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Volvulus of the Right Colon: About Two Observations

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Authors' contributions

This work was carried out in collaboration between all authors. Authors ES and AM designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors MB and LG managed the analyses of the study. Author AK managed the literature writing and searches. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Two patients, 42 years and 70-year-old men attended the emergency department for a sudden onset paroxysmal pain for the first patient and abdominal pains located in the flank and the iliac fossa for the second. The latter patient has not prodromes, without analgesic positions with a cessation of materials and gases, but painless. The hernias were free and the digital rectal examination was normal. The first patient (42-year-old) had no previous medical history. His pain was accompanied by food vomiting and a cessation of materials and gases, occurring for 24 hours. The general condition of this patient was preserved, but found a painful, defenseless abdomen with asymmetrical meteorism predominant in the left flank, without peristaltic ripples. The two cases were diagnosed as acute intestinal obstruction.

Keywords: Volvulus of the right colon: About two observations.

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1. INTRODUCTION

Volvulus of the colon is torsion around an axis represented by a vascular axis of an abnormally mobile segment of the colon. It is a frequent affection in the Maghreb countries. This pathology affects all mobile segments of the colon involving the pelvic colon as the most common illustration. The cecum is in frequency, the second part of the colon affected by volvulus after the sigmoid and before the left angle and the transverse colon [1,2,3]. The first description of these torsions was made by Rokitanski in 1837 [1,4]. The volvulus mechanism is a bascule that leads to an acute intestinal obstruction by strangulation. We report here two observations.

Currently, the gold standard for diagnosis and assessment of the parietal impact of the volvulus is the injected scanner. The water-soluble enema has no place in an emergency now. This method consisted of opacifying the colon with a contrast medium. The scanner is characterized by its speed, its sensitivity and the possibility of a complete study of the abdomen.

The volvulus of the cecum is a rare surgical emergency. The interest of this pathology is related to its management, exclusively surgical, with two possible attitudes: fixation or caecopexy and right colectomy. The interest of these two clinical cases is twofold, on the one hand, because of the rarity of this pathology and on the other hand in the etiologies of volvulus.

2. OBSERVATION 1

A 70-year-old man consulted in the emergency department for abdominal pains located in the flank and the iliac fossa, with sudden onset rights without prodrome, permanent without an analgesic position, and accompanied by a cessation of materials and gases. The clinical examination found a painless, defenseless abdomen with asymmetrical meteorism predominating in the supra-lateral region. The hernias were free and the digital rectal examination was normal. The diagnosis of acute intestinal obstruction was discussed.

An X radio of the unprepared abdomen showed a large digestive clarity and a distended caecum overlying a large hydro-aeric level associated with a hydro-aeric level of the small intestine. Quickly operated, we saw in the medial above and under umbilical laparotomy a volvulus by rotation of the cecum and inversion by an anterior bascule. The cecum was found in the epigastric region, dilated behind the small intestine, associated with a stretch of mesenteric vessels which irrigate this cecum. There were no signs of parietal pain or reaction effusion. The cecum is found in the projection of the upper part of the abdomen (Fig. 1).

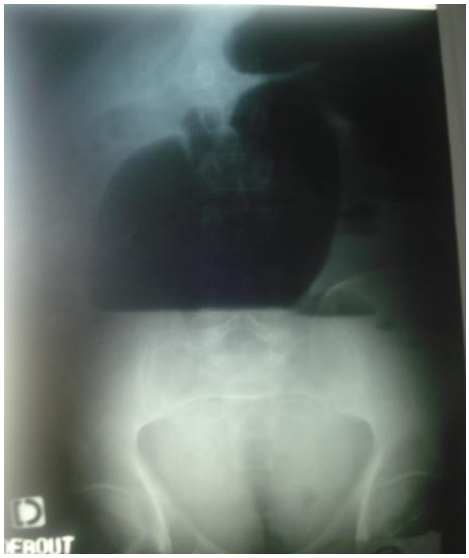

Fig. 1. abdomen RX without preparation showed a voluminous hydro-aeric level of the cecum associated with a hydro-aeric level of hail

The surgery procedure consisted of a right hemicolectomy with ileo-transverse anastomosis. Postoperative follow-up was marked by a rapid improvement in the patient's state of health with the virtual absence of postoperative abdominal pain and recovery transit on the fourth day. He exited from the service on the eighth day.

3. OBSERVATION 2

A 42-year-old man consulted in the emergency room for sudden onset paroxysmal pain without an analgesic position, accompanied by vomiting of food and a cessation of materials and gases, occurring for 24 hours. He had no previous medical history. The clinical examination of the patient showed a preserved general condition, but had a painful, defenseless abdomen with asymmetrical meteorism predominant in the left flank, without peristaltic ripples.

The unprepared abdomen X-radio showed a large colonic arch whose apex is located at the left hypochondrium and the two legs converging

on the umbilical region. An occlusion diagnosis by strangulation of the colon is determined (Fig. 2).

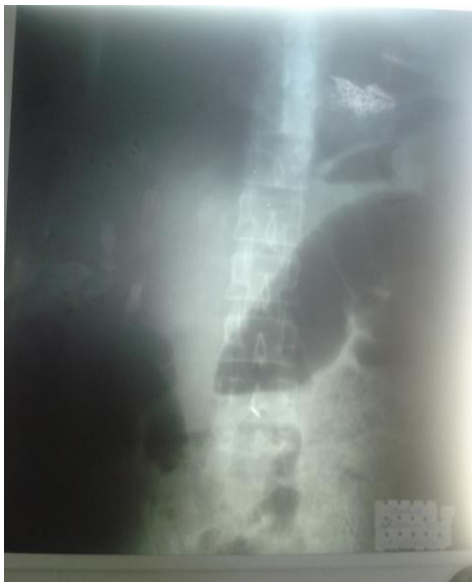

Fig. 2. X radio of abdomen without preparation: Gaseous archway drawing the transverse and the left colic angle

The patient is operated urgently. Examination of the abdominal cavity showed a long, mobile upright colon without parietal pain, having tipped over a pivot point consisting of a primitive bridle sitting at the level of the right iliac fossa with rotation, attached to the mesocolon and the last ileal loop. We decided to carry out a careful manual untwisting.

It is an ileocecal volvulus without signs of parietal pain or reaction effusion (Fig. 3). A right hemicolectomy with ileo-transverse anastomosis is performed.

4. DISCUSSION

According to several studies, the incidence of the volvulus varies with the location from 60-75 %, 25-40%, 1-4%, and 1% of cases of the sigmoid, the caecum, the transverse, and the left colic angle respectively [2]. Its occurrence is multifactorial, including anatomical elements (abnormal motility of the cecum, and excessive length and abnormal fixity) [1,5,6,7]. Other factors also contribute, pregnancy, childbirth, genital tumors, downstream colon obstructions, chronic constipation, etc (observation 2) [1,3]. The persistence of the primitive common mesentery in adults is often well tolerated but can rarely be responsible for the volvulus of the cecum [5].

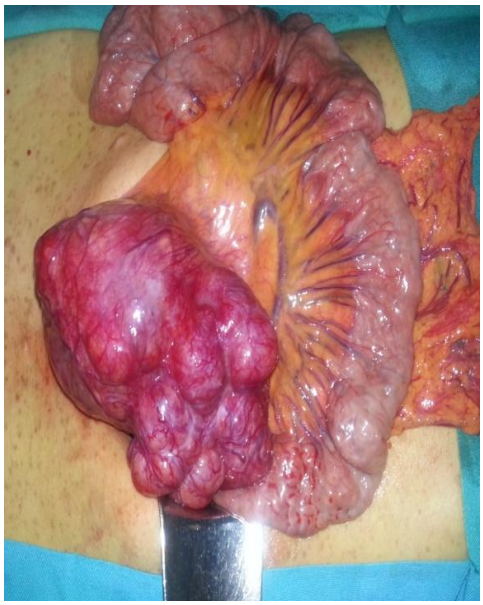

Fig. 3. Operative view: Ileo-ceacal volvulus

There are two anatomical types: the axial rotation of the ileocecal region around the mesentery (observation 2) generally clockwise (90%) and the anterosuperior plication of the caecum without axial rotation commonly called the cecal seesaw [1,2]. The cecal switch (observation1) is less frequent than the true rotation of the ileocecal region and compromises the vascularization less because of the lack of true mesenteric torsion [1,8,9,10].

The clinical symptomatology is not specific. It performs an acute bowel obstruction by strangulation with sudden onset, marked by pains of the iliac fossa and right flank, before becoming generalized. It is associated with nausea, vomiting and a stoppage of materials and gases. Intermittent episodes with abdominal peri-umbilical cramps and spontaneously resolving abdominal distension have been described with the so-called "mobile cecal syndrome" [11]. The pains give way to the resumption of the transit. The patient is afebrile, and clinical signs of dehydration may exist because of the third sector affection. The physical examination shows a tympanic meteorism with painless pelvic touches. This meteorism can be generalized or asymmetrical localized [3,8,5,6].

Radiography of the abdomen without preparation allows making the diagnosis in 70% of cases [1,3,9]. It shows a large hydro-aeric level median translating the distension of the cecum associated with water levels of the hail (observation 1). The particular image in "coffee bean" is found in half of the cases [1,5,8,10].

The enema with water-soluble products shows a total colonic opacification and absence of cecal cloudiness, with a stop of the product in "bird's beak".

Currently, the scanner is the reference examination method to make the diagnosis and assess the parietal impact. It shows the sign in "whirlwind" or "whirl sign" pathognomonic and corresponding to the starting point of the twist [4]. It reflects an abnormal stretching of the mesenteric vessels with twisting turns of the right colon, cecum and ileum. Spontaneous evolution is either towards detorsion and healing or towards ischemia and necrosis. The differential diagnosis is pelvic colon volvulus or hail volvulus.

In the therapeutic strategy and unlike the pelvic colon volvulus, the endoscopic treatment has no benefit; it is ineffective with a failure rate in 70% of cases. The treatment is therefore surgical. Conservative surgery (detorsion, caecopexy by attachment of the cecum to the posterior peritoneum) and in the absence of signs of suffering can be proposed in elderly patients in cases of major comorbidity [5]. The recurrence rate varies between 13 and 66% [1,3]. The volvulus of the cecum must, therefore, be considered as a surgical emergency even in the absence of criteria of clinical or radiological severity. Treatment consists of a non-carcinologic colectomy with the volvular segment, most often ectocecal resection, median laparotomy with continuity restoration immediately. This resection can be extended to the right colon depending on the extent of right colonic ischemia. Latero-lateral anastomosis seems to be ideal because it corrects the disparities in size between the ileum and the colon.

Radical surgery (ileocecal resection and right hemicolectomy (observations 1 and 2) provides the best immediate and long-term results. For the majority of authors, the ideal treatment is represented by the right hemicolectomy with the restoration of continuity in a time [5,12,8,10,6]. Whatever the method used, mortality rates are equivalent according to the authors and varies between 9 and 60% [9,10,6,13].

For us, we do not practice endoscopic treatment (exuflation and detorsion) because the general condition does not allow it and also the failure rate is very high. Ceacopexy is frequently a source of recurrence; we prefer the right hemicolectomy [14,15].

5. CONCLUSION

Volvulus of the right colon is a rare but a serious cause of organic occlusion of the colon. Its management is primarily surgical and resuscitative in severe cases. The elements necessary for the optimization of the treatment are a fast, accurate diagnosis (topography and mechanism) and a most accurate estimate of the gravity. The standard treatment for the majority of authors is right colectomy with ileo-transverse anastomosis at one time.

Exeresis surgery (ileocecal resection and right hemicolectomy) gives the best immediate and long-term results. Coecopexy should be discussed in the absence of necrosis and in elderly patients or patients with severe comorbidities.

CONSENT

As per international standard or university standard, patients' consent has been collected and preserved by the authors.

ETHICAL APPROVAL

As per international standard or university standard, written approval of Ethics committee has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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