

## A Case Report on Post-Operative Intussusceptions in Adult

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### Abstract

Intussusception is the prolapse of one part of the bowel into the lumen of the immediately adjoining part. Intussusceptions in adults are much less common, representing 5% of all intussusceptions, 1% of all bowel obstructions, and 0.08% of all abdominal surgery. Surgery as a possible cause of intussusceptions in children is very rare (0.05%) and in adult, there are very few reports. In a report in a Mayo Clinic only 73 cases were seen within 23 years. This case report will be one of the few case reports on the subject matter. This is a 30-year-old female from rural areas who underwent laparotomy and cystectomy for the diagnosis of left-side ovarian cystic torsion after she presented with right-side abdominal pain of six days duration which was squeezing in type. On the fourth post-operative day she started to have abdominal distention, and vomiting which was non-projectile bilious matter 4-5 times/day. She came after 4 days of these symptoms with failure to pass both feces and flatus. On the day of admission she has 3-4 episodes of watery diarrhea which was blood-tinged. Physical examination she was acutely sick-looking and dehydrated. Abdominally she has centrally distended abdomen with palpable bowel loops and visible peristalsis. We investigated her with abdominal X-ray and ultrasound which suggested SBO secondary to intussusceptions. After stabilizing the patient we did laparotomy. Intraoperatively we found viable ileo-ileal intussusceptions at two sites with distended bowel loops proximal and collapsed bowel loops distal to the intussusceptions. She had a smooth post-operative course and discharged improved. The case is extremely important for the study of this possible differential in the post-operative period because a delayed or incorrect diagnosis of acute intussusceptions can have serious consequences. Moreover, it serves as an input for future studies in the area.

**Keywords:** Intussusceptions; Post-operative intussusceptions; Ovarian cyst; Ovarian cystic torsion; Cystectomy; Ileo-ileal intussusceptions

**Abbreviation:** PR-per-rectal; PO-per-os; UOG-University of Gondar; SBO-small bowel obstruction

### Background

Intussusceptions, which are defined by Treves in 1899, as the prolapse of one part of the bowel into the lumen of the immediately adjoining part, drawing the proximal bowel into the distal bowel by peristaltic activity. 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 [1]. Intestinal intussusceptions in adults are a rare entity that differs greatly in etiology from its pediatric counterpart [2] with an incidence of 1.5-4 cases per 1000 livebirths [3]. Intussusceptions in adults are much less common, representing 5% of all intussusceptions, 1% of all bowel obstructions, and 0.08% of all abdominal surgery and 0.003-0.02% of all hospital admissions (Figure 1). The overall

incidence of intussusceptions in adulthood has been estimated to be around 2-3 cases/1,000,000 population/year [4,5]. Most of the cause of intussusceptions is idiopathic in children (95%), whereas 80-90% of intussusceptions in adults have identifiable etiology [6]. Surgery as a possible cause of intussusceptions in children is very rare (0.05%) and in adults, as to my knowledge, there are very few reports.

This group of patients will not have those classic triads of intussusceptions (abdominal mass, abdominal pain and bloody stool) which make it very difficult for a physician to diagnose it early [7]. This case report will be one of the few case reports on the subject matter. The case is extremely important for the study of this possible differential in the post-operative period because a delayed or incorrect diagnosis of acute intussusceptions can have serious consequences. Moreover, it serves as an input for future studies in the area.

### Case Presentation

#### History

This is a 30-year-old Para three all alive mother from rural areas. She initially underwent laparotomy and cystectomy for the diagnosis of left-side ovarian cystic torsion after she presented with right-side abdominal pain of six days duration which was squeezing in type. On the second post-operative day she was discharged improved. On the fourth post-operative day she started to have abdominal distention, and vomiting which was non-projectile bilious matter 4-5 times/day. She

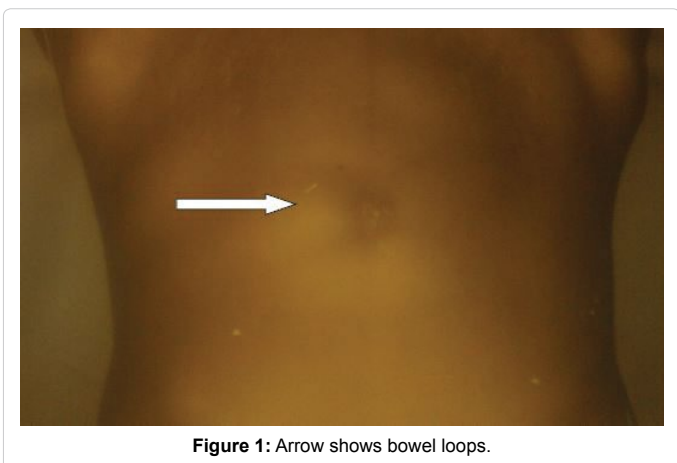


Figure 1: Arrow shows bowel loops.

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came after 4 days of these symptoms with failure to pass both feces and flatus. On the day of admission she has 3-4 episodes of watery diarrhea which was blood tingled [8].

### Physical examination

**General appearance:** acutely sick looking dehydrated.

**Vital sign:** BP-110/70, PR-90, RR-18, T-36.7.

**HEENT:** pink conjunctiva, dry oral mucosa.

**Chest:** clear and resonant.

**CVS:** s1 and s2 well heard no murmur or gallop.

**Abdomen:** Central distention, flanks are full, pfannestial incision wound and visible peristalsis.

Non tender, boggy mass over the periumbical area (Figure 2).

**PR:** watery stool on examining finger.

**Investigation:** Initial admission

### Laboratory:

Full blood count: WBC- 3.73

HCT- 42.8

PLT- 196

### Stool examination:

No O/P seen

Urine HCG: negative

BG/Rh: o<sup>+</sup>

### Imaging:

Abdominal ultrasound

Liver gall bladder spleen pancreas appears normal.

Both kidneys have normal size and echo pattern.

Normal UB and uterus.

Normal looking bowel and appendix.

A thin walled cyst at the left adnexa 4.2 × 3.2 cm.

### Second admission

**Laboratory:** Serum electrolyte-Na: 143, K: 3.7, Cl: 104.5, M.HCT: 38%, S/M: full of RBCs and bacteria.

### Imaging

**Plain abdominal X-ray:** multiple air-fluid level in central abdomen with mildly dilated bowel loops (3.5 cm), rectal gas shadow seen (Figures 3 and 4).

**Abdominal ultrasound:** liver gall bladder, spleen, pancreas UB and Uterus appear normal. Both kidneys have normal size and echo pattern. There is a bowel in bowel pattern likely ilea-colic intussusceptions with normal Doppler flow within the wall. Minimal fluid collection in the pelvis with no septation or echo debris. No adnexal mass seen.

### Diagnosis and Management

With the diagnosis of SBO 2ry to ileocolic intussusceptions she was admitted. IV line secured and resuscitated with normal saline.



Figure 2: Arrow shows periumbical distended bowel loops.



Figure 3: Plain abdominal film (AP).

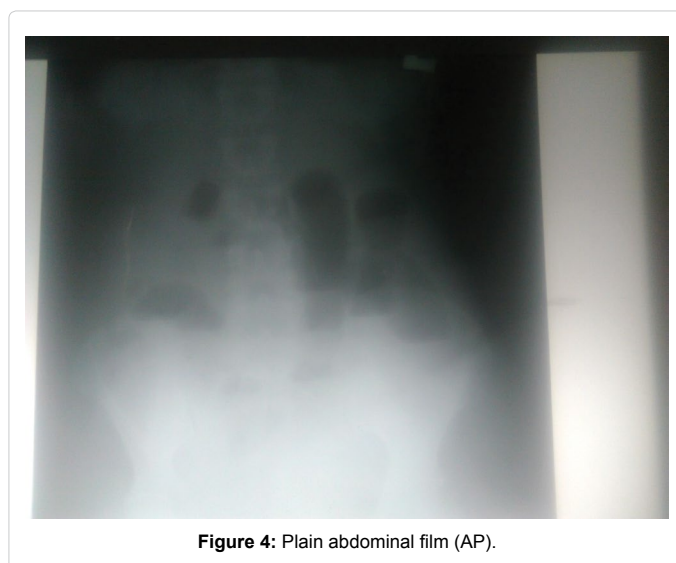


Figure 4: Plain abdominal film (AP).

NG-tube inserted, catheterized and she was kept NPO, prophylactic antibiotics given. After taking an informed consent with the above pre-operative diagnosis we did laparotomy through midline incision [9].

**IOF**

300 cc reactive fluid all over the peritoneal cavity. A viable Ileo ileal intussusceptions (around 10 cm of proximal bowel invaginated in to the distal bowel lumen) around 200 cm distal to the ligament of Trietz with proximal small bowel dilatation and distal small bowel collapse (Figures 5 and 6).

Another site, around 50 cm distal to the proximal intussusceptions site, reduced ileoileal intussusceptions with contused bowel wall and mesentery (Figure 7). All other viscera's looks grossly normal.

**Done**

Reactive peritoneal fluid sucked out.

**Ileo-Ileal intussusceptions reduced manually**

Peritoneal cavity washed with warm normal saline, abdomen closed in layer.

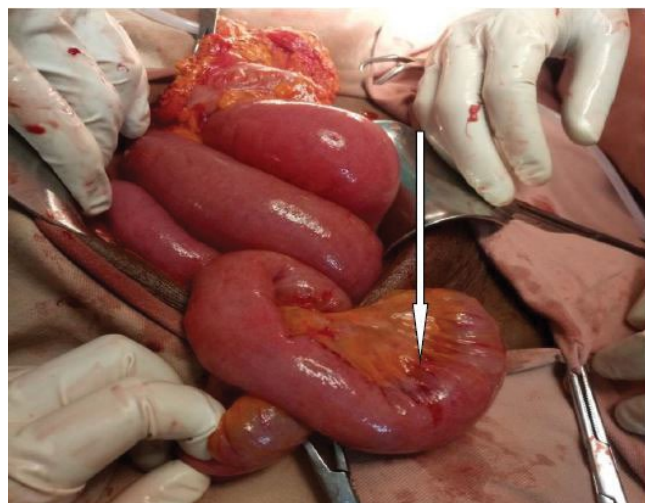


Figure 7: Arrow shows signs of reduced intussusception.

**Post-operative course**

She was kept NPO, given analgesics regularly, we encouraged her ambulation. On her first post op day she passed flatus, bowel sounds were active and we started her on PO feeding. She was followed with vital sign sheet and abdominal examination. On her 2<sup>nd</sup> post op day she started to have watery diarrhea for which she was investigated but none were revealing. We put her on ORS, dewormed her and on her 4<sup>th</sup> post op day she got improved and discharged with an appointment to follow up clinic.

**Discussion and Conclusion**

Intussusceptions, which are defined by Treves in 1899, as the prolapse of one part of the bowel into the lumen of the immediately adjoining part, drawing the proximal bowel into the distal bowel by peristaltic activity. 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. Intestinal intussusceptions in the adult are a rare entity that differs greatly in etiology from its pediatric counterpart with an incidence of 1.5-4 cases per 1000 livebirths. Intussusceptions in adults are much less common, representing 5% of all intussusceptions, 1% of all bowel obstructions, and 0.08% of all abdominal surgery and 0.003–0.02% of all hospital admissions. The overall incidence of intussusceptions in adulthood has been estimated to be around 2–3 cases/1,000,000 population/year. Most of the cause of intussusceptions is idiopathic in children (95%), whereas 80–90% of intussusceptions in adults have identifiable etiology. Surgery as a possible cause of intussusceptions in children is very rare (0.05%) and in adults, there are very few reports. This one will be the first to be reported in our institution.

Postoperative intestinal obstruction usually occurs due to ileus, post op adhesion, volvulus and post-operative intussusceptions being the rare cause (accounting for 5-10% of post-operative bowel obstruction in children). Some of the possible Factors that may be related to postoperative intussusceptions are altered peristalsis and vigorous intestinal manipulation, intestinal injury, foreign body, or neurogenic factors. The vast majority of cases are small bowel intussusceptions, accounting for up to 87.2%, with the majority ileoileal, followed by jejunojejunal. Ileocolic intussusceptions are present in up to 12.8% of reported cases. In our case it is ileo-ileal intussusceptions.



Figure 5: Arrow shows an ileo-ileal intussusception.



Figure 6: Arrow shows ileo-ileal intussusception.

Post-operative intussusceptions remains a diagnostic challenge to physicians, and is often overlooked due to its rarity as a complication and nonspecific symptoms, which may mimic a postoperative ileus. In our case we faced diagnostic difficulty because we ascribed the symptoms for post-operative ileus. Abdominal pain may be masked by pain medication. An abdominal mass may be difficult to palpate due to the laparotomy incision and its associated tenderness. Rectal bleeding rarely occurs. In postoperative intussusceptions, abdominal distention and increased bilious drainage from Nasogastric tube are most common signs. Abdominal pain is less common. The majority of patients, up to 90%, present within the first two weeks following surgery. In our case she had diarrhea with blood tingled, abdominal distention and vomiting but no abdominal pain. And she presented after 4 days of operation.

Because of its rarity as a possible cause of post-operative bowel obstruction, most of the patients will be diagnosed lately.

The majority of postoperative obstructions result from intestinal adhesions, but the possibility of intestinal intussusceptions should not be overlooked. Clinical signs and symptoms of postoperative intussusceptions are nonspecific; therefore, abdominal plain films and laboratory data are of little diagnostic value in these cases. However, ultrasound and computed tomography are capable of delineating the features of intestinal intussusceptions. Clinicians should be aware of this uncommon complication in children in the early postoperative period.

The management options depend on the site of intussusceptions and presence of complication related with intussusceptions.

Postoperative intussusceptions should be suspected in adult surgical patients who showed signs of intestinal obstruction in the early postoperative period. Awareness and early diagnosis are key to reducing the morbidity associated with postoperative intussusceptions.

The clinical symptoms of postoperative ileoileal intussusceptions after operations are not typical. Postoperative (ileoileal) intussusceptions should be kept in mind in a patient with post-operative obstruction in adults. In any atypical postoperative ileus, a sonographic study should be done to rule out the diagnosis of postoperative intussusceptions. Once this condition is diagnosed, surgical treatment should be performed as soon as possible.

## Ethical Approval

Not applicable

## Consent for Publication

Taken from the patient and you can access it from the authors

## Availability of Data and Materials

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request. The full data is available on chart number-721049, Gondar university hospital, Gondar, Ethiopia.

## Authors Contribution

Yitagesu Aberra, author of this case report, is a senior resident (chief resident) in the department of surgery, UOG, Who was the leading surgeon in the management of this patient.

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I would like to thank the department of surgery and gynecology and obstetrics who did a lot in the management of this patient. My kind gratitude goes to the OR nurses and anesthetist above all my assistant Surgeon Dr.Meron Birhanu for their good did and active participation.

## Author's Information

Dr. Yitagesu Aberra is a final year surgical resident in the department of surgery, UOG, Gondar, Ethiopia. He is a graduate from Gondar University and worked as a general practitioner for two Years in the same University hospital. He is currently practicing surgery in Gondar University Hospital.

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