

CECAL VOLVULUS

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ABSTRACT

Aim- To study a case report of caecal volvulus; a rare clinical entity **Introduction-** Cecal volvulus is an uncommon cause of intestinal obstruction, and is the axial twisting of the cecum, ascending colon, terminal ileum, and their associated mesenteries as pedicles. It is estimated that it occurs in 2.8–7.1 per million people per year. It is an infrequent cause of intestinal obstruction, accounting for 1–5% of all adult intestinal obstructions; and up to 40% of colonic volvulus. A mobile/non-fixed cecum is mentioned as one significant associated finding in patients with cecal volvulus, and this was seen in about 25% of cadaveric studies.⁴ Its variable clinical symptoms make it difficult to diagnose early. **Case Summary-** A 51 years old male presented with features of intestinal obstruction with a history of eight days. X-ray showed features intestinal obstruction with, dilated large bowel loops could be seen with atypical air fluid level. A large caecal volvulus was seen with gangrenous caecum and proximal 4 cm of ascending colon. Rest of small bowel was dilated and DJ junction was found on the right of aorta. Resection of cecal volvulus with ileo-ascending anastomoses with proximal loop ileostomy was done. **Conclusion-** Caecal volvulus is a rare cause of bowel obstruction, mainly caused by an exceedingly mobile caecum, an embryologic abnormality. Early diagnosis can be difficult due to its unspecific symptoms of small bowel obstruction. The main course of treatment is surgical, and modalities depend on various factors such as patient status and perioperative findings.

KEYWORDS : Abdominal pain, cecum, intestinal obstruction, volvulus

INTRODUCTION:

Cecal volvulus is an uncommon cause of intestinal obstruction, and is the axial twisting of the cecum, ascending colon, terminal ileum, and their associated mesenteries as pedicles. It is estimated that it occurs in 2.8–7.1 per million people per year. It is an infrequent cause of intestinal obstruction, accounting for 1–5% of all adult intestinal obstructions; and up to 40% of colonic volvulus. A mobile/non-fixed cecum is mentioned as one significant associated finding in patients with cecal volvulus, and this was seen in about 25% of cadaveric studies.⁴ Its variable clinical symptoms make it difficult to diagnose early

Case Report:

This patient 51 years old male was apparently asymptomatic 8 days back. Then he complained of not passing stool and flatus and pain abdomen for past 8 days. He also complained of abdominal distension for past 4 days. Pain originated from right iliac fossa and umbilical region and gradually spread to whole of abdomen. Pain was colicky in nature and gradually intensified 3 days back. Initially pain was not associated with nausea or vomiting, but pt complained of nausea and vomiting 2 days back.

These symptoms were not associated with fever. Patient did not present any history of previous such symptoms. There was no visible peristalsis, lump or previous surgical scar mark. Patient did not give history of chronic constipation or oliguria or any other comorbid condition.

At the time of admission his general condition was fair, patient was conscious and oriented, there was no pallor, icterus, cyanosis, clubbing, or edema, pulse rate was 98/min and BP-130/100 mm hg, respiratory rate of 22/min and his chest was clear. His abdomen appeared distended and tense with generalised tenderness, resonant in all quadrant on percussion and liver dullness was obliterated. His anal tone was increased there was no anal tag or mass rectum was empty and rectal ballooning was present. His hernial orifices were intact. Patient appeared dehydrated and with elevated temperature and respiratory rate. He did not have any previous blood investigation. Patient was resuscitated with 2 wide bore iv cannula, ABG report optimized, and then sent for X-ray.

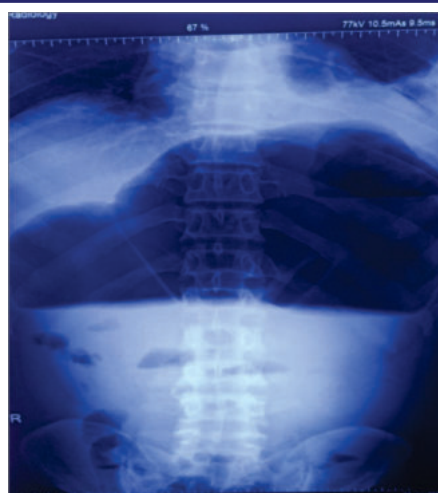


Figure 2. X-Ray Abdomen erect view caecal volvulus with malrotation where multiple air fluid levels along with large dilated bowel loops present



Figure 3. Chest Xray PA view of caecal volvulus with malrotation After taking proper consent patient was sent to operation theatre and exploratory laparotomy was done.

Intra-op Findings:

A large volvulus was seen, Caecum and proximal part of ascending colon was gangrenous. Ascending colon was perforated and adhered to on end of parietal wall around left hypochondrium.

Rest of small bowel was dilated. DJ junction was found on the right side of aorta Small bowel was not adhered to the root of mesentery.

Resection of cecal volvulus with ileo-ascending anastomoses with proximal loop ileostomy was done.

Midline rectus was closed with pds-1 and skin was closed by delayed primary closure on day 5. His stoma got functional on day 3 and the pt was discharged on 10th day of admission.

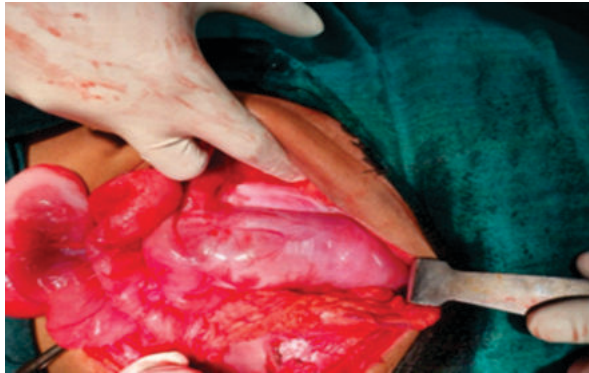


Figure 4. Dilated caecum with malrotation

DISCUSSION:

Cecal volvulus is a rare clinical entity with an average incidence of 2.8-7.1 per million people per year, accounting for 1-2% of all large bowel obstructions.¹ The mobile cecum is an embryologic abnormality and has been associated with functional colon disease (chronic constipation and irritable bowel syndrome).

However, unlike functional disease, the primary treatment is operative, using laparoscopic cecopexy.² The cecal volvulus represents the acute form, with typical feature of a bowel obstruction that needs immediate operative treatment. On the other hand, a chronic form of mobile cecum syndrome which is the most common form reported a history of intermittent crampy abdominal pain, distension, and constipation.³

Associated risk factors for colonic volvulus are advanced age, chronic constipation, and diets rich in high fiber. Cecal volvulus most commonly occurs in the second and third decade of life, compared to sigmoid volvulus that occurs in the seventh and eighth decade of life.

Patients that have psychiatric conditions or are institutionalized and taking psychotropic drugs have a higher incidence of colonic volvulus. The use of psychotropic drugs can cause hindered intestinal mobility and predispose patients to volvulus.^{[5][6]}

In general, there are three different types of cecal volvulus:

- Type 1: This cecal volvulus forms by a clockwise axial twisting or torsion of the cecum along the long axis. The location of the cecal volvulus is in the right lower quadrant.
- Type 2: This cecal volvulus develops from a twisting or torsion of a portion of the cecum and a portion of the terminal ileum. The location of the cecum gets displaced to an ectopic location (typically left upper quadrant) and is relocated in an inverted orientation. Traditionally, but not for all cases, a type 2 cecal volvulus will encounter a counterclockwise twist.



Figure 5. Cecal volvulus with perforated proximal ascending colon



Figure 6. Cecal volvulus with mobile cecum and DJ was found on right hand side of aorta suggesting malrotation

Type 3: This cecal volvulus (also known as cecal bascule) is the upward folding of the cecum. There is no axial twisting like with type 1 and type 2.

Type 1 and type 2, which involve axial torsion, account for approximately 80% of all cecal volvuli. Cecal bascules account for the remaining 20% of cecal volvuli.

A twisted loop of the bowel and its mesentery on a fixed point is known as volvulus and it may arise more frequently in the sigmoid colon and cecum. Cecal volvulus as an uncommon cause of acute intestinal obstruction is axial twist of the cecum, ascending colon and terminal ileum around their mesenteric pedicles. Due to its rarity and nonspecific presentation, preoperative diagnosis is rarely achieved in most cases.⁵ The diagnosis usually confirmed by barium enema and abdominal computed tomography. Treatment depends on many factors, and minimally invasive approaches are becoming the treatment of choice.⁶ Cecal volvulus is an uncommon cause of intestinal obstruction, and is the axial twisting of the cecum, ascending colon, terminal ileum, and their associated mesenteries as pedicles. It is estimated that it occurs in 2.8-7.1 per million people per year. It is an infrequent cause of intestinal obstruction, accounting for 1-5% of all adult intestinal obstructions; and up to 40% of colonic volvulus. A mobile/non-fixed cecum is mentioned as one significant associated finding in patients with cecal volvulus, and this was seen in about 25% of cadaveric studies. Its variable clinical symptoms make it difficult to diagnose early.⁷

Surgical intervention provides the most definite resolution in cecal volvulus cases. The intraoperative approaches may depend on the individual case, for example, if the bowel is gangrenous; previous reports recommend resection.

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Nil

Conflicts of Interest:

There is no conflict of interest.

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