

A Case Series on Rare Cases of Intestinal Obstruction

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Abstract: *Background: Intestinal obstruction is one of the commonest surgical emergencies in all age groups. Mode of presentation is same in all but underlying cause varies in each age group. It can be mechanical (dynamic) or non mechanical (adynamic) according to the mode of obstruction. It is associated with a significant morbidity and mortality. Though intestinal obstruction can be diagnosed easily, the underlying cause except postoperative adhesions and external hernias are difficult to be diagnosed preoperatively. Due to advances in diagnostic and operative techniques along with postoperative intensive care, the mortality has now decreased from 60% to less than 10% over the last century.*

Keywords: Intestinal obstruction, volvulus, Intussusception, constipation

1. Introduction

Intestinal obstruction is one of the commonest surgical emergencies in all age groups. A bowel obstruction can either be a mechanical or functional obstruction of the small or large intestines. The obstruction occurs when the lumen of the bowel becomes either partially or completely blocked. Obstruction frequently causes abdominal pain, nausea, vomiting, constipation-to-obstipation, and distention. This, in turn, prevents the normal movement of digested products. Small bowel obstructions are more common than large bowel obstructions and are the most frequent indication for surgery on the small intestines. Bowel obstructions are classified as a partial, complete, or closed loop.

There are many potential etiologies of small and large bowel obstructions that are classified as either extrinsic, intrinsic, or intraluminal. The most common causes of intestinal obstruction in adults are:

- Intestinal adhesions — bands of fibrous tissue in the abdominal cavity that can form after abdominal or pelvic surgery
- Hernias — portions of intestine that protrude into another part of your body
- Colon cancer

In children, the most common cause of intestinal obstruction is telescoping of the intestine (intussusception).

Other possible causes of intestinal obstruction include:

- Inflammatory bowel diseases, such as Crohn's disease
- Diverticulitis — a condition in which small, bulging pouches (diverticula) in the digestive tract become inflamed or infected
- Twisting of the colon (volvulus)

- Impacted feces

Various mechanical and biochemical changes occur inside the body of a patient with intestinal obstruction. There is fluid accumulation inside the bowel, third space fluid loss and electrolyte abnormalities.

Without treatment, the blocked parts of the intestine can die, leading to serious problems. Bowel obstruction poses great dilemma in both diagnosis and management. Very often, the decision about whether to operate on the patient or to continue with the non-operative management finally rests upon the treating doctor. The surgeon's competence is also tested on deciding on when to go for intervention. The ultimate morbidity and mortality may finally depend on the timely decisions of the treating team. Early diagnosis of obstruction skillful operative management, proper technique during surgery and intensive postoperative treatment carries a grateful result. Due to advances in diagnostic and operative techniques along with postoperative intensive care, the mortality has now decreased from 60% to less than 10% over the last century.

Case 1:

Obstruction due to transverse colon volvulus:

A 32 year old male presented with complaints of Abdominal distension, abdominal pain and constipation for 3 days. There was no significant past medical history. No drug allergies were documented. He had never had surgical operations.

His vital signs, on arrival were: temperature 37.6 °C, pulse rate 110/minute, respiratory rate 22/minute, and blood pressure 110/70 mmHg. His SpO₂ on room air was 98. His chest examination showed adequate air entry on both lungs.

Abdominal examination revealed a massively distended

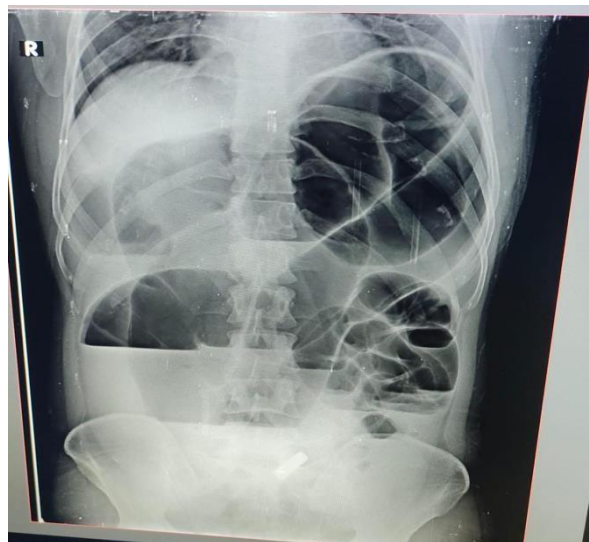
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abdomen. The abdomen was tender on palpation. However there were no signs of peritonitis. On auscultation, bowel sounds were exaggerated. It was significantly tympanic to percussion. Hernia orifices were checked and were intact. Digital rectal examination showed collapsed rectum.

Basic investigations were done. His total count was found to be elevated [12000 cells per cubic millimeter]. His renal function test was found to be within normal limits.

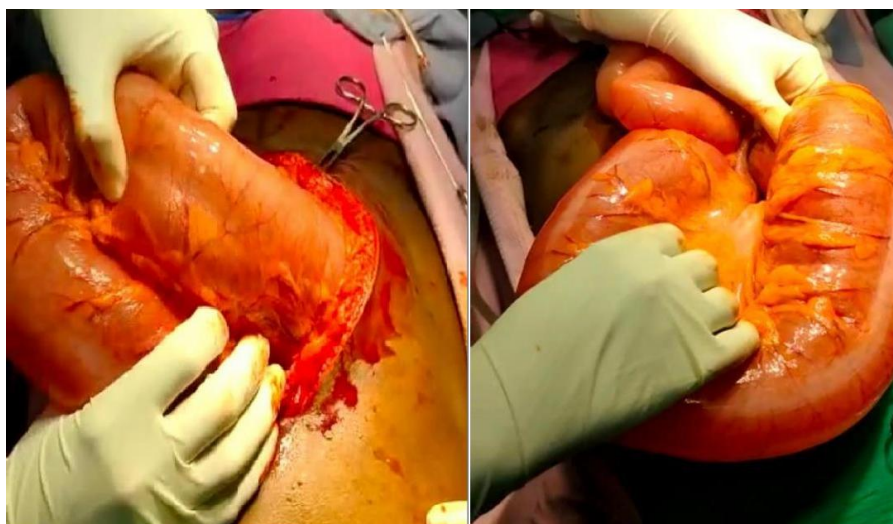


X ray was taken which showed a massively dilated large bowel with a “U-shaped” loop in the left upper abdomen, and multiple air-fluid levels suggesting intestinal obstruction.

Nasogastric tube was inserted to decompress the stomach.

Urinary catheter was inserted to monitor urine output.

After initial resuscitation, patient was taken up for emergency laparotomy. Abdomen was opened through midline laparotomy incision and peritoneum was entered. Intra operative findings showed 360 degree rotation of the transverse colon on its mesentery, resulting in obstruction. The transverse colon was abnormally lengthy and excessively redundant. The bowel was healthy-looking with no gross signs of ischemia. The volvulus was detorsed in a counter-clockwise fashion.





Detorsion with Loop ileostomy was done. Post operative period was uneventful.

CECT abdomen and pelvis was taken which showed Ileocolic Intussusception causing obstruction.

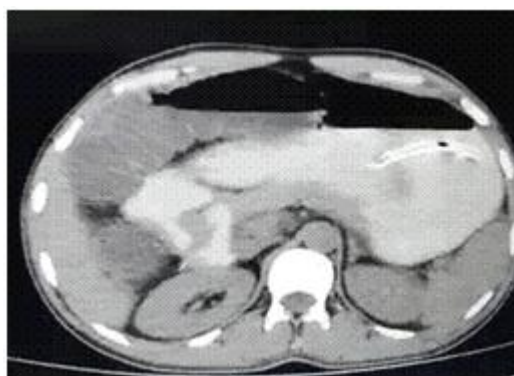
Case 2:

Obstruction due to intussusception:

A 41 year old male patient presented with complaints of abdominal pain for 2 days associated with multiple episodes of non-projectile vomiting containing food particles, along with history of abdominal distension and obstipation. He had no comorbidities. His vital signs, on arrival were: temperature 37.6 °C, pulse rate 104/minute, respiratory rate 20/minute, and blood pressure 120/70 mmHg. His SpO₂ on room air was 98. Abdominal examination revealed a massively distended abdomen. Diffuse tenderness and guarding was present over the abdomen. Bowel sounds were sluggishly heard. Per rectal examination revealed collapsed rectum with no fecal staining.

Basic investigations were done. His total count was found to be elevated [14000 cells per cubic millimeter]. His renal function test was found to be within normal limits.

X ray abdomen erect was taken which showed multiple air fluid levels.



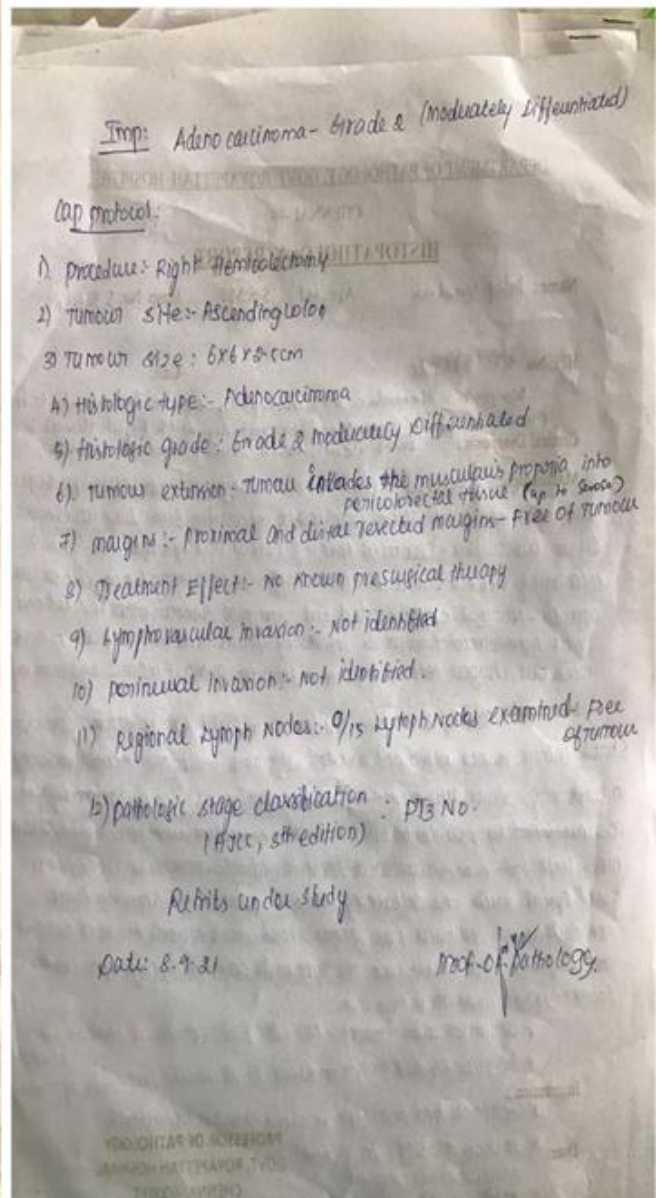
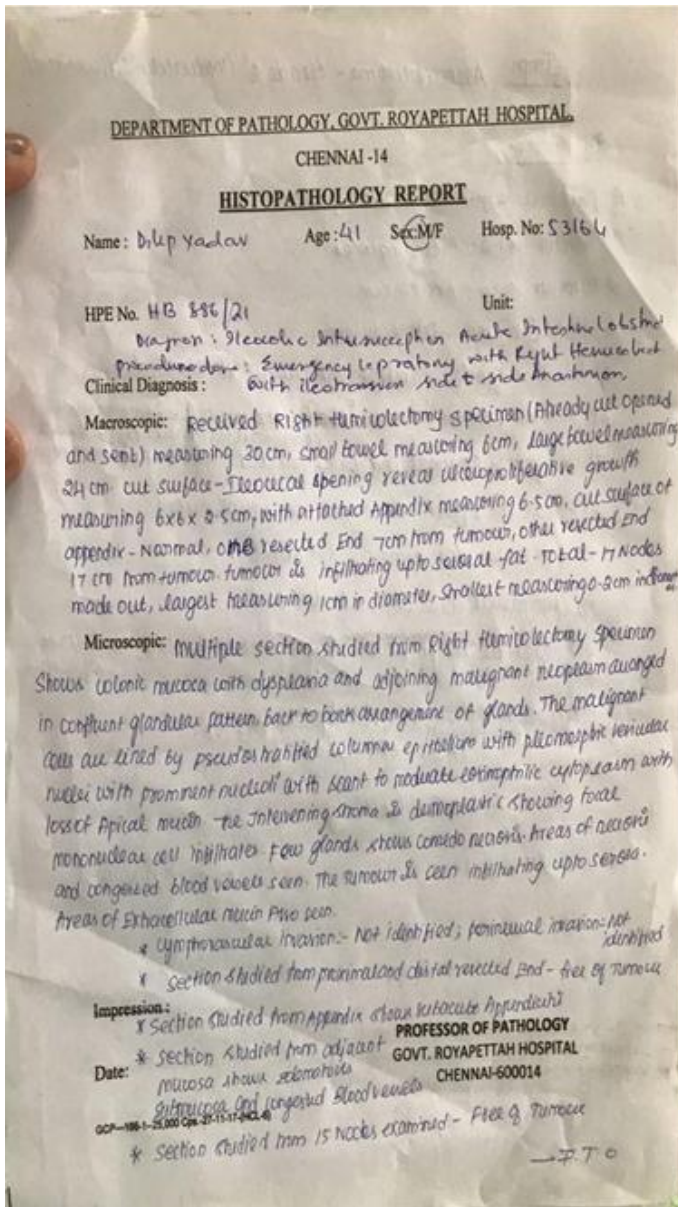
Nasogastric tube was inserted to decompress the stomach.

Urinary catheter was inserted to monitor urine output.

After initial resuscitation, patient was taken for emergency laparotomy and intra operatively found to have caecal growth as the lead point of Intussusception. Patient was proceeded with Right Hemicolectomy with side to side Ileotransverse anastomosis.



The Histopathology revealed as Moderately differentiated Adenocarcinoma of caecum (6*6*2.5cm)



His post operative period was uneventful.

X ray abdomen showed multiple air fluid level.

**Case 3:
Obstruction due to right paraduodenal hernia:**

A 42 yr old male presented with complaints of abdominal pain, vomiting, abdominal distension and obstipation for past two days. There was no significant past medical history. He had never had surgical operations.



His vital signs, on arrival were: temperature 37.6 °C, pulse rate 116/minute, respiratory rate 18/minute, and blood pressure 130/80 mmHg. His SpO2 on room air was 98. His chest examination showed adequate air entry on both sides. Abdomen was diffusely enlarged with diffuse tenderness in right iliac fossa and right lumbar region. Bowel sounds were sluggish. Per rectal examination showed collapsed rectum.

CT abdomen suggestive of small bowel obstruction with transition point in mid ileum with clumping of small bowels in right side of abdomen.

Basic investigations were done. His total count was found to be elevated [13250 cells per cubic millimeter]. His renal function test was found to be within normal limits.



After initial resuscitation, the patient was then taken for emergency laparotomy. Right Paraduodenal hernia was found. The proximal jejunum and some part of ileum was seen entering into a hernia sac located posterior to the colon. DJ flexure was found to be in right side. The sac was opened on the small bowel loops were found to be gangrenous. After applying warm pads, since viability of bowel loops were lost, resection and anastomosis proceeded.



His post operative period was uneventful.

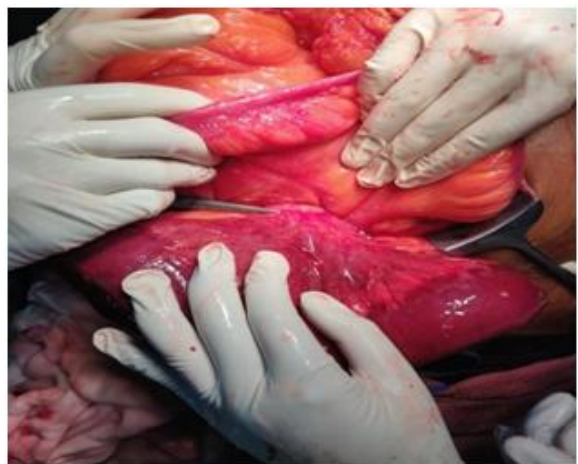
Case 4:

Obstruction due to Sigmoid Volvulus:

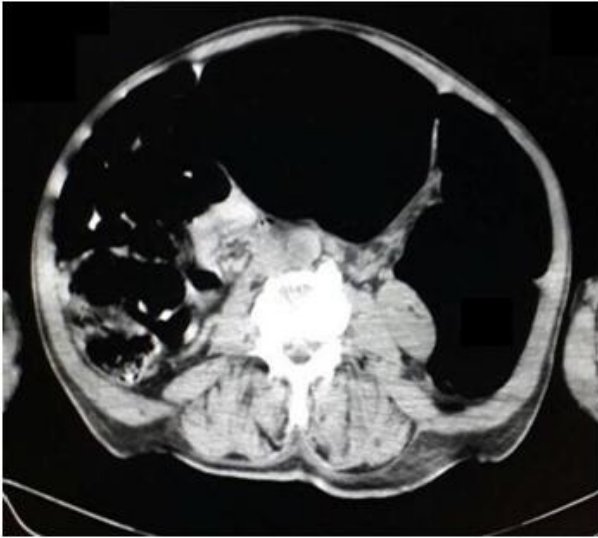
A 56 year old male presented with complaints of Abdominal distension, abdominal pain and obstipation for 3 days. He had no comorbidities. His vital signs, on arrival were: temperature 37.6 °C, pulse rate 100/minute, respiratory rate 20/minute, and blood pressure 110/70 mmHg. His SpO2 on room air was 98. Abdominal examination revealed a massively distended abdomen. The abdomen was tender on palpation. On auscultation, bowel sounds were increased. Digital rectal examination showed collapsed rectum.

Basic investigations were done. His total count was found to be elevated [12200 cells per cubic millimeter]. His renal function test was found to be within normal limits.

X ray was taken which showed a bent inner tube appearance.



CT abdomen was taken which was suggestive of Sigmoid volvulus.



After initial resuscitation, patient was taken up for emergency laparotomy. Abdomen was opened through midline laparotomy incision and peritoneum was entered. Intra operative findings showed 180 degree rotation of the Sigmoid colon on its mesentery, resulting in obstruction. The Sigmoid colon was abnormally lengthy and excessively redundant. The bowel was healthy-looking with no gross signs of ischemia. The volvulus was detorsed. Resection of Sigmoid colon and colorectal anastomosis was done.



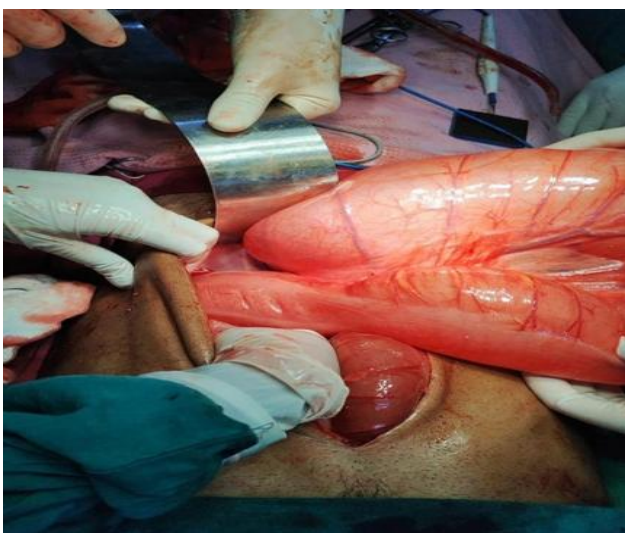
His post operative period was uneventful.

Case 5: Obstruction due to Intussusception

A 32 year old male patient came to Emergency department with complaints of Abdominal pain and abdominal distension for 1 day, vomiting 3 episodes which was bilious, non feculent, non projectile vomiting. He had no comorbidities. His vital signs, on arrival were: temperature 37.6 °C, pulse rate 120/minute, respiratory rate 18/minute, and blood pressure 130/70 mmHg. His SpO₂ on room air was 98. Abdominal examination revealed a distended abdomen, diffuse tenderness, with guarding. Mass of size 10*10cm is palpable in right Iliac fossa and extending into right lumbar region. Bowel sound was absent.

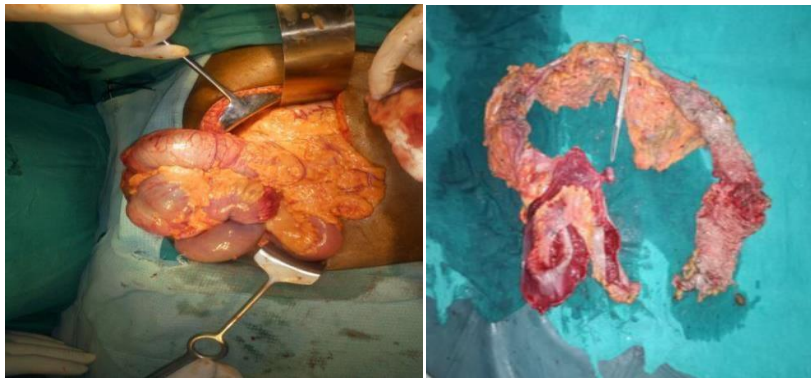
Basic investigations were done. His total count was found to be elevated [18000 cells per cubic millimeter]. His renal function test was found to be within normal limits. X ray abdomen showed multiple air fluid level.

A computed tomography (CT) scan was taken which showed bowel in bowel, caecal wall thickening, features suggestive of ileo-caecal intussusception.





After initial resuscitation, the patient was taken for an exploratory laparotomy, during which ileo-caecal intussusception was found, incidental growth was felt at the Sigmoid colon, hence total colectomy was done, and then proceeded with ileo-rectal anastomosis. Post operative HPE was suggestive of Adenocarcinoma.



His post operative period was uneventful

2. Conclusion

Intestinal obstruction is one of the commonly encountered clinical entities. Since the advancement in understanding the anatomy/physiology fluid and electrolyte management along with modern antibiotics and intensive care unit, the mortality has been decreasing consistently. Success in the management of acute intestinal obstruction depends largely upon prompt diagnosis, adequate resuscitation and skillful management.