

## Post-operative Intussusception, a rare case in pediatric, National Center for Paediatric Surgery, Gezira State, Sudan; 2021

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### Abstract

Intussusception is defined by Treves in 1899 as invagination of segment of bowel into adjacent segment usually proximal into distal. It's a common cause of abdominal emergencies especially in children two years of age and younger. It accounts for 1 in 2000 infants and children and results in intestinal obstruction. Post-operative intussusception is one of the rare etiologies of intestinal obstruction that represents 0.01 to 0.25% after laparotomies and 5 -10% of all early postoperative intestinal obstructions. Our case is a ten years old female presented to the National Center for Pediatric Surgery; Gezira state; Sudan; February 2021 complaining of abdominal distention and constipation for 6 days. She had past history of acute appendicitis due to which she underwent emergency opened appendectomy. Her condition started one day after appendectomy. O/E : patient looks ill, febrile, not pale or jaundice; PR:140b/m; RR:25c/m; abdominal examination show: distended abdomen with full flanks, unhealed lanz incision with small amount of pus discharge; no dilated veins or visible peristalsis; hernia orifice were intact; lower abdomen was tense & tender; no palpable mass; DRE: rectum contains impacted hard stool. Emergency explorative laparotomy was done. Findings: Ileocecal intussusception, bowel was healthy and viable. Simple reduction was done. Conclusion and Recommendations: Post-operative intussusception usually associated with bowel ischemia and necrosis which is not consistent with our case. We highly recommended abdominal ultrasonography, CT scan; when there is a high index of suspicion.

**Keywords:** Post-operative Intussusception; National Center for Paediatric Surgery; Sudan

### 1. Introduction

Intussusception is defined by Treves in 1899 as an invagination of segment of bowel into adjacent segment, usually proximal into distal. It was first reported in 1674 by Barbette of Amsterdam. Two hundred years later, Sir Jonathan Hutchinson performed the first successful operation on a child with this condition in 1871. It's a common cause of abdominal emergencies especially in children two years of age and younger. Its accounts for 1 in 2000 infants and children and results in intestinal obstruction [1-8]. Intussusception is a common pediatric emergency where in adult it's rare and account for less than 5% of all cases. Ninety percent of Adult intussusception usually results secondary to pathological conditions such as polyps and neoplasm that serve as a lead point [6, 10]. It usually occurs between 6 to 18 months old while the incidence decreases after 2 years of age and represents 30% of cases [1, 3]. The underlying mechanism of intussusceptions is remaining unknown in 90% of cases but any lesion can serve as lead point in developing its process. In young children, it can result also from enteric infections, Meckel's diverticulum, small bowel lymphoma, Henoch-Schonlein purpura, cystic fibrosis, as well as post-operative and posttraumatic intussusceptions

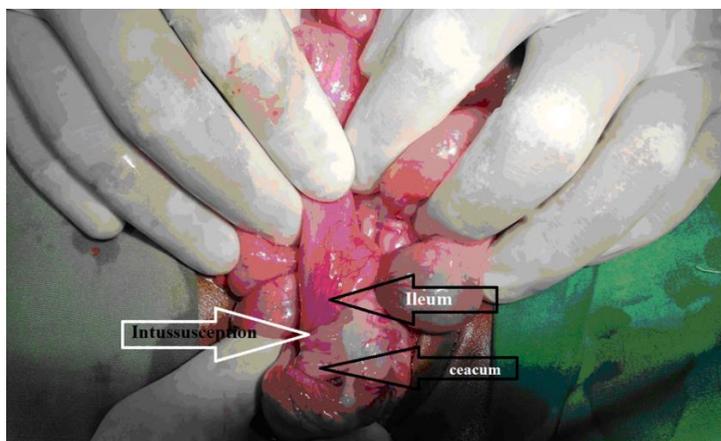
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which are very rare conditions [1-5, 10]. Ileocolic intussusception is the most common type in pediatrics. It commonly involves the region of ileocecal valve, with no identifiable lead point. Other type of rare intussusception is involving: ileo-ileal, colocolic, and ileoileocolic that can be associated with lead point like colocolic intussusception usually associated with a lead point such as polyp or tumor mass and juvenile polyps. Lead point commonly associated with neonates, older children, and case related to the small intestine. Colocolic intussusception in the adults is usually result as complication of underlying colonic disease, usually carcinoma or polypoid tumor. Pediatric patients presenting with documented colocolic intussusception should suggest the possibility of a colonic polyp or other mass lesions [3, 5, 7]. Post-operative intussusception is one of the rare etiologies of intestinal obstruction account for 0.01 to 0.25% after laparotomies and 5 -10% of all early postoperative intestinal obstructions [11-14]. POI usually occurs following abdominal surgeries including GIT surgery, post retroperitoneal dissections and tumor resections, diaphragmatic procedures, and extensive bowel manipulation and can occur following blunt abdominal trauma [4]. The clinical features varies from acute and progressive to chronic and protracted with intermittent symptoms, it usually appears within two weeks postoperatively in 90% of cases unlike adhesive intestinal obstruction which usually appears after more than 2 weeks [2, 14]. Patient usually presents with abdominal pain and distention, bilious vomiting, high nasogastric tube output during the first two weeks postoperatively in 90% of patients [11]. Non bilious vomiting is a significant symptom in pediatric patients following surgery [15]. POI usually associated with bowel ischemia and necrosis, because the disease does not follow the classic presentation and therefore high index of suspicion in any patient presenting with obstructive symptoms in the early postoperative period is critical in order to appropriately intervene [12]. Treatment of intussusception includes enemas, surgical reduction, and surgical resection [1, 9].

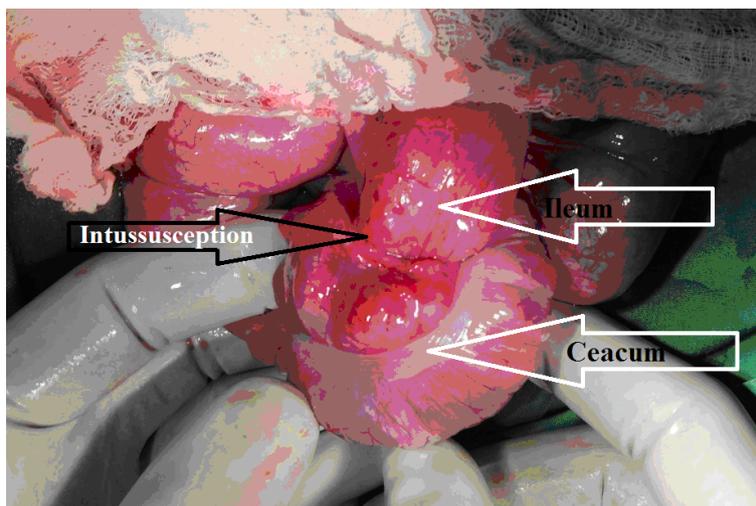
## 2. Case report

Ten years old female presented to the National Center for Pediatric Surgery; Gezira state; Sudan; February 2021 complaining of abdominal distention and constipation for 6 days. Patient had history of acute appendicitis underwent emergency opened appendicectomy 7 days ago. The condition started 9 days ago as right iliac fossa pain, colicky in nature, without any aggravating or relieving factors, associated with vomiting 4 times per day containing food particles. She sought medical advice, diagnosed as an acute appendicitis and underwent emergency appendicectomy. She was admitted for 48 hours and discharged. She did not pass feces or flatus since surgery, followed by gradual generalized abdominal distention and vomiting of anything she ate for 5 days, and lower abdominal pain for 3 days, 1 day later she developed high grade intermittent fever associated with generalized convulsion ported by diazepam. No yellowish discoloration of the sclera or bleeding per rectum. O/E : patient looks ill, febrile, not pale or jaundice, PR:140b/m, RR:25c/m, abdominal examination show: distended abdomen with full flanks, unhealed lanz incision with small amount of pus discharge, no dilated veins or visible peristalsis, hernia orifices were intact, lower abdomen was tense &tender, no palpable mass, DRE: rectum contains impacted hard stool. Investigations: WBCs: 21.7, HB: 12g/dl, PLT: 368, blood urea: 25mg/dl, serum creatinine: 0.1 mg/dl, Serum Na: 135 meq/dl, Serum K: 4.4 meq/dl. Decision was made for emergency explorative laparotomy. Abdomen was accessed through right transverse infra umbilical incision.

**Findings:** ileocecal intussusception (figure 1 & 2), bowel was healthy and viable. Simple reduction was done. Abdomen closed in layers as well as skin. No intra operative complications, patient recover smoothly from anesthesia.



**Figure 1** Ileocecal Intussusception, Case report: Post-operative Intussusception, a rare case in paediatric, National Center for Paediatric Surgery, Gezira State, Sudan; 2021



**Figure 2** ileocecal Intussusception, Case report: Post-operative Intussusception, a rare case in paediatric, National Center for Paediatric Surgery, Gezira State, Sudan; 2021

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### 3. Discussion and Recommendations

This case was of 10 years old female, diagnosed as post-operative intussusception following emergency appendicectomy; this was consistent with many international findings [1-5, 10]. The type of intussusception in our case was ileocolic with no identifiable lead point, this is similar to many international studies [3, 5]. Post-operative intussusception can lead to intestinal obstruction which is similar to our case [11-14]. Our case presented with abdominal pain and non-bilious vomiting; this is reported internationally [11, 15]. Post-operative intussusception usually associated with bowel ischemia and necrosis which is not consistent with our case [12]. We highly recommended abdominal ultrasonography, CT scan; when there is a high index of suspicion.

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### 4. Conclusion

This is a female child of 10 years old with an ileocolic post-operative intussusception; which is not associated with bowel ischemia nor necrosis. This study highlights the consideration of occurrence of an ileocolic post-operative intussusception even in the absence of symptoms and signs of bowel ischemia and necrosis.

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### Compliance with ethical standards

#### *Disclosure of conflict of interest*

There is no conflict of interest.

#### *Statement of informed consent*

Informed consent was obtained from parents of the patient.

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### References

- [1] Tarabishi AS. a rare case of bowel intussusception due to adenocarcinomatous polyp in a 14-year-old child: case report, BMC Surgery. 2020; 20(198): 1-5.
- [2] Agrawal S, Khanal B, Gurung R, Sah SP, Gupta RK, case report appendiculo-cecal intussusception: a case report and literature review, Journal of Surgical Case Reports. 2020; 8: 1-2.
- [3] Das A, et al, Case Report Colocolic Intussusception in an Older Child: A Rare Case Report and a Literature Review, Hindawi Publishing Corporation Case Reports in Surgery. 2013; 3.
- [4] Walsh NJ, Dadzie KA, Jones AJ, Hatley RM. Post-Operative Small Bowel Intussusception in a Pediatric Trauma Patient: A Literature Review and Unique Case Report, ACS Case Reviews. 2017; 1(3): 41-44.

- [5] Shrestha S, Basnet BM, Thapa A, Paediatric Postoperative Intussusception, *J Nepal Health Res Counc.* Apr-Jun 2019; 17(43): 258-260.
- [6] Aberra Y, A Case Report on Post-Operative Intussusceptions in Adult, *Journal of Gastrointestinal & Digestive System.* 2017; 8(2); 1-4.
- [7] Tajik P, Goudarzian A H, Intussusception of the rectum in children; a rare case report, *Gastroenterol Hepatol Bed Bench.* 2018; 11(2): 169-171.
- [8] Asaumi Y, Miyanaga T, Ishiyama Y, Hattori M, Hashizume Y, Case report Pediatric ileoileal intussusception with a lipoma lead point: a case report, *Gastroenterology Report.* 2014; 2: 70–72.
- [9] Takahashi T, et al, A child with colo-colonic intussusceptions due to a large colonic polyp: Case report and literature review, *African Journal of Paediatric Surgery* July-September 2014; 11(3): 261-263.
- [10] Matsumoto A, et al, Intussusception causing postoperative intestinal obstruction following free jejunum transfer in adults: two case reports and review of the literature, *Surgical Case Reports.* 2015; 1(28): 1-4.
- [11] Abukhalaf SA, et al, Postoperative intestinal intussusception in children, an easily missed culprit of postoperative intestinal obstruction: Case series and literature review, *International Journal of Surgery Case Reports.* 2019; 60: 336–339.
- [12] Spellun A, Berman L, Murphy S, Postoperative intussusception in 10-year-old presenting as decreased intestinal motility, *J Ped Surg Case Reports.* 2016; 9: 34-36.
- [13] Furuya Y, et al, A case of postoperative recurrent intussusceptions associated with indwelling bowel tube, *World J Gastrointest Surg.* 27 March 2010; 2(3): 85-88.
- [14] Yalçın S, Karnak I, Çiftçi A O, Tanyel F C, Şenocak M E, Postoperative intussusception in children: a keen diagnosis in postoperative ileus, *The Turkish Journal of Pediatrics.* 2012; 54: 403-408.
- [15] Ranawaka R, Gunapala R, Ubaithullah Y, Post-operative intussusception: a rare phenomenon, *Sri Lanka Journal of Child Health.* 2017; 46(4): 389-390.