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Cecal volvulus in an elderly male: Rare case report of cause of intestinal obstruction

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Abstract

Introduction: Colonic volvulus represents 1.9% of cases of large bowel obstruction in the United States and up to 10% to 50% of cases in Africa, the Middle East, and South America. Volvulus occurs when a segment of colon undergoes torsion along its own mesentery (Mesenteroaxial) resulting in obstruction.

Case History: A 70 year old male presents to the Emergency Department with 3 days history of worsening abdominal pain, distension, nausea, vomiting and cessation of flatus and bowel movements. As soon as patient presented to our emergency department, brief history was noted and examination was done, resuscitative measures were taken and patient was planned for emergency laparotomy.

INTRA Operatively: Small bowel dilatation noted with cecal volvulus with multiple perforations over the dilated cecum along with discoloration of ascending colon.

Discussion: The management of cecal volvulus requires emergency diagnosis and emergency surgical intervention. Any delay in diagnosis may lead to intestinal necrosis or perforation and worsening the prognosis in patients who are generally elderly. Several authors reported a high mortality rate of cecal volvulus due to delay to diagnosis and surgical intervention.

Conclusion: It is rare case of intestinal obstruction needs emergency operative management. Despite advancement in radiological imaging preoperative diagnosis is challenge.

Keywords: Colonic volvulus, undergoes torsion, distension, nausea, cecal volvulus

Introduction

Cecal volvulus is an axial twisting of the cecum, involving terminal ileum and ascending colon due to absence of normal cecal fixation^[1]. The First description of cecal volvulus was made by Rokitansky in 1837^[2]. It is responsible for 25%–40% of all volvulus of colon in adults and represents the second part of the colon that is most commonly affected by the volvulus after sigmoid colon^[3]. Although it generally present as a small bowel obstruction^[4], clinical symptoms, signs, and routine laboratory tests are not specific to the disease^[5], while CT is more diagnostic^[6]. Cecal volvulus is a rare cause of intestinal obstruction that occurs 1–1.5% of all intestinal obstructions^[7]. Surgical intervention is the only treatment of cecal volvulus^[7]. The prognosis of the disease may be poor with a 0–40% mortality rate depending on the bowel viability or gangrene^[7, 5].

Case History

A 70 year old male presents to the Emergency Department with 3 days history of worsening abdominal pain, distension, nausea, vomiting and cessation of flatus and bowel movements. On examination, patient was conscious and oriented to time, place, person having toxic look. Patient had borderline BP (100/60) with tachycardia and maintaining saturation at room air. On examination Abdomen was distended with absent bowel sounds. No dilated veins or scars over abdomen due to previous surgeries. On Per Rectal examination, no skin tag or fissure seen on separation of buttocks, sphincter tone was normal, absence of impacted hard stools, not roomy. Patient had no past surgical history, non-hypertensive and non-diabetic. No past history of abdominal or pulmonary TB, no family history of death due to cancer or TB.

Patient had CECT abdomen and pelvis which was reported outside our institution as SMALL Bowel Obstruction (? Due To Tubercular Strictures /? Adhesions) With Perforation.

As soon as patient presented to our emergency department, brief history was noted as described above and examination was done.

Ryle's tube insertion done and around 500 ml of bilious aspirate was collected in the bag with continuous aspiration, pre-operative urine output was 150 ml after Foley's catheterization, resuscitative measures were taken and patient was planned for emergency laparotomy

Laboratory tests revealed decreased leukocyte count (3030), anemia (8.4), derranged RFT's (urea – 94, creat – 1.9, S. Na – 125, S.K – 4.5, S.Cl – 91), hypoalbuminemia (2.8) and decreased total proteins (5.5).

INTRA Operatively: Small bowel dilatation noted with cecal volvulus with multiple perforations over the dilated cecum along with discoloration of ascending colon for which ileo transverse colic anastomosis was done along with covering loop ileostomy.

Postoperatively: Patient was kept NPO for 1 day and then was started orally the next day gradually accelerating the intake from liquids to solids. Surgical wound site was healthy and drain was removed on POD5. Finally patient was discharged on POD 9 and was asked to review in case of any discharge from wound site etc.



Fig 1: This is a CT plain of abdomen and pelvis showing dilated caecum under the left side of diaphragm

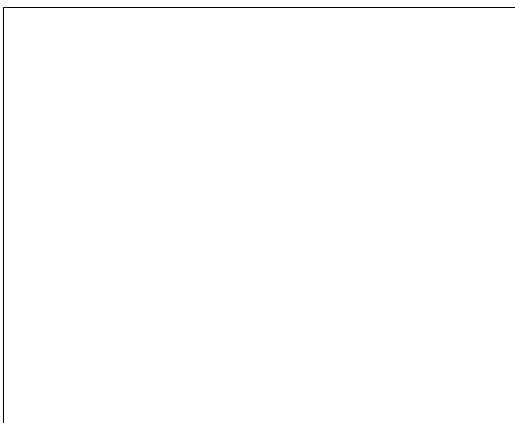


Fig 2: This picture shows the dilated caecum with multiple perforations, along with spillage of fecal matter, in left hypochondrium

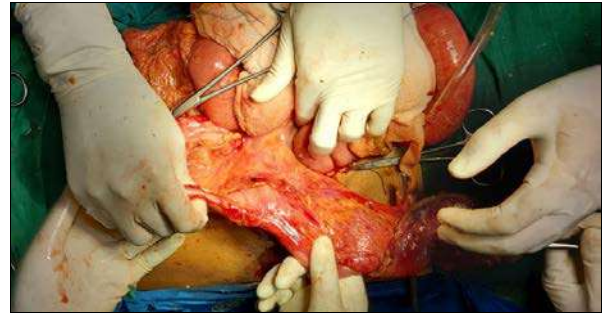


Fig 3: This picture shows ascending colon, with dilated and perforated cecum, after its mobilization

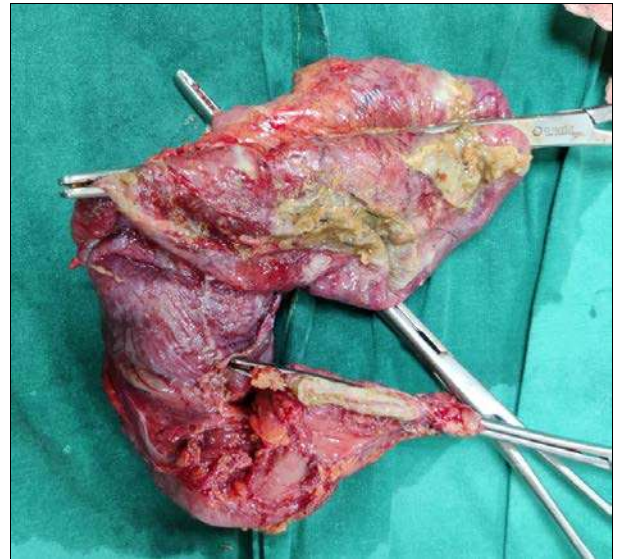


Fig 4: This picture shows specimen of dilated cecum with multiple perforations and ascending colon after right hemicolectomy

Discussion

Cecal volvulus (CV) is an uncommon cause of acute intestinal obstruction and is less common than sigmoid volvulus. It involves axial twisting of the cecum, ascending colon, and terminal ileum, often in a counter-clockwise fashion^[8]. Cecal volvulus is thought to result from increased cecal mobility in people with inadequate right colon fixation during embryogenesis^[9, 10]. This leads to an elongated mesocolon with attendant increase in potential for volvulus formation. Between 11% and 25% of the population may have an elongated mesocolon^[9].

However, the large difference between incidence of mobile caecum and cecal volvulus suggests that factors other than anatomical susceptibility are at play^[9] and additional conditions such as history of prior abdominal surgery^[11], high fiber intake^[5], adynamic ileus and chronic constipation^[12] are known to predispose to the condition.

The term cecal volvulus is a misnomer because, in most patients with cecal volvulus, the torsion is located in the ascending colon above the ileocecal valve. In general, a partial malrotation is necessary for cecal volvulus to occur, because the cecum and parts of the ascending colon are involved. Early diagnosis is essential to reduce the high mortality rate reported with this condition, which is essentially a closed-loop obstruction that may lead to vascular compromise with consequent gangrene and perforation^[13]. It affects a younger cohort compared to sigmoid volvulus, has a female predilection, and has been found to have a growing incidence of cases by 5.53% per year for the National Inpatient Sample (NIS). Incidence of cecal volvulus is biphasic:

mid-40s and again in the late 70s [14]. Onset is acute and common symptoms include abdominal pain, Emesis, abdominal distention, may progress to peritonitis in the setting of ischemia [1]. A prior history of chronic intermittent abdominal pain that is relieved with the passage of flatus can be elicited in 50% of patients who present with acute cecal volvulus. This clinical presentation is termed "mobile cecum syndrome." [30] Endoscopic therapy offers less than 30% success rate for reduction of cecal volvulus and should not be attempted due to the risk of perforating the thin walled and already threatened cecum. Treatment of cecal volvulus is operative. Nonresective approaches have been described with high rates of recurrence. Detorsion or detorsion with cecopexy carries a recurrence rate of 12% to 13%. Detorsion with cecostomy carries a recurrence rate of up to 33% with a similarly high mortality rate [1]. Postoperative complications from cecostomy tube include abdominal wall complications and persistent colocutaneous fistula in 50% of patients [15]. Resection with primary anastomosis is the accepted approach. Recurrence following resection is negligible

Compliance with Ethical Standards

- Disclosure of potential conflicts of interest
- Research involving human participants and/or animals
- Informed consent
- All authors disclose no potential conflicts of interest. Human subjects were not used for this case report and, as such, informed consent was not required.

Conclusion

It is rare case of intestinal obstruction needs emergency operative management. Despite advancement in radiological imaging preoperative diagnosis is challenge. The line of management varies depending upon the intra operative findings in case of cecal volvulus.

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