

Cecal Volvulus with Intestinal Malrotation: A Case Report

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Abstract

Case Report

Cecal volvulus is a rare surgical emergency, it occurs when the caecum get entangled upon a mesenteric axis which can cause a decrease of the blood supply or complete or partial obstruction of the bowel lumen, the Intestinal malrotation is a rare etiology of the cecal volvulus occurring due to incomplete or faulty rotation and fixation of the gut during fetal life. In our case report the occurrence of these two anomalies together is found which a rare situation is. This is a report of a 35 year old man who presented with acute abdominal pain and intestinal obstruction. CT demonstrated a cecal volvulus complicated by colic perforation.

Keywords: Cecal, volvulus, intestinal obstruction, radiology, CT, Ileocecal resection, intestinal malrotation.

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INTRODUCTION

The cecal volvulus incidence is rare; it represents 30% of colonic volvulus [1]. The occurrence is related to the torsion of hypermobile cecum and its diagnosis is still challenging for the surgeon. Delay in the diagnosis of this condition carries high morbidity and mortality rates.

The clinical presentation is made as an acute intestinal obstruction with strangulation. Diagnosis is established especially by CT SCAN, and the surgery is the main treatment based on reduction of the torsion and ileo-cecal resection usually when concomitant cecal necrosis is found.

CASE REPORT

A 36 year old man chronic smoker with no medical history, presented to the emergency room with an acute abdominal pain with intestinal obstruction syndrome. On examination the patient had a distended abdomen with signs of peritonitis. Biology found an important biological inflammatory syndrome with hyperleukocytosis with WBC 22570 and elevated CRP [234]. Plain X-ray of the abdomen in erect posture showed a gas shadow resembling "megacolon" with gas-fluid level in the right hypochondrium

[Fig.1]. CT scan showed signs of cecal volvulus with intestinal malrotation and peritonitis signs [Fig.2].

At the admission, the patient had got a brief measures of resuscitation by administrating intravenous fluid and putting nasogastric aspiration, afterward the patient was transferred to surgery room, under general anesthesia through a vertical midline incision, a laparotomy was performed, The operative finding was abundant fecal fluid collected and then aspirated, distended bowel loops, 180 degrees clockwise volvulated mobile cecum attached to the right lobe of the liver with a perforation on the anti-mesenteric border with proximally and distally collapsed colon which was totally localized at the left side and the distended small bowel loops at the right side, after the removing of the infected liquid and tissue from the abdominal cavity, an ileo-cecal resection was performed associated with an ileo-colostomy due to the peritonitis context placed at the left flank. The patient had got Antibiotics prophylaxis which was given for 5 days post operatively using ceftriaxone intravenously at the dosage of 2 gr a day and venous thromboembolism prophylaxis was given using enoxaparin subcutaneously at the dosage of 4000 UI once a day. The post-operative follow-up was favorable, and the patient hospitalization has been completed at Day 5. A late examination was done 1 week and then 1 month after surgery and was normal.

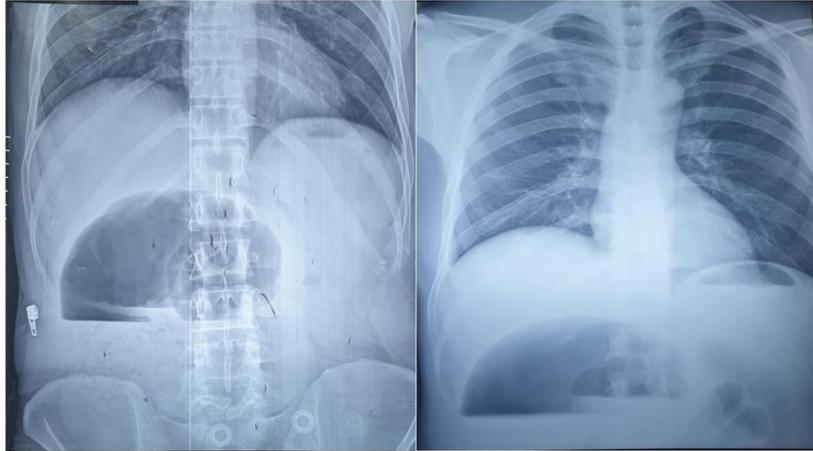


Fig. 1: air- liquid level and coffee bean sign

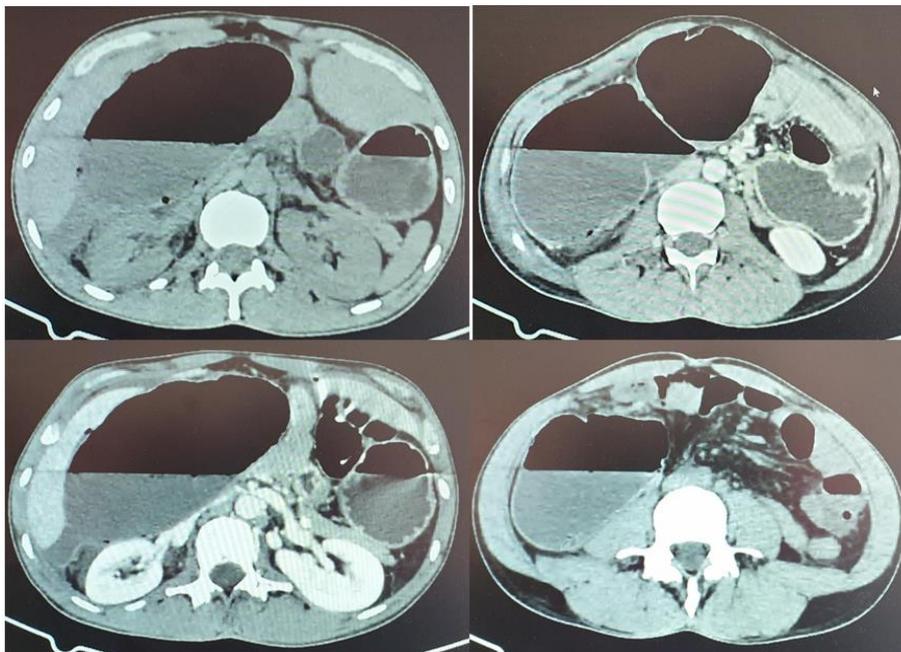


Fig. 2: important distension of the right colon and cecum with diameter of 95 mm which is median position, with hydro-aeric content, mainly water reaching a and this in upstream of a size disparity zone located at the level of the mid-pelvic region at the expense of the right colon. - It is associated with a thinning of the right colonic wall with a virtual aspect by place and bubbles of pneumoperitoneum



Fig. 3: Intra-operative photographs showing cecum attached to the liver and contained perforation with the flow of fecal liquid

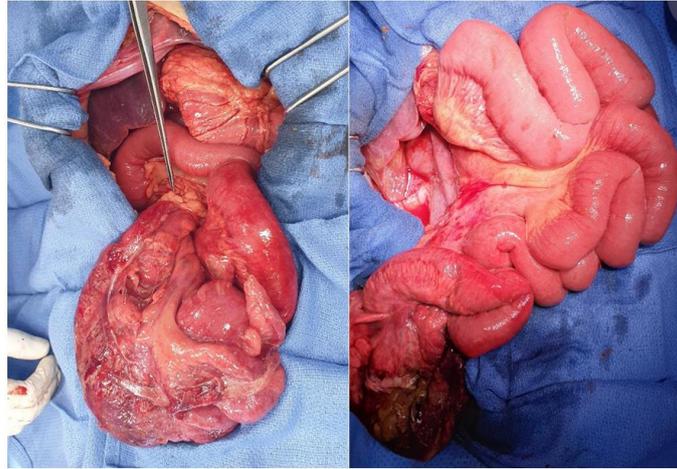


Fig. 4: Intra-operative photographs showing cecum released from the liver



Fig. 5: ileocolostomy bouilly-volkmann placed on the left side

DISCUSSION

Cecal volvulus (CV) is a rare cause of acute intestinal obstruction, it represents 20 to 40% of colonic volvulus [2, 3], made it the second most common cause of colon volvulus [5]. It is the result of an axial rotation of the right colon, cecum, and terminal ileum [4]. The torsion of the cecum around its base constitutes the “true” cecal volvulus, by organo-axial mechanism, with in general torsion of the terminal ileum (90% of cases); the bascule of the cecum is done by a mesenteric-axial mechanism (10%). The combination of the two mechanisms is possible. There is a high risk of necrosis due. The torsion that involves the cecum, its meso and its vessels [14].

The average age of onset is between 55 and 65 years [6]. Sporadic pediatric cases have been reported [7]. There is no clearly established sex-linked predisposition [6].

Cecal volvulus is reported to be the results of abnormal mobility of the cecum found in 11 to 25% of people in the general population [8, 9]. This situation could be congenital and acquired.

Many predisposing factors are described: These are the bridles and adhesions of the ileocecal region [10], extrinsic compression due to pregnancy or intraperitoneal tumors [11], downstream obstacles (stenosing colorectal tumors, sigmoid volvulus). Colonic motility disorders, whether constipation or diarrhea create favorable conditions for volvulus [12, 13]. Thus, patients under neuroleptics constitute a privileged field.

The clinic is marked by paroxysmal abdominal pain, associated with vomiting and abdominal distension found in almost all patients [15].

Blood tests make no contribution to the diagnosis, it could show hemoconcentration and electrolyte imbalances related to dehydration, and reflect the degree of intestinal obstruction and associated complications [14,16].

Plain abdominal x-ray allows the diagnosis to be made in more than 70% of cases [17, 18], by showing The particular "coffee bean" image which is found in half of the cases, and a voluminous air-liquid level reflecting the distention of the cecum. The CT is more sensitive and specific than standard radiography for diagnosing CV and detecting complications [10]. It demonstrates a distended midline cecum (coffee bean sign), and the torsion coils of the caecum and the terminal ileum in the center of which a hypodense zone marks the starting point of the torsion, dilated mesenteric and mesocolic vessels radiate to the periphery of the volvulated colon (whirl sign) [19].

The treatment is essentially surgical and the usual options are manual detorsion when possible, treating progressive complications. Depending on operative findings [20] the surgery can be conservative (simple detorsion, cecostomy, caecopexy) or not (caecectomy, ileo-caecal resection, right hemicolectomy) [14].

CONCLUSION

Cecal volvulus with intestinal malrotation is a rare situation of intestinal obstruction in adults with non-specific clinic presentation. The preoperative diagnosis is difficult, making this pathology with severe complications and mortality.

Surgery is the standard treatment for the cecal volvulus, based essentially on resection with hemicolectomy for gangrenous or perforated cecal.

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