



CAECAI VOLVULUS PRESENTED AS INTESTINAL OBSTRUCTION , A RARE CASE REPORT

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ABSTRACT

Cecal volvulus is a rare cause of intestinal obstruction. This condition occurs when redundant and loose mesentery twist around an axis. In terms of a cecal volvulus, the terminal ileum and right colon are involved. When a volvulus involves the cecum alone, it is also called a cecal bascule. This occurs when a highly mobile cecum traverses from a caudad to cephalad direction. In this report, we present a 40 year-old patient with cecal volvulus, and we discuss this very rare entity.

KEYWORDS : Cecum, Obstruction, Volvulus

INTRODUCTION

Cecal volvulus is a rare cause of intestinal obstruction that occurs 1-1.5% of all intestinal obstructions. 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.

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.
- 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.

Although it generally presents as a small bowel obstruction, clinical symptoms, signs, and routine laboratory tests are not specific to the disease, while CT is more diagnostic. Surgical intervention is the only treatment of cecal volvulus. The prognosis of the disease may be poor with a 0-40% mortality rate depending on the bowel viability or gangrene.

In this report, we present a 40 year-old patient with cecal volvulus TYPE 2 with mobile cecum and incomplete visceral rotation.

CLINICAL PRESENTATION

40 year old female patient presented to the emergency ward with complaints of Abdominal pain and distension for 2 day,

vomiting of 3 episodes which was bilious, non feculent, non projectile.

Obstipation for 3 days,

Patient has no history of fever, melena, bleeding PR, UGI bleeding.

Patient has no comorbidities, or no history of any previous surgeries.

On examination, patient had tachycardia. Abdominal examination revealed a distended abdomen, diffuse tenderness, with guarding and rigidity. Bowel sound was absent.

Complete blood count exhibited increased white blood cells of 18,000, with 80% neutrophils and 7% bands. His liver and kidney function tests were within normal limits.

Per rectal examination was found to have empty rectum. Ultrasonogram revealed a dilated bowel loops with absent peristalsis.

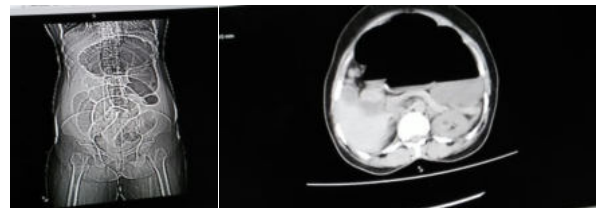
X ray abdomen showing rounded focal collection of air distended bowel coffee bean or comma sign.

- Suggestive of volvulus



CT abdomen with features of small intestinal obstruction with dilated large intestinal loops in epigastrium with air fluid levels – Birdbeak sign, whirl sign.

- Suggestive of caecal volvulus



The patient was admitted and diagnosed as intestinal obstruction due to caecal volvulus and proceeded with resuscitation followed by exploratory laparotomy



Due to these findings, the patient underwent an exploratory laparotomy, during which. Operative findings demonstrated a caecal volvulus with terminal ileum and right colon gangrene. Cecum was mobile and visceral rotation was incomplete was found, detorsion of the volvulus followed by right hemicoectomy and ileo transverse anastomosis

Along with proximal diversion ileostomy was done. Patient post op period was uneventful and patient started on oral feed from POD 4 after patient has passed flatus. Patient tolerated oral feeds well. Histopathological examination reported acute gangrenous ileitis, colitis and appendicitis

DISCUSSION

Cecal volvulus is caused by axial twisting of the cecum along with the terminal ileum and ascending colon. It is responsible for approximately 1-1.5% of all intestinal obstructions, while 11% of all volvulus-related intestinal obstructions, and its incidence is 2.8-7.1 cases per million annually. Most of the cecal volvulus reports are from Asia, and the disease occurs less frequently than sigmoid volvulus, which is also common in Asia, as well as in Turkey, particularly in our region, eastern Anatolia. The present patient is our only cecal volvulus case in the recent 10 years.

Many factors have been referred as correlated to cecal volvulus development, mainly anatomical predispositions such as incomplete intestinal rotation, and previous abdominal operations. The disease predominantly affects female patients 40-60 years of age, as was in our case.

Abdominal pain, distension, nausea, vomiting, and diarrhea or constipation are the main clinical features of cecal volvulus, but unfortunately clinical symptoms, signs, and routine laboratory tests are not specific enough to lead to a prompt diagnosis. Although abdominal radiography may show the features of an intestinal obstruction, including widespread small intestinal air-fluid levels and/or distended cecum in the right abdomen, making the cecal volvulus diagnosis is difficult or impossible in most of the cases, as was in ours. Doppler USG may lead to make a definite diagnosis by showing twisted mesenteric vessels, and CT may be more diagnostic by demonstrating cecal distension, cecal apex in left upper quadrant, mesenteric whirl, ileocecal twist, and small bowel distension. Despite the identified diagnostic features, cecal volvulus is rarely diagnosed correctly at the time of presentation due to the low incidence of the disease.

Surgical intervention is the only treatment of cecal volvulus. If there is intestinal gangrene, resection is inevitable, as was in our patient. In nongangrenous cases, it is sufficient to simply untwist the cecum or additionally to perform a cecopexy by fixing it to the abdominal wall, and laparoscopic technique is preferred. Perioperative mortality of cecal volvulus is approximately 0-40% depending on the bowel viability or gangrene, as well as the type of the therapeutic procedure. Early diagnosis is essential in order to reduce the high mortality rate.

REFERENCES

1. Bandurski R, Zareba K, Kedra B. Cecal volvulus as a rare cause of intestinal obstruction. *Pol Przegl Chir* 2011; 83: 515-7.
2. Khaniya S, Shakya VC, Koirala R, et al. Cecal volvulus: a twisted tale. *Trop Doct* 2010; 40: 244-6.
3. Pulvirenti E, Palmieri L, Toro A, Di Carlo I. Is laparotomy the un-avoidable step to diagnose caecal volvulus? *Ann R Coll Surg Engl* 2010; 92: 27-9.
4. Rosenblat JM, Rozenblit AM, Wolf EL, DuBrow RA, Den EI, Levsky JM. Findings of cecal volvulus at CT. *Radiology* 2010; 256: 169-75.
5. Atamanalp SS, Ozturk G. Sigmoid volvulus in the elderly: outcomes of a 43-year, 453-patient experience. *Surg Today* 2011; 41: 514-9.
6. Takada K, Hamada Y, Sato M, et al. Cecal volvulus in children with mental disability. *Pediatr Surg Int* 2007; 23: 1011-4.
7. Arulmichelvan A, Sivaraman A, Muthukrishnan A. Cecal volvulus associated with intestinal malrotation presenting as postoperative intestinal obstruction. *Med Princ Pract* 2012; 21: 389-91.
8. Jones RC, Wayne EJ, Kehdy FJ. Laparoscopic detorsion and cecopexy for treatment of cecal volvulus. *Am Surg* 2012; 78: 251-2.