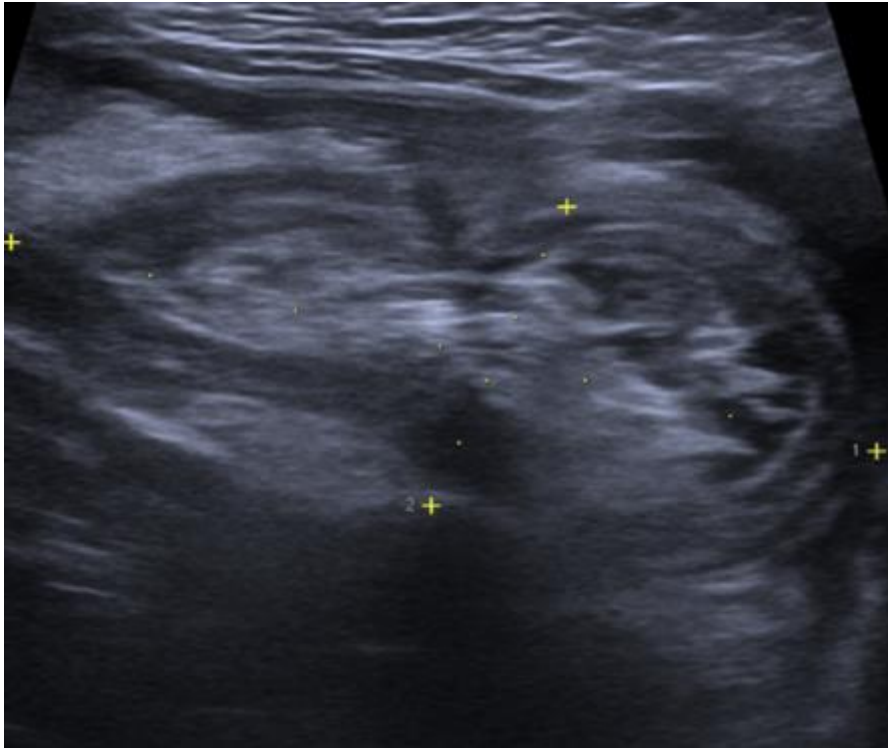


Figure 1 Ultrasound image of an ileoceco-colic intussusception, with D1 measuring 60mm and D2 measuring 23.8mm

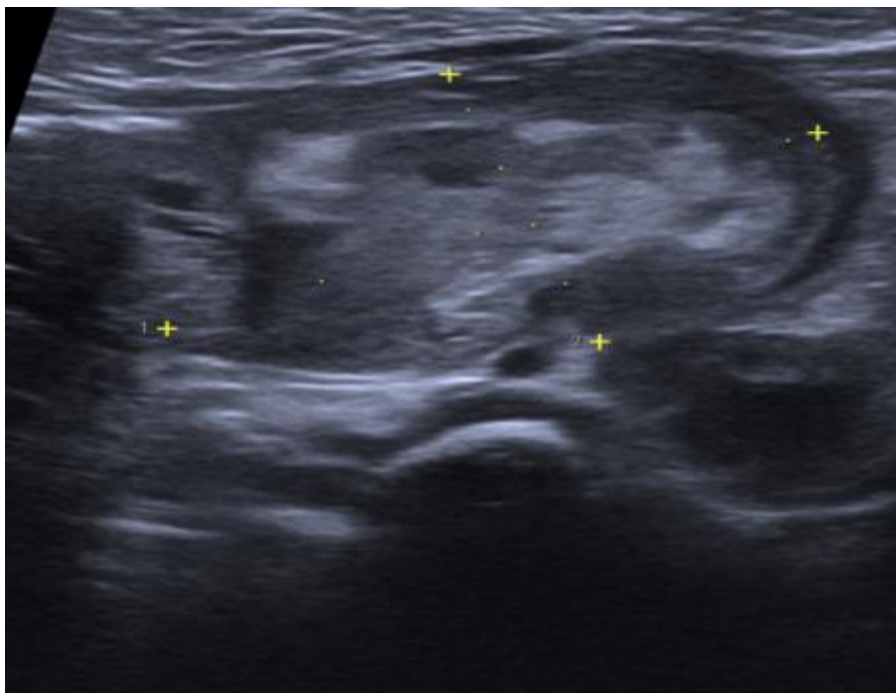


Figure 2 Ultrasound image of an gregolelic intussusception, with D1 measuring 41,5mm and D2 measuring 23 mm



Figure 3 Image of ileocecal-colonic intussusception with signs of distress

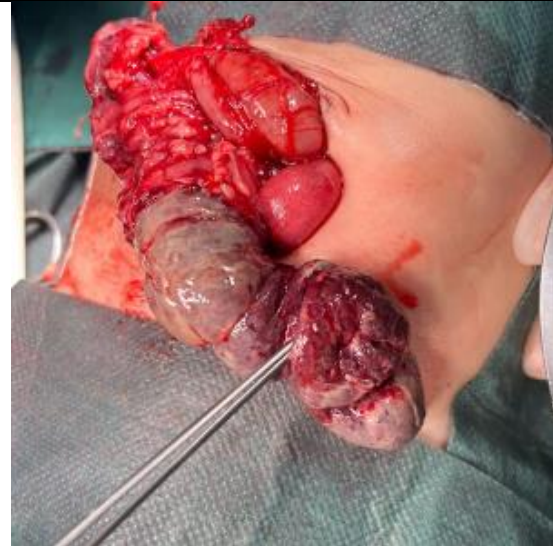


Figure 4 Image after reduction (ischemia).

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Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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