

Adult Ileocolica and Colocolica Intussusception: A Rare Case Report

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ABSTRACT

Background: Adult ileocolica and colocolica intussusception is a rare entity with a different clinical presentation and etiology than in children. This case report of one patient in Bali, Indonesia, to get a diagnosis and management of adult intussusception. **Case presentation:** Male, 23 years old, complained of pain in the right stomach with a scale of 8/10 VAS and nausea accompanied by vomiting every time he eats and drinks. Laboratory examination showed normal HB levels of 16.1 gr/dL and leukocytosis of 16,080 cells/mm³. CT scan of the abdomen with contrast showed invagination in the ileocolica and colocolica in the ascending colon to the transverse colon without lead point images. The patient underwent an exploratory laparotomy. During the operation, intussusception of the terminal ileum segment to the ascending colon was found without an appendix in it, and intussusception of the ascending colon to the transverse, necrotic in the intestinal segment that experienced intussusception accompanied by adhesions to surrounding organs. Resection of the ileal segment to the transverse colon (extended right hemicolectomy) followed by end-to-end transverse colon ileum anastomosis restored the patient's condition, and no complications were found. **Conclusion:** The combination of low incidence and non-specific symptoms makes intussusception in adults difficult to diagnose. Modern imaging techniques often provide the correct preoperative diagnosis. Suspicion for a malignant lead point should be high in case of colonic involvement, and colonoscopy can be of added value in these cases. The patient's therapeutic strategy mostly involves surgery.

Keywords: adult, colocolica; difficult to diagnose; intussusception; ileocolica.

INTRODUCTION

Intussusception is defined as an invagination of a proximal bowel segment (the "intussusceptum") in an adjacent, more distal segment of the gastrointestinal tract (the "intussusciens") due to an antegrade movement of a culprit lesion or lead point secondary to the bowel wall's peristalsis, pulling on the more proximal bowel segment where the lead point is attached [1–3]. The condition is more common in adults, and here, mostly no underlying lesion can be distinguished, and the problem is often successfully and permanently treated by pneumatic or hydrostatic reduction. Adult intussusception is an even rarer entity, and the incidence, clinical presentation, and etiology of intussusception are different in adults, explaining why the diagnostic workup and treatment are profoundly different between adults and children [3–7].

Intussusceptions can be classified by clinical presentation, by etiology, or according to the part(s) of the intestinal tract involved. First, adult intussusception can present as an acute, subacute, chronic, or intermittent condition.

The duration of the symptoms, often non-specific, can range from hours to more than one year. Recent reports, including our own series, show that an acute presentation in the adult population is common and can occur in more than 50% of the patients [8–10]. Frequent symptoms are (intermittent) cramping abdominal pain, nausea, vomiting, abdominal distension, weight loss, fever, change in bowel activity, hematochezia, and melena. Second, intussusceptions can be distinguished by their causative lead point [11,12]. A well-defined lesion is recognized in up to 93 % of all adult intussusceptions, which often reflects lesions inherent to the intestinal site involved. Cases of adult ileocolica and colocolica intussusception are very rare, with <1% in all cases of intussusception, so we want to report these cases in Bali, Indonesia [13,14].

CASE REPORT

The patient complained of pain in the right abdomen. The pain was felt to come and go and get worse before entering the hospital. Pain is rated on a scale of 8/10 VAS. The patient also complained of nausea accompanied by vomiting every time he ate and drank.

The patient's stomach was said to have been bloated since 1 week ago, which made it difficult every time the patient ate/drank. The patient denied complaints of fever. Pasiin couldn't fart and defecated a little since the pain complaints appeared.

On physical examination, it was found that the patient appeared moderately ill with blood pressure 110/80 mmHg, pulse 88x/minute, respiration 22x/minute, oxygen saturation 99%, room air, and body temperature 36.8 C. On physical examination, abdominal distension was found, tenderness in the stomach was dominant on the right side without muscular defense, and a palpable mass in the right abdomen with unclear boundaries, flat surface, solid, springy, and fixed. Bowel sounds are decreased and tympanic to percussion.

Laboratory examination showed normal HB levels of 16.1 gr/dL, leukocytosis of 16,080 cells/mm³, and platelet levels of 277,000 cells/mm³. A plain abdominal photo shows a large bowel obstruction (Figure 1). CT scan of the abdomen with contrast showed invagination in the ileocolica and colocolica in the ascending colon to the transverse colon without lead points (Figure 2).

The patient underwent an exploratory laparotomy. During the operation, it was found that there was intussusception from the terminal ileum segment to the ascending colon without an appendix in it and intussusception from the ascending colon to the transverse, necrotic in the intestinal segment that experienced intussusception accompanied by adhesions to surrounding organs. It was decided to conduct a resection of the ileal segment up to the transverse colon (extended right hemicolectomy) followed by an end-to-end anastomosis of the ileum of the transverse colon. No operational lead point was found. The specimen was continued with histopathological examination, and the results were acute suppurative colitis. After surgery, the patient was treated in the ICU for 2 days, followed by normal room care. No complications were found during postoperative care. The patient was discharged on the 7th day after surgery in good condition.



FIGURE 1: Plain abdominal photo.

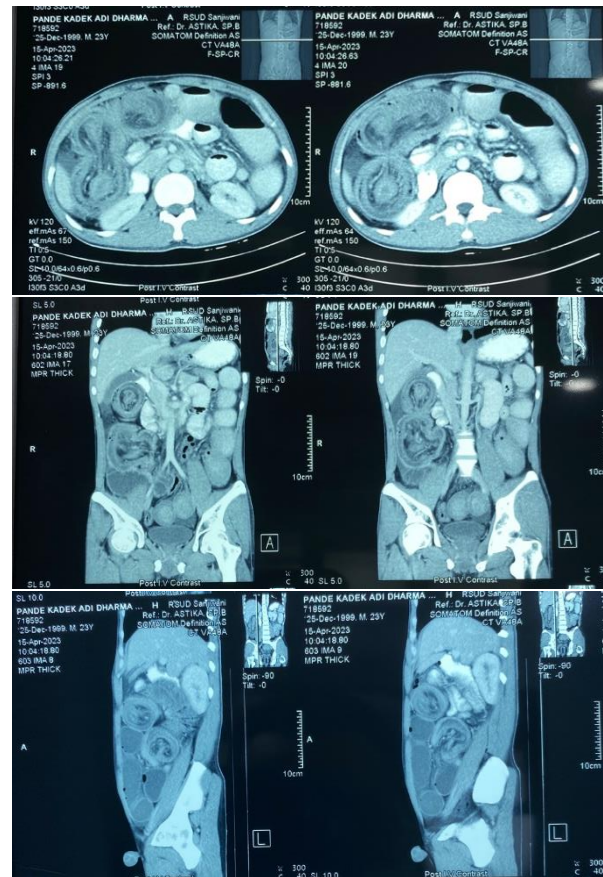


FIGURE 2: CT scan of the abdomen with contrast.

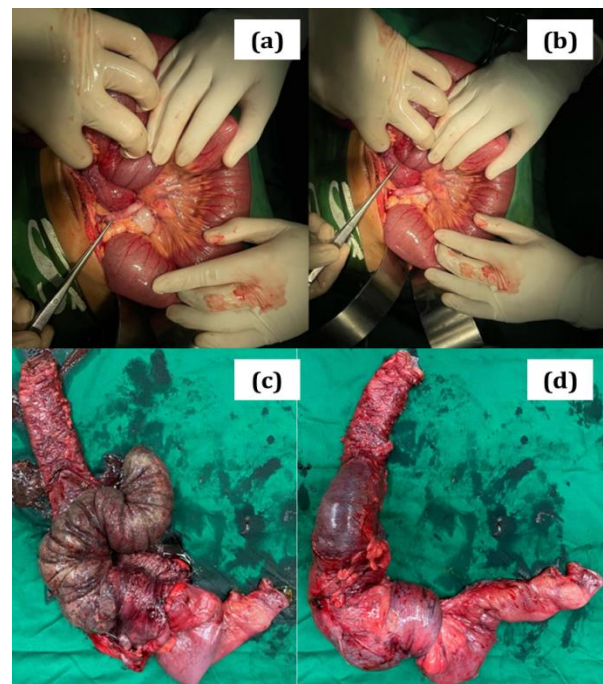


FIGURE 3: Durante operative findings. The appendix can still be identified from the outside (a). Intussusception of the ileum segment into the ascending colon (b) is visible. Resection of the terminal ileum up to the transverse colon, it appears that the ascending colon segment is necrotic (c, d).

DISCUSSION

Intussusception, first described by Paul Barbette in 1674, is defined as the invagination of an intestinal segment (intussusceptum) into the lumen of another adjacent segment (intussusciptiens) [15].

Intussusception is much more prevalent in children rather than in adults, with an overall incidence in the second group of around 2-3 cases per million of the general population per year [16]. Adult intussusception is estimated to account for 5 percent of all age intussusception and contributes to 1-5% of intestinal obstruction [17]. In contrast to the pediatric form, the clinical presentation of adult intussusception is mostly variable and nonspecific. Adult patients often present with intermittent or chronic symptoms indicating incomplete intestinal obstruction. The classic triad of abdominal pain, rectal bleeding, and abdominal palpable mass is rarely encountered [15].

In the case reported, the patient was a 23-year-old male. In research conducted by Tarchouli, 26 patients, 16 males and 10 females, were diagnosed with adult intussusception during the 10 years. The mean age was 45, with a range of 21-70 years. The male-to-female ratio was 1.6:1 [18].

The symptoms in this patient are pain in the right abdomen with a scale of 8/10 VAS and nausea accompanied by vomiting every time he eats and drinks. This is by the Clerk's research, which found that 84% of patients came in with complaints of abdominal pain and 42% of vomiting/nausea occurred [4]. Similar to Tarchouli's research, abdominal pain was 92%, and nausea/vomiting was 85% [18]. Frequent symptoms are (intermittent) cramping abdominal pain, nausea, vomiting, abdominal distension, weight loss, fever, change in bowel activity, hematochezia, and melena. [8,19,20] Adult patients often present with intermittent or chronic symptoms indicating incomplete intestinal obstruction. The classic triad of abdominal pain, rectal bleeding, and abdominal palpable mass is rarely encountered. Most of our patients presented with intermittent abdominal pain and nausea/vomiting, which is consistent with other findings [21,22]. The presence of weight loss may be associated with serious underlying pathology and should alert surgeons to suspect malignancy [23].

Laboratory examination showed leukocytosis of 16,080 cells/mm³. An increase in infection levels indicates a response to infection or inflammation. This incident is similar to Gange's 2020 research, which reported the case of a 32-year-old man with 4-cm segment enteroenteric intussusception without obstruction or signs of ischemia with non-specific bowel thickening proximal to the intussusception. Laboratory evaluation identified a leukocytosis of 16,500 cells/mm³ [24]. Blood examination gives up to 40% evaluated leukocyte level, with left shift on differential until 38%. Anemia is strongly associated with carcinoma as the lead point of intussusception, but the patient has normal Hb in this case [5,25,26].

Despite the evaluation of the radiological procedures, intussusception is diagnosed preoperatively in 14 to 75% of the cases [27,28]. The most important factors in arriving at the correct diagnosis are an awareness of the possibility of this condition existing in any patient with symptoms,

suggesting prior episodes of partial intestinal obstruction, and the vigorous approach toward complete radiographic examination in such patients. CT scan of the abdomen with contrast showed invagination in the ileocolica and colocolica in the ascending colon to the transverse colon without lead point images. Most adult intussusceptions are of the enteric, ileocolic, or colocolic type [12,14,29]. Abdominal CT has been reported as the most useful and sensitive imaging technique, with a reported diagnostic accuracy of 90%, consistent with our findings. Like in sonography, the characteristic images comprise mesentery and oedematous bowel walls. CT can often reveal the causative lesion and show its location, relationship to surrounding tissues, extent, and degree of vascular compromise [1,13,18]. The CT appearance of intussusception is often a complex target-shaped or sausage-shaped inhomogeneous soft tissue mass with an eccentric area of fat density contained within, which represents the mesenteric fat [3,24]. Later, a layering effect occurs due to longitudinal compression and venous congestion in the intussusceptum. Multislice CT facilitates the assessment of vascular supply to the affected bowel loop in cases of intussusception where impending ischemia is suspected. Especially in cases where a malignancy is suspected, CT can be useful for diagnosing the surrounding area [2,10,13].

The patient underwent an exploratory laparotomy and resection of the ileal segment up to the transverse colon (extended right hemicolectomy), followed by an end-to-end anastomosis of the ileum of the transverse colon. Laparoscopy, although not an imaging study, is an excellent evaluation tool when intussusception is suspected in a patient with bowel obstruction [6,11]. It allows for identifying the location, the nature of the lead point, and the presence of a compromised bowel. It aids in choosing an appropriate location for the incision to minimize length. Laparoscopic surgery may be applicable as a less-invasive method, but not in acute bowel obstruction [1]. The sensitivities of the different radiological methods are abdominal ultrasounds (35%), upper gastrointestinal barium study (33%), abdominal computed tomography (58-100%), barium enema (73%), and colonoscopy (66%) [27,28,30].

Many therapeutic interventions have been tried for the treatment of adult intussusception, which varies from conservative treatment to various surgical procedures. Treatment is almost always surgical in adults when compared to children and invariably leads to resection of the involved bowel segment with subsequent primary anastomosis [22,27]. The choice of a laparoscopic or open approach depends on the patient's clinical condition, the location and extent of intussusception, the possibility of underlying disease, and the availability of surgeons with sufficient laparoscopic expertise. Emergency operations are necessary in about 35-60% of all adult patients with intussusception [22,23]. For all patients who present with signs of perforation, shock, or peritonitis, immediate laparotomy is necessary.

In the absence of these signs, the majority of adult patients are brought to the operating room with the preoperative diagnosis of bowel obstruction and an intussusception seen at the time of exploration [9,25,26]. Unlike in children, preoperative reduction with barium or air should not be recommended as a definitive treatment in adults. Overall, the type of surgical intervention depends on the cause of intussusception (benign or malignant), patient age, functional status, medical history, and intraoperative findings (a gangrenous bowel or perforation with peritonitis; location and length of intussuscepted segment). The main problem is distinguishing benign and malignant lesions preoperatively [5]. Patients with malignant disease may undergo major surgery, including resection of the involved segment and regional lymph nodes, while patients with benign lesions may undergo simple resection. Usually, the histological diagnosis is arrived at only after the tumor excision. Intraoperative histopathology is an important examination for selected doubtful cases of adult intussusception, which can also assist in guiding the exact diagnosis and optimized surgical treatment planning [27,28].

Recently, minimally invasive techniques such as endoscopic procedures and laparoscopic small and large bowel resections have been applied to the treatment of small or large bowel obstruction and intussusception [6,14]. The mini-laparotomy approaches have many advantages over conventional laparotomy. In specific situations, of both the large and small intestine intussusceptions of benign etiology, an adhesiolysis, appendectomy, enterotomy, polypectomy, or diverticulectomy is the sufficient treatment after reduction providing the bowel is viable, but a polypectomy through a limited colotomy or enterotomy is done through an edematous bowel, with an increased theoretical risk of a leak. Gastroduodenal and coloanal intussusceptions are extremely rare and may require innovative surgical techniques. The optimal management of adult intussusception remains controversial, but in any case, it should be cut out [1,13,18].

The patient was found to have no complications and could recover after treatment. Intussusception itself has a good prognosis and depends on the cause. Mortality for adult intussusceptions increases from 8.7% for benign lesions to 52.4% for malignant causes. Intussusception-associated infant mortality rate accounts for up to 2.3 per 1,000 000 live births. The risk of mortality depends on bowel obstruction, complications, urgent surgery, and associated malignancy but not on intussusceptions themselves. In children, if left untreated, intussusception can cause severe complications directly related to when the intussusception occurs until it is treated. Most patients who were treated within the first 24 hours recovered completely [3,6,24,27].

Further delay increases the risk of complications, which include bowel ischemia, necrosis and perforation, infection, and death (untreated for 2-5 days). Mortality with treatment is 1-3%. Recurrence of an adult intussusception after surgical treatment

is a rare condition. Most recurrences involved intussusceptions that were reduced with contrast enema [9,27,28].

CONCLUSIONS

Adult intussusception is a rare entity that produces various symptoms, making it a clinically difficult-to-diagnose disease. In most cases, a preoperative diagnosis of intussusception is made using sonography and/or CT-scan. Acquiring the final diagnosis necessitates further biochemical, endoscopic, surgical, and/or histopathologic work-up. In the case of symptomatic intussusception, a culprit lesion is usually identified after a careful search. The patient's therapeutic strategy mostly involves surgery.

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