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A rare case of cecal volvulus presenting as an intestinal obstruction

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Abstract

Intestinal obstruction is rarely caused by cecal volvulus, with multifactorial etiologies. Cecal volvulus is a rare condition with incidence rate ranging from 2.8 to 7.1 per million people per year. This is a case of 65-year old male, presenting with Intestinal obstruction and diagnosed as a case of cecal volvulus during laparotomy. Right hemi colectomy with side-to-side ileo-transverse anastomosis and proximal ileostomy was done. We would like to emphasize the importance of a diagnosis and appropriate treatment in this rare pathology in abdominal procedures. The patient benefitted from an early surgical intervention without further complications, as well as an adequate postoperative evolution it is important to acknowledge and consider this pathology during differential diagnosis, and not delay the treatment.

Keywords: Cecal Volvulus, treatment, cecal volvulus presenting, intestinal obstruction, rare case

Introduction

Cecal Volvulus is axial twisting that occurs involving the cecum, terminal ileum and ascending colon. Rarely, it may take the form of upward and anterior folding of the ascending colon known as cecal bascule^[1]. Cecal volvulus is a rare condition with incidence rate ranging from 2.8 to 7.1 per million people per year. Clinical presentation is highly variable, ranging from intermittent episodes of abdominal pain to abdominal catastrophe^[2, 3].

Case Presentation

A 65 year-old male, farmer by occupation, resident of Dighal, Haryana presented to the Emergency department of World College of Medical Sciences and Research, Hospital, Jhajjar, Haryana with complaints of generalised acute abdominal pain, which was sudden onset and progressive in nature, associated with abdominal distension and vomiting, which was bilious and non-projectile, from past two days. There was no co-morbidities. Not relieved by rest and analgesics. He was a non-vegetarian occasional smoker and alcoholic. No significant family history.

On Examination, the patient was febrile with signs of dehydration, vitals were unstable.

On abdominal examination, abdominal distension was present. Tympanic note was perceived in peri-umbilical area with tenderness over the same region.

Lab investigations, there was neutrophilic leucocytosis with shift to left and other tests were unremarkable.

On Radiological investigations, x-ray whole abdomen revealed dilated gas-filled colonic segment in the left side of abdomen without free intraperitoneal air in the abdominal cavity. Ultrasound showed dilated large gut loops.

Patient was resuscitated.

Intraoperatively, Emergency exploratory laparotomy was performed and on entering the abdomen, we observed that the right iliac fossa was empty with dilated loops of large intestines-caecum lying twisted in the clockwise direction in the midline and left upper quadrant without the signs of perforation. (Figure 1A and 1B).

Intestinal loops were manually untwisted in the counter clockwise direction, the loops were found to be having dark blackish colour, even after untwisting and after wrapping them with warm saline soaked sponges. The loops were thin, friable and no active peristalsis was present. The margins of non-viability were identified and resection of the affected part was done ileocolic anastomosis with proximal diversion ileostomy was made.

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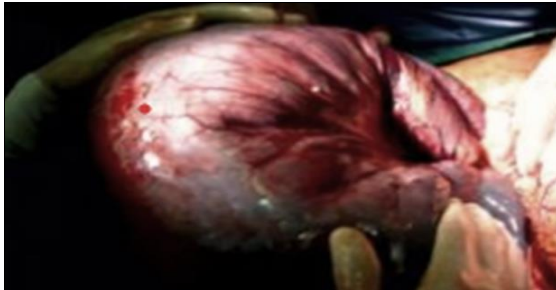
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Anastomosis was checked for any colour changes or any leak. Final peritoneal lavage with normal saline, followed by an examination of gut loops that was unremarkable, was done. Abdomen was then closed and specimen sent for histopathological examination.

Post-operative period was uneventful. Patient was maintaining on IV fluids, antibiotics and analgesics. The patient was started on liquid enteral feed 48 hours postoperatively and soft, semisolid diet on return of active gut peristalsis.

Histopathological Findings of specimen were suggestive of gangrenous large bowel.



(A)



(B)

Fig 1: (A & B) Pictures showing intra-operative dilated gangrenous caecum

Discussion

Colonic volvulus is the most common type of volvulus, followed by that of the sigmoid colon and cecum, and there are case reports involving the transverse colon, including the splenic or hepatic flexures [4-6]. Different risk factors and etiologies have been described for the development of this pathology that vary between populations; the most common associated factors are chronic constipation, a high-residue diet, laxative abuse, pregnancy, and Crohn's disease, among others [5]. In this particular case, the presence of constipation and previous history of surgery might have been a key factor for this particular scenario. Regarding clinical manifestations, patients may often present with severe abdominal pain, distension, constipation, nausea and vomiting that could even cause hypovolemic shock [7, 8]. On physical examination, a distended abdomen could be observed, generalised tympani perceived, and absent or hypoactive peristaltic sounds found. On the other hand, if perforation or gangrene occurs, a patient will present with clinical findings of acute abdominal pain, with signs of peritoneal irritation and haemodynamic instability.

In contrast to sigmoid volvulus, for cecal volvulus, abdominal x-ray imaging has limited utility, identifying in some cases air-fluid levels and predominant cecum dilatation, while in fewer cases the caecum is displaced into the right upper quadrant; hence surgeons must decide whether an additional imaging study or an immediate surgical procedure is needed. CT

scanning nowadays has an important role, with a sensitivity as high as 90% for cecal volvulus; a swirl of mesenteric soft tissue and fat attenuation with adjacent loops of bowel surrounding rotated intestinal vessels, known as the "whirl sign", is almost diagnostic. Nevertheless, it is only present in few cases of classic volvulus. Regarding caecal bascule, CT scanning has a lower sensitivity, and at least 50% of bascule diagnoses are made during exploratory laparotomy [9]. Although abdominal tomography is more reliable than abdominal radiography [10], in some cases, with the initial radiologic findings, patients could undergo emergency surgery [6].

Conclusion

There is no best management strategy; nonetheless, the low success rates of colonoscopy for reduction of a valvulated caecum and the risk of perforation alongside the potential risk of missing colonic necrosis support surgical management as the most reliable treatment for this pathology [10]. Regarding the surgical treatment, right colectomy has become the most effective procedure, with the lowest recurrence rates and an acceptable morbidity risk. The patient benefitted from an early surgical intervention without further complications, as well as an adequate postoperative evolution; it is important to acknowledge and consider this pathology during differential diagnosis, and not delay the treatment

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