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Cecal Volvulus: A Rare Cause of Intestinal Obstruction: A Case Report

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Abstract | **Case Report**

Volvulus of the cecum is an uncommon cause of intestinal obstruction. The delay in diagnosis is responsible of high rate of mortality. Here we present a case of a 58 year old male with cecal volvulus.

Keywords: Cecal volvulus, Bowel obstruction, Hemicolectomy.

INTRODUCTION

The first description of cecal volvulus was reported by Rokitanski in 1837 [1]. It is a twisting of the initial part of the right colon and the terminal ileum around the right colonic vascular pedicle. It is thought to be responsible for 1% of intestinal obstructions [2]. Despite numerous publications, the symptomatology and management of this pathology remain controversial [2, 3]. We report the observation of two consecutive patients who were treated in the emergency department for cecal volvulus.

CASE PRESENTATION

A 58 year old patient was admitted to the emergency department with cessation of flatus and bowel movements, abdominal pain and meteorism. The interrogation found a symptomatology evolving five days before the consultation which presents fecal vomiting. Clinical examination noted a distended abdomen, hypertympanic with light diffuse abdominal tenderness, the hernial orifices were free and the rectal ampulla empty. The biological workup revealed a hyperleukocytosis with predominantly PNN at 15,000 elements/mm3 and 18,000 elements/mm3, the CRP was elevated to 150, the renal function normal. Then an enhanced abdominal-pelvic CT scan, It showed a significant distension of the bowel upstream of an ileocecal volvulus associated with a lack of enhancement at the level of the caecal wall and a spontaneously hyperdense aspect of some of the bowel coves associated with a moderate amount of intraperitoneal effusion (Figure 1 & 2). The patient was operated in the emergency department, approached by laparotomy, with ileocecal resection and manual ileo-colic anastomosis. The postoperative follow up was simple (Figure 3 & 4).

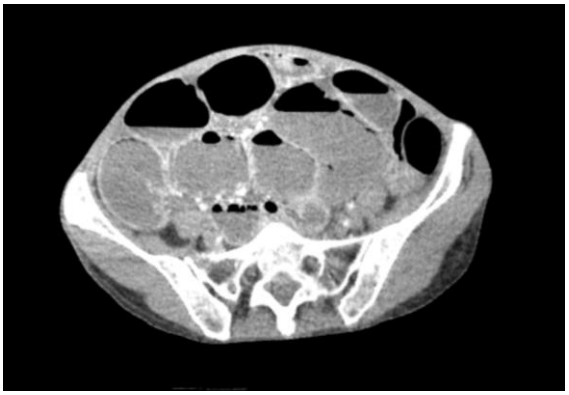

Figure 1: Hydro-aeric distension of the Gaelic handles with displacement of the cecum at the level of the left flank

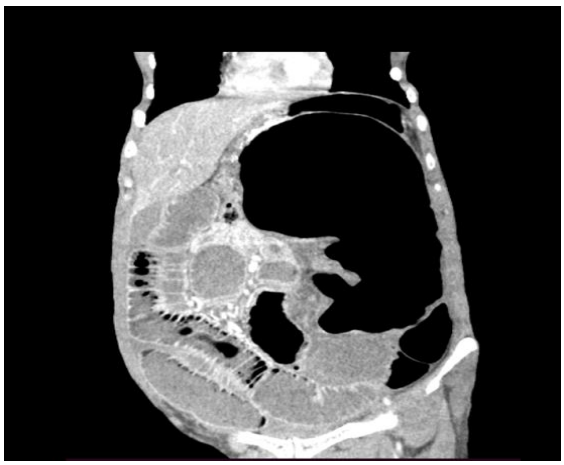

Figure 2: Hydro-aeric distension of the Gaelic handles with displacement of the cecum at the level of the left flank

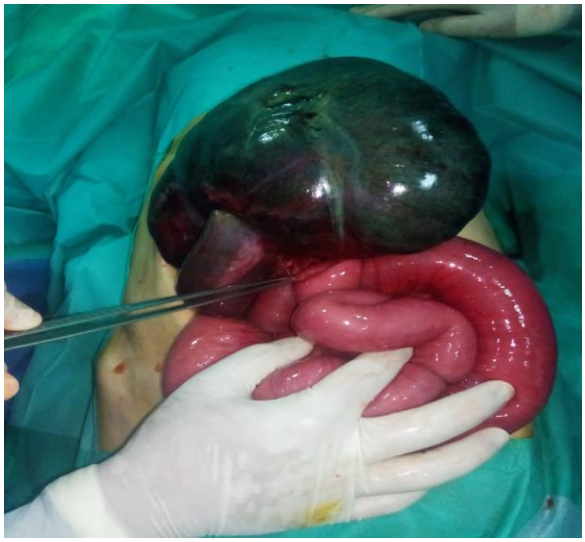

Figure 3: Operative appearance shows twisted and gangrenous terminal ileum and cecum

Figure 4: Operative appearance shows twisted and gangrenous terminal ileum and cecum

DISCUSSION

The prevalence of cecal volvulus is not precisely known. It is considered to account for 1% of acute mechanical bowel obstructions [4], and 20-40% of colonic volvulus [5, 6]. It is the second most common cause of colonic volvulus [5]. The average age of onset is between 55 and 65 years. The series of Cugnenc *et al*., found a mean age of 61.8 years [7], thus agreeing with most authors. Only Meyers et al. considered it a disease of young adults [8]. Sporadic pediatric cases have been described [9]. There is no clearly established gender-related predisposition [7].

The pathophysiology of cecal volvulus is multifactorial: it results from the combination of abnormal mobility of the cecum of congenital origin and acquired favourable factors, notably flanges and adhesions of the ileo-caecal region, extrinsic compressions due to pregnancy or intra-peritoneal tumours and downstream obstructions (stenosing colorectal tumours, sigmoid volvulus). Colonic motricity disorders, whether constipation or diarrhea, create favorable conditions for volvulus [6, 10]. Thus, patients who are under neuroleptic treatment constitute a privileged terrain.

Two mechanisms can be described: torsion of the cecum around its base constitutes the "true" cecal volvulus, by organo-axial mechasnism, with in general torsion of the terminal ileum (90% of cases); tilting of the cecum occurs by a mesenteric-axial mechanism (10%). A combination of the two mechanisms is possible. Torsion exposes a high risk of necrosis because it involves the cecum, its meso and its vessels.

The clinic is that of acute intestinal obstruction by strangulation. The onset is often abrupt, marked by paroxysmal abdominal pain with a permanent background, found in almost all patients [2, 4-8, 10]. These pains are located in the right iliac fossa, the right flank, or the right hypochondrium before becoming generalized. Nausea, vomiting, and cessation of feces and gas are associated. The patient is apyretic, and clinical signs of dehydration may exist due to the third sector. Biology does not contribute to the diagnosis. It may show hemoconcentration and electrolyte disorders related to dehydration.

Imaging provides the best diagnostic evidence. An abdominal X-ray allows the diagnosis to be made in more than 70% of cases [10]. Plain abdominal X-ray showed a large air-fluid levels, It is medial or lateralized on either the right or left side and is associated with multiple small bowel air-fluid levels and a complete absence of air in the colon. The particular "coffee bean" image is found in half of the cases. On a supine abdominal radiograph, a very large digestive clarity is seen due to air spreading in the distended cecum. A barium enema shows a lack of opacification of the cecum while the rest of the colon diameter is normal.

The CT scan with injection shows the "whirlpool sign" [11] which reflects a general intestinal volvulus [12]. It consists of the torsional coils of the cecum and terminal ileum, in the center of which a hypodense area indicates the starting point of the torsion. Dilated mesenteric and mesocolic vessels radiate to the periphery of the volvulated colon. This sign is only found in torsional volvulus. In case of caecal tilt, the CT scan only shows caecal distension. The ileal and caecal distension contrasting with a flat colon is sufficient in all cases to evoke the diagnosis. Currently, the ease and rapidity of access to CT scans and the possibility of performing frontal reconstructions that clearly show the volvulus make this examination an undeniable diagnostic tool [13]. The spontaneous evolution is either towards detorsion and healing or towards ischemia and necrosis.

The basis of treatment is threefold: to reduce the torsion when possible, to treat evolving complications and to prevent recurrence. Surgery can be conservative (simple detorsion, caecostomy, caecopexy) or not (cecectomy, ileocecal resection, right hemi colectomy).

CONCLUSION

The volvulus of the cecum occurs in mobile cecums with torsion or tilt. The diagnosis is usually delayed because of the atypical clinical presentation. A good lecture of the abdomen x-ray should be sufficient to make the diagnosis and to rule out sigmoid colonic volvulus in most cases. In doubtful cases, the abdominal CT scan provides essential information and allows to look for signs of suffering. The ideal right hemicolectomy is the best treatment. However, conservative methods are an alternative in some high-risk patients with a viable cecum. Caecostomy has been shown to be ineffective or even harmful.

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