

Adult Intussusception

Abdulaziz Almutawea, MD, MSc, BSc* Mirza Faraz Saeed, MBBS, MS, FICS, FMAS**
Ahmad Mohamad Mellegy Nassar, MD***

A sixteen-year-old male presented with a history of abdominal pain and vomiting for two days. CT scan revealed ileoileal intussusception and volvulus with free fluids. Exploratory laparotomy revealed gangrenous bowel. Intussusception and volvulus found approximately 10 to 15 cm away from the ileocecal valve. The gangrenous bowel segment was resected using a stapler. The patient had an uneventful recovery.

Adult intussusception is rare and differs from pediatric intussusception in presentation, etiology and management. The diagnosis could be delayed due to its non-specific, intermittent and longstanding symptoms. The majority of the cases are diagnosed during emergency laparotomy. A CT scan could be helpful in making the diagnosis earlier. In adults, simple bowel resection is the best modality of treatment. Recently, most surgeons recommend surgical resection, especially in colonic cases, where malignancy is usually present. The extent of resection and reduction of the intussusception is still controversial.

Bahrain Med Bull 2016; 38(4):245 - 246

Intussusception occurs when a proximal bowel segment (intussusceptum), usually small bowel, invaginates into the adjacent distal bowel (intussuscipiens). Taraneh Azar et al found that this condition is rare in adults, affecting approximately 1% of patients with bowel obstructions and 5% of all intussusceptions^{1,2}. In the pediatric age group, the majority of the intussusceptions are idiopathic compared to organic causes in 70% to 90% of intussusceptions in adults³⁻⁶.

The definite pathophysiology behind intussusceptions is not clear. However, one possibility is that if a lesion is present within the lumen, with the presence of food and peristaltic activity, would cause a narrowing above the stimulus and relaxation below; as a result, the lead point (intussusceptum) would telescope to the distal bowel^{4,7}. A child with intussusception usually presents with acute illness and adults usually present late with chronic symptoms. For this reason, the diagnosis is difficult in adults. Most adults would be labeled as having irritable bowel syndrome. In children, the presentation is clearer as it is associated with intermittent colicky pain, blood and mucus in the stool, and a palpable abdominal mass⁸. The best modality for diagnosis is CT scan, which reveals the characteristic "target" lesions. Ultrasound is the next diagnostic tool^{4,9}. In adults, surgical resection is the recommended treatment, as the risk of malignancy is high. Adult intussusception occurs infrequently and has significant difference compared to pediatric intussusception in etiology.

The aim of this presentation is to evaluate timely useful diagnostic modalities and proper surgical interventions in adult intussusception.

THE CASE

A sixteen-year-old male with no known medical illness presented with a history of abdominal pain and vomiting for two days. The patient presented to the emergency department with abdominal pain one day before; the patient was managed conservatively and discharged with instructions to return if symptoms did not improve. The pain was intermittent in the epigastric region, not radiating to any other area. On the day of admission, the pain was severe and continuous, tense, slightly distended and the abdomen was very tender. He vomited greenish watery vomitus ten times. The patient could not tolerate oral intake and was complaining of anorexia. There was no history of nausea or fever. The temperature was 37°C, blood pressure was 133/88 mmHg, the pulse rate was 85 beats per minute, respiratory rate was 15 breaths per minute and the oxygen saturation was 100% on room air. The abdomen was soft but slightly tender all over, mainly in the epigastric region. Bowel sounds were positive. Laboratory tests were within normal limits: WBC 10,000, hemoglobin 15.7. X-ray abdomen showed fecal load. Previous surgical history was positive for appendectomy performed five months ago.

CT scan revealed ileoileal intussusception and volvulus with free fluids. Exploratory laparotomy revealed gangrenous bowel. Intussusception and volvulus found approximately 10 to 15 cm away from the ileocecal valve. The gangrenous bowel segment was resected using a stapler. The rest of the procedure was unremarkable. The patient had an uneventful recovery and was discharged after six days.

* Senior House Officer

** Registrar

*** Consultant, General Surgeon
Department of General Surgery
King Hamad University Hospital
The Kingdom of Bahrain
Email: abdulaziz.almutawae@khuh.org.bh



Figure 1: CT Coronal Section Showing the Intussusception



Figure 2: CT Scan from Another Angle

DISCUSSION

Intussusception is a rare cause of acute abdomen in adults; it represents 1% of bowel obstructions and 0.003% to 0.02% of all hospital admissions¹⁰. Intussusception in adults differs from pediatric intussusception in various aspects. The majority of the cases occurs in the small or large bowel in approximately 90% of the reported cases; the rest involves the stomach or the surgically made stoma in adults⁹. Most of the adult cases are found in females. Sixty-six percent of lead points in the small bowel tend to be benign compared to 30% in the large bowel¹¹⁻¹².

In the pediatric age group, intussusception presents with abdominal pain, palpable abdominal mass and red current-jelly like stool. On the other hand, intussusception in adults presents with atypical symptoms which would make the diagnosis more difficult. The symptoms in adults include an abdominal pain on and off, vomiting, nausea, diarrhea associated with bleeding and in some cases, abdominal mass was reported¹³.

There are several radiological investigations to diagnose intussusceptions. These modalities include abdominal X-ray, ultrasound, CT scan and MRI. Recently, CT scan has become the diagnostic modality of choice for intussusception in adults¹⁴. A study revealed that abdominal CT scan could have a diagnostic accuracy of 83%. For the previously mentioned reasons, CT scan has become the preferred modality for diagnosing intussusception compared to colonoscopy, ultrasonography or X-rays.

CONCLUSION

In intussusception, a part of gastrointestinal tract slides into another neighboring portion. It is rare in adults and varies in presenting symptoms, making the diagnosis more difficult. The best diagnostic tool is CT scan. Surgical resection is the preferred modality of treatment in adults and should not be delayed.

Author Contribution: All authors share equal effort contribution towards (1) substantial contributions to conception and design, acquisition, analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content; and (3) final approval of the manuscript version to be published. Yes.

Potential Conflicts of Interest: None.

Competing Interest: None.

Sponsorship: None.

Acceptance Date: 23 October 2016.

Ethical Approval: Approved by the Research and Ethics Committee, King Hamad University Hospital, Bahrain.

REFERENCES

1. Laws HL, Aldrete JS. Small-Bowel Obstruction: A Review of 465 Cases. *South Med J* 1976; 69(6):7334.
2. Stewardson RH, Bombeck CT, Nyhus LM. Critical Operative Management of Small Bowel Obstruction. *Ann Surg* 1978; 187(2):189-193.
3. Briggs DF, Carpathios J, Zollinger RW. Intussusception in Adults. *Am J Surg* 1961; 101:109-113.
4. Peh WC, Khong PL, Lam C, et al. Ileoileocolic Intussusception in Children: Diagnosis and Significance. *Br J Radiol* 1997; 70(837):891-6.
5. Azar T, Berger DL. Adult Intussusception. *Ann Surg* 1997; 226(2):134-8.
6. Nagorney DM, Sarr MG, McIlrath DC. Surgical Management of Intussusception in the Adult. *Ann Surg* 1981; 193(2):230-6.
7. Yakan S, Caliskan C, Makay O, et al. Intussusception in Adults: Clinical Characteristics, Diagnosis and Operative Strategies. *World J Gastroenterol* 2009; 15(16):1985-9.
8. Omori H, Asahi H, Inoue Y, et al. Intussusception in Adults: A 21-Year Experience in the University-Affiliated Emergency Center and Indication for Nonoperative Reduction. *Dig Surg* 2003; 20(5):433-9.
9. Stubenord WT, Thorblamerson B. Intussusception in Adults. *Ann Surg* 1970; 172(2):306-10.
10. Coleman MJ, Hugh TB, May RE, et al. Intussusception in the Adult. *Aust N Z J Surg* 1981; 51(2):179-80.
11. Eisen LK, Cunningham JD, Aufses AH Jr. Intussusception in Adults: Institutional Review. *J Am Coll Surg* 1999; 188(4):390-5.
12. 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):1941-9.
13. Ouyang EC, Stockwell D, Carr-Locke DL. Ileocolonic Intussusception. *MedGenMed* 2005; 7(3):15.
14. Balik AA, Ozturk G, Aydinli B, et al. Intussusception in Adults. *Acta Chir Belg* 2006; 106(4):409-412.