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Transient intussusception without a lead point in adults — a rare condition or a silent cause of common symptoms?

Wgłobienie przemijające bez punktu wyjścia u dorosłych — rzadka jednostka chorobowa czy ukryta przyczyna częstych dolegliwości?

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Abstract

Bowel intussusception is a rare condition in adults. Two types of intussusception determine its cause — with and without a lead point. The former, resulting from an organic cause is more common in adults and usually requires surgical treatment. The symptoms of intussusception include abdominal pain, nausea, vomiting and gastrointestinal obstruction. Additional symptoms may be due to the presence of the pathology that constitutes the lead point of intussusception, such as a tumour or inflammatory intestinal disease. On diagnostic imaging, intussusception appears as a target-sign or sausage-shaped mass. Due to the rare occurrence of intussusception in adults, special attention should be paid to detecting the underlying organic causes of its occurrence. Transient intussusception is generally a non-lead point, occurs incidentally and is not life-threatening. Non-diagnosed periodic abdominal pains in adults can be caused by a transient intussusception of the small bowel. The article presents and discusses two cases of a rare transient non-lead point intussusception that was diagnosed during a CT which subsided or occurred during the consecutive phases of this examination.

Key words: transient intussusception, intussusception without a lead point, small bowel, abdominal pain

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Streszczenie

Wgłobienie jelita jest rzadkim schorzeniem u dorosłych. Istnieją dwa rodzaje wgłobienia, które określają jego przyczynę — z punktem wyjścia i bez punktu wyjścia. Pierwszy z nich, wynikający z przyczyn organicznych, występuje częściej u dorosłych i zwykle wymaga leczenia chirurgicznego. Objawy wgłobienia obejmują ból brzucha, nudności, wymioty i niedrożność przewodu pokarmowego. Dodatkowe objawy mogą wynikać z obecności patologii stanowiącej punkt wyjścia wgłobienia, takiej jak nowotwór lub choroba zapalna jelit. W diagnostyce obrazowej wgłobienie objawia się jako "objaw tarczy" lub objaw "masy kiełbaso-podobnej". Ze względu na rzadkie występowanie wgłobienia u dorosłych szczególną uwagę należy zwrócić na obecność organicznych przyczyn jej występowania. Wgłobienie przemijające najczęściej nie ma punktu wyjścia, pojawia się spontanicznie i nie zagraża życiu. Nierozpoznane, okresowe bóle brzucha u dorosłych mogą być spowodowane wgłobieniem przemijającym jelita cienkiego. W artykule przedstawiono i omówiono dwa przypadki rzadkiego wgłobienia przemijającego bez punktu wyjścia, rozpoznanego podczas badań TK, które ustąpiło lub wystąpiło w kolejnych fazach tego badania.

Słowa kluczowe: wgłobienie przemijające, wgłobienie bez punktu wyjścia, jelito cienkie, ból brzucha

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Introduction

The article presents and discusses two cases of a rare transient non-lead point intussusception of a small bowel that was diagnosed during a computer tomography examination (CT). In both cases, the intussusception subsided or occurred during the consecutive phases of this examination. The patient in case 1 was presenting abdominal symptoms, while the patient in case 2 had no symptoms at that time.

Case presentations

Case 1

A forty-year-old male, without comorbidities and addictions, was admitted to the emergency room (ER) with

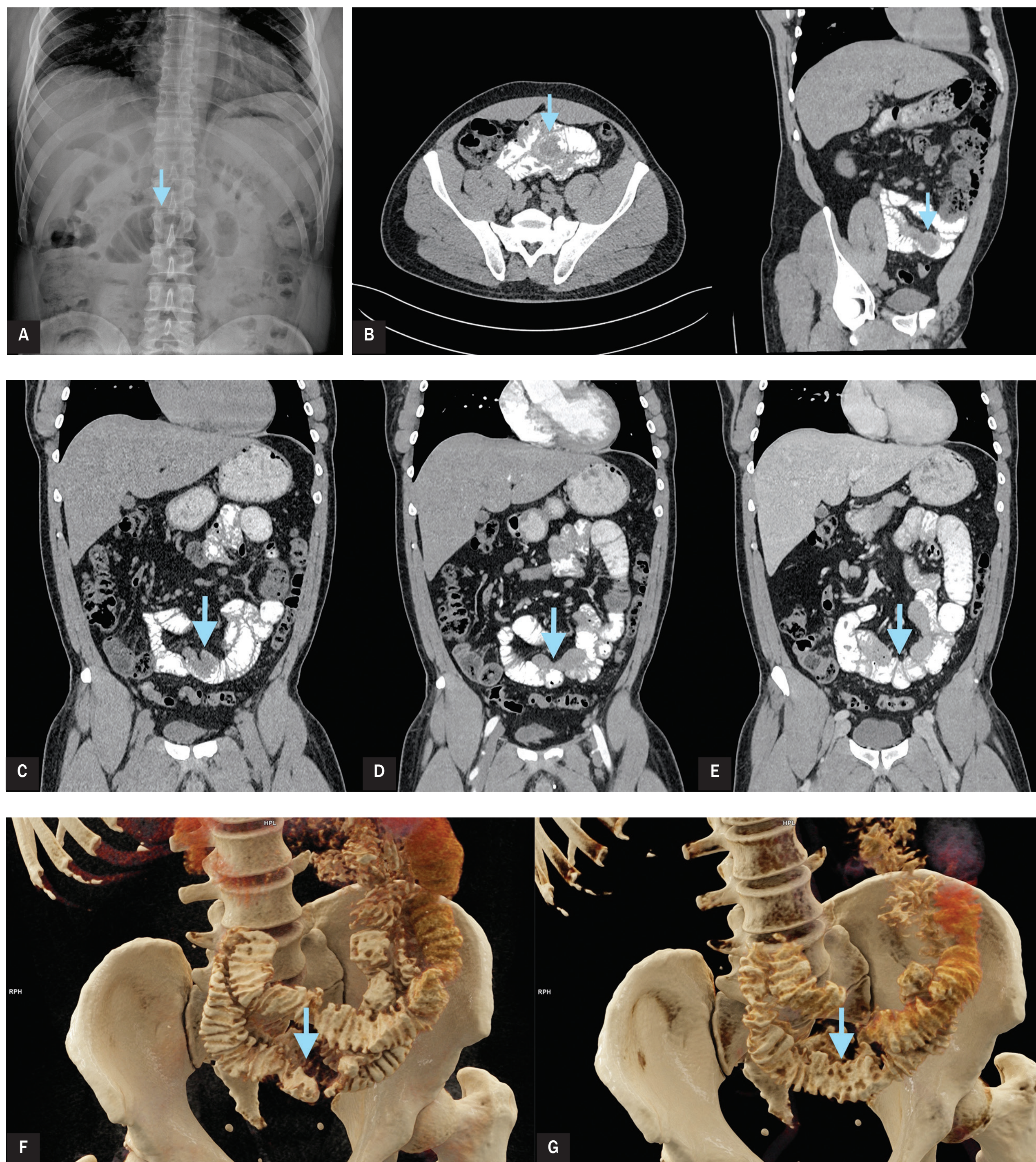

Figure 1. Abdominal X-ray showing dilated small bowel loop in the umbilical area (A). Computed Tomography images showing small bowel intussusception on non-contrast-enhanced scan (B1, B2) and its withdrawal in the following phases after intravenous contrast administration (C, D, E). Virtual Reconstruction of the Computed Tomography images showing segmental lack of contrast in the intestine at non-contrast phase (F) and re-contrasting of the intestine in subsequent phases (G)

a history of severe abdominal pain located in the umbilical and epigastric area for 3 days. The patient had an episode of vomiting the previous day and denied constipation or diarrhoea. No dietary or drug-induced cause of the ailments was determined. On physical examination, the patient's abdomen was tender, displaying peritoneal symptoms, and peristalsis was present. Blood tests, apart from normal, showed elevated (26.6 mg/l) C-reactive protein (CRP) level only. Ultrasound examination (US) did not show significant abdominal pathologies apart from a large amount of intestinal gas. On abdominal X-ray, a single intestinal loop widened to 45 mm with a gas-fluid level was noticed in the umbilical area suggesting a possible small bowel obstruction (Fig. 1A). A CT scan of the patient's abdomen and pelvis was performed with oral and intravenous (i.v.) contrast administration, and revealed dilated small bowel loops to 41 mm and a small bowel intussusception located in the umbilical/mid-hypogastric area. The intussusception was visible only on the non-enhanced phase, with its withdrawal in the arterial and portal phases (Fig. 1B–G). Furthermore, after careful analysis of the CT images, short segmental, medium thickening of the walls of the small intestine just before the ileocecal valve was observed, indicating possible post-inflammatory changes. However, the location of these changes was significantly further from the location of the intussusception. The patient received spasmolytic and analgesic medications and i.v. fluid infusions before the CT and was discharged on his request as the symptoms subsided. Dietary recommendations and follow-up in the clinic were advised to investigate possible inflammatory bowel disease.

Case 2

A sixty-year-old male, with a history of a gastrointestinal stromal tumour (GIST), was admitted to the Radiology Department with a referral from an external clinic for a follow-up CT examination. The patient underwent a wedge gastrectomy due to GIST with simultaneous splenectomy two years before and was experiencing transient and mild

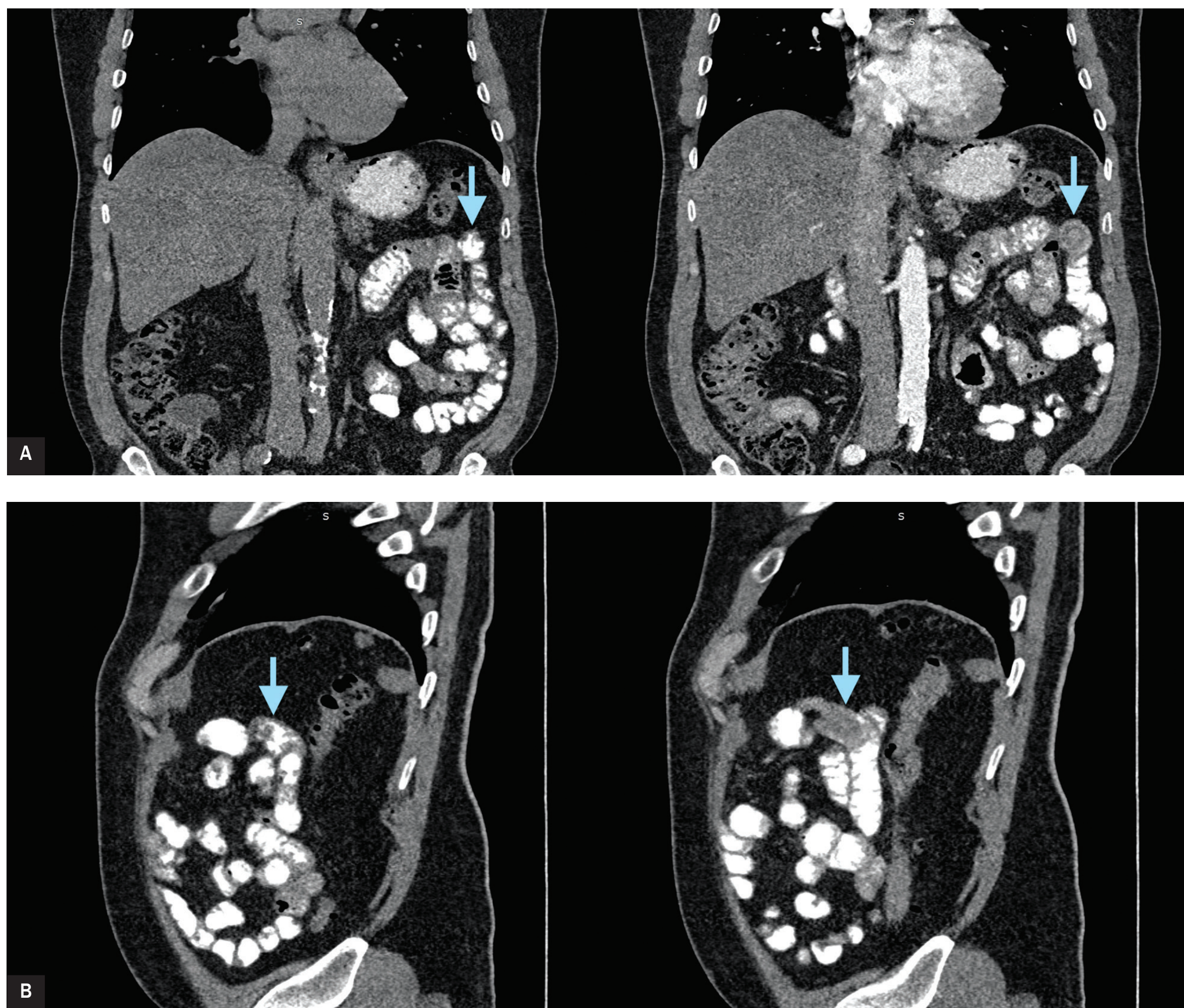

Figure 2. Computed tomography images showing normal small bowel (A1, B1) and a small bowel intussusception on the arterial phase following the intravenous contrast administration (A2, B2) in coronal (A) and transverse (B) projections

abdominal symptoms since the surgery. The CT revealed a transient intussusception of the small bowel in the left epigastric region, seen only in the arterial and venous phases (Fig. 2B). There were no features of the recurrence or dissemination of GIST. Fatty liver, diverticula of the large intestine without the signs of inflammation and kidney cysts were also diagnosed. Although the location of the intussusception corresponded to the area treated surgically, no pathologies were found in the surrounding fatty tissue that would correspond to peritoneal adhesions. The patient was released without any symptoms for further consultation in the surgical clinic.

Discussion

Intussusception is a condition caused by the muff-like invagination of the gastrointestinal tract into the lumen of the adjacent, distal segment [1]. It is a rare condition in adults, accounting for around 5% of all intussusceptions [1, 2]. Two types of intussusception determine its cause — with and without a lead point [1]. The former, resulting from an organic cause, such as the presence of diverticulum, inflammation (Crohn's and celiac disease) or tumour, is more common in adults and usually requires surgical treatment [3–5]. Non-lead point intussusception of the small bowel is the least frequent, responsible for around 8% of all intussusceptions in adults [2, 5].

The symptoms of intussusception, depending on its type and severity, include abdominal pain, nausea, vomiting, and gastrointestinal obstruction [1, 2]. Additional symptoms may be due to the presence of the pathology that constitutes the lead point of intussusception, such as a tumour or inflamed diverticulum. Transient intussusception is generally a non-lead point, occurs incidentally and is not life-threatening. On US and CT intussusception appears as a target-sign or sausage-shaped mass [1]. Non-diagnosed periodic abdominal pains in adults can be caused by a transient intussusception of the small bowel. This condition, without or with an unobvious lead point can sporadically be seen on imaging examinations even when the patient presents no symptoms [1]. Due to the rare occurrence of intussusception in adults, special attention should be paid to detecting its underlying organic causes. There are no clear recommendations regarding the treatment of transient intussusception without a lead point in adults. First of the presented cases and available literature suggest an important role of i.v. infusions and relaxants. Reduction of intussusception with air or barium, similar to that used in children, may only be attempted when other pathologies have been ruled out.

Conflict of interest

None declared

References

1. Kim YH, Blake MA, Harisinghani MG, et al. Adult intestinal intussusception: CT appearances and identification of a causative lead point. Radiographics. 2006; 26(3): 733–744, doi: 10.1148/rg.263055100, indexed in Pubmed: 16702451.
2. Horton KM, Fishman EK. MDCT and 3D imaging in transient enteroenteric intussusception: clinical observations and review of the literature. AJR Am J Roentgenol. 2008; 191(3): 736–742, doi: 10.2214/AJR.07.3741, indexed in Pubmed: 18716102.
3. Lai J, Ramai D, Murphy T, et al. Transient Adult Jejunojejunal Intussusception: A Case of Conservative Management vs. Surgery. Gastroenterology Res. 2017; 10(6): 369–371, doi: 10.14740/gr881w, indexed in Pubmed: 29317946.
4. Wang LT, Wu CC, Yu JC, et al. Clinical entity and treatment strategies for adult intussusceptions: 20 years' experience. Dis Colon Rectum. 2007; 50(11): 1941–1949, doi: 10.1007/s10350-007-9048-8, indexed in Pubmed: 17846839.
5. Marinis A, Yiallourou A, Samanides L, et al. Intussusception of the bowel in adults: a review. World J Gastroenterol. 2009; 15(4): 407–411, doi: 10.3748/wjg.15.407, indexed in Pubmed: 19152443.

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