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# Small Bowel Intussusception with Idiopatic Volvulus in Adolescents - A Rare Case Report

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## 1. Background

Intussusception is a rare form of bowel obstruction in adults which is defined as telescoping of the proximal segment of the gastrointestinal tract into the lumen of the adjacent distal segment [1]. The overall incidence of intussusception in adults is 2-3 cases per 1 million general population annually[2]

This article describes a case of female patient with no previous operation, no pathology of intestinal tract and no malignancy-CT reveals ileo-ileal intussusception with secondary volvulus. Exploratory laparotomy reveals gangrene bowel. Intussusception and Volvulus found approximately 10-15cm away from ileocecalvalve. The gangrenous bowel segment resected using stapler. The patient stay in the hospital was uneventful.

## 2. Case Details

- A 13-year-old female presented to Casualtyas Emergency Acute Abdomen
- Patient came with complaints of abdomen pain for 3 days, with bile stainedvomitus, for 2 days, and Bleeding per rectum for 4 days, and fever for 2 days, burning micturition for 2 days

**General examination:**
Patient was conscious, mildly disoriented with GCS score of 13/15
Pallor, febrile temperature 103F, No peripheral Edema, Lymphadenopathy.
Vitals - BP: 90/60mmHg, Pulse :140/min Spo2 : 90%

**Abdominal examination**
Abdomen was Warm, distended, diffuse
Tenderness, Organomegaly Hepatomegaly,
Sleen not palpable, No Guarding, Rigidity, No Mass Felt
Bowel sounds Sluggish

**Digital rectal examination**
Blood staining stool present

**No Growth felt per rectum**

## 3. Differential diagnosis and Management

Meticulous clinical history and examination were performed to rule out Acute appendicitis and peritonitis, hollow viscus perforation. Clinically no features were suggestive. Hence with the above clinical features and examination the diagnosis was more in favour of? Intussusception? Volvulus, Small bowel obstruction. Patient was admitted in intensive care and optimised and Given Parenteral Antibiotics, and resuscitated with Intravenous fluids and Adequate oxygen by oxygen mask. Patient was planned for Exploratory Laprotomy Proceed.

Routine investigation were done
Hb: 9.3
TC:26, 000
RBS:97
Platelets 1.5 lakh
DC: N:96
E:1
M: 2
L: 4
B:0

RFT
Urea: 110
Creatinine:2.3

LFT
AST:175
ALT:198
GGT:183
ALP:156
Direct Bilirubin 1.2
Indirect Bilirubin 1.0

Prothromintime:12 And INR 1.3

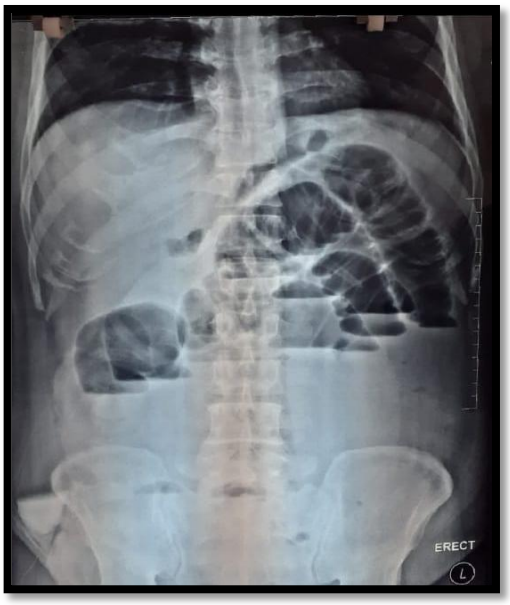
TEP:Na-112
K+-3.1
HCo3-22
Cl-103

Viral markers HIV, HBsAg, HCV, Negative

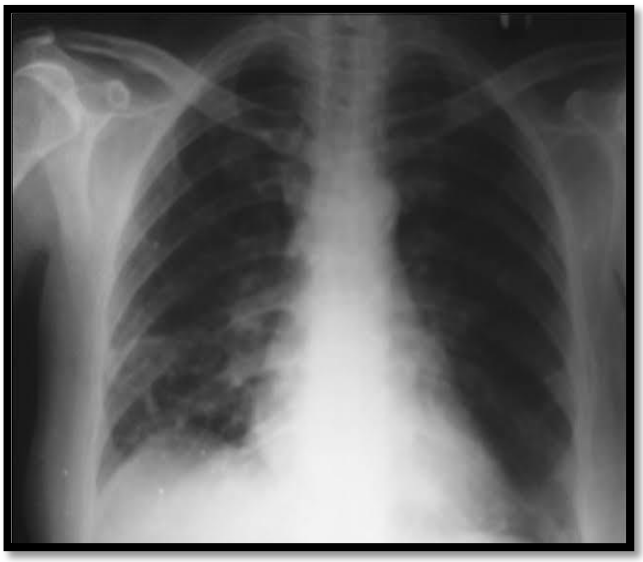
Urine Routine Examination
Pus cells 2-3
RBC-Nil
Glucose-Nil
Protein-Trace
Cast-Absent
Yeast- Absent

Stool Occult: Blood Positive
Stool ova cyst –Negative

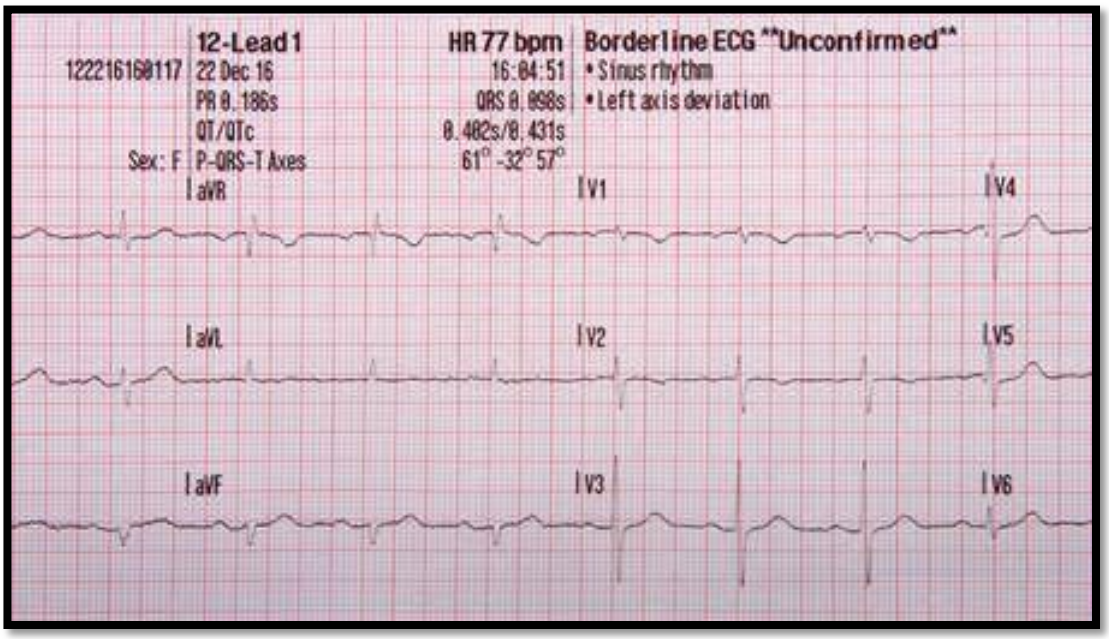
**XRAY Abdomen Erect Done**
Showed multiple dilated bowel loops and multiple air fluid level,
No air under diaphragm




Chest Xray Normal

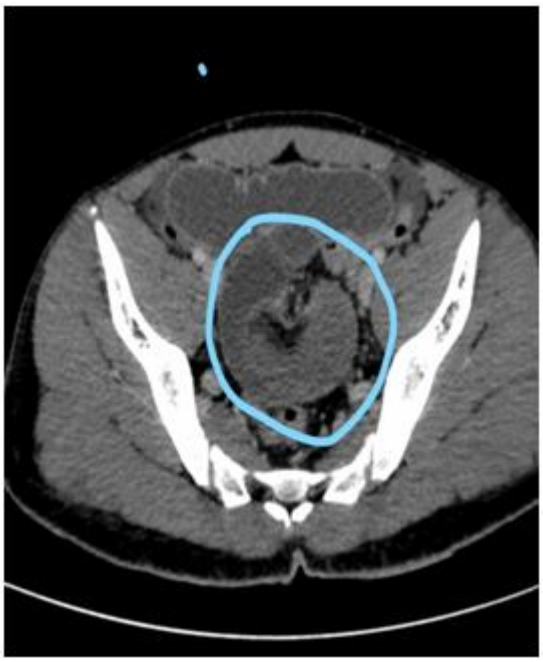


**ECG done Normal**



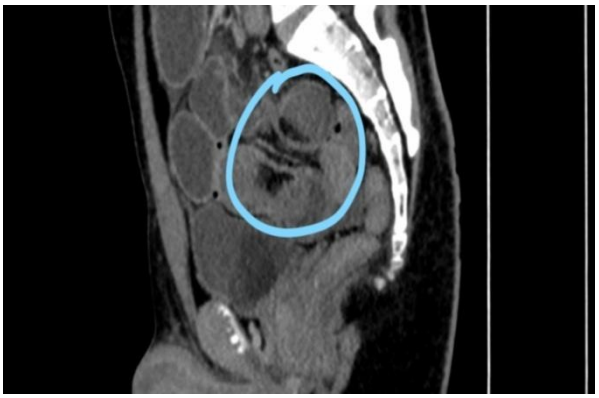

**USG Whole Abdomen and pelvis:**

**Impression:**
Hepatomegaly with fatty infiltration grade 1
Hydronephrotic right kidney with lower ureteric calculus
Inflammed and gaseous distended bowel loops present billatealilliac and umbilical regions

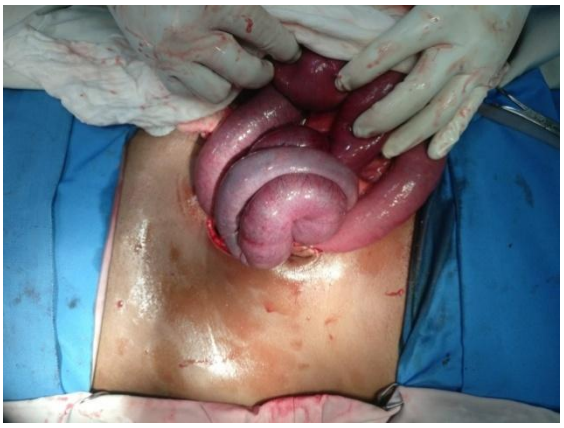


CECT Whole abdomen pelvis

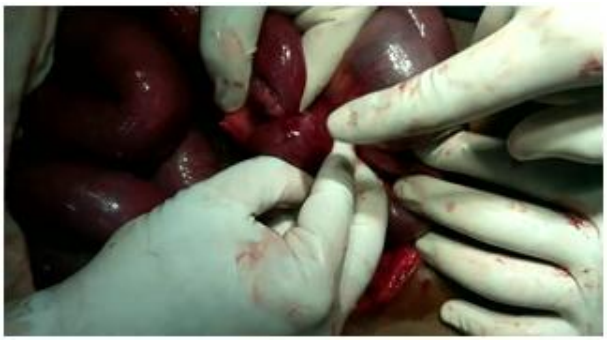
**Computed tomography** of abdomen and pelvis, which reveals ileoileal intussusceptions with secondary volvulus, small bowel obstructions



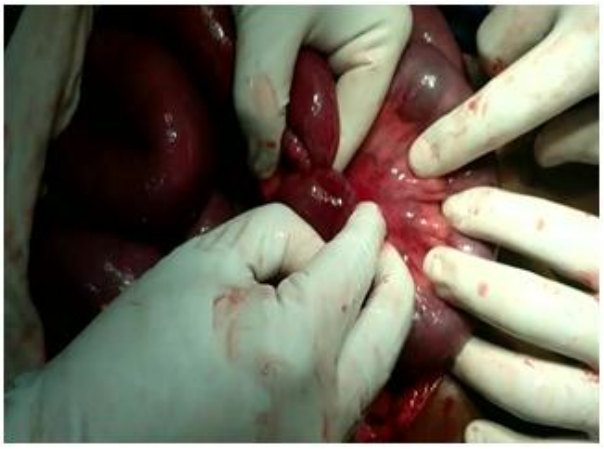
**Intraoperative findings**
Gangrenous bowel, Intussusception and Volvulus found approximately 10 -15cm away from ileocecal valve. Both intussuception part and intussucipiens part was Gangrenous.The Gangrenous bowel segment was resected.



**Volvulus 1**



**Intussusception 1**



**Gangrenous bowel 1**

Histopathological examination of the specimen: Haemorrhagictransmural infarct.

## 4. Discussion

- In our case patient do not present with classical triad of abdomen pain, redcurrent jelly stool and palpable abdominal mass. Diagnosis made by radiological imaging.
- Intussusception can be divided in four groups: a) tumor related, b)postoperative, c) miscellaneous (Meckel's diverticulum, celiac disease) d.idiopathic
- Although the mechanism that leads to an intussusceptions is still unknown, any lesion or irritation of bowel wall or lumen that desynchronizes the peristaltic waves, could provide the mechanical base for invagination of one part of the intestine into another.
- Since the existence of a tumor, polyps, Meckeldiverticulum, appendiceal stump[6.]
- 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 result, the lead point would telescope to the distal bowel[7.]
- The treatment of adult intussusception remain controversial depending upon whether etiology is known. There is some evidence to suggest that CT scan diagnoses does not always require further evaluation [5.]
- Abdominal CT Scan is considered the best tool for the diagnosis of adult intussusceptions, as its accuracy reportedly range from 58%-100% according to various studies[4].

- Volvulus of ileum is much less common than that occurring in the large intestine where it is most commonly seen affecting the sigmoid colon.
- Delay in diagnosis and operation greatly increase the mortality rate; Zollinger et al [8]noted that any delay in surgery longer than 12 hours doubled the rate.

## 5. Conclusion

In Intussusception, a gastrointestinal tract slides into another neighbouring portion. Its rare in adult and varies in presenting symptoms making diagnosis more difficult. The best diagnostic tool is CT scan. Surgical Resection is preferred modality of treatment in adult and should not be delayed.

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