Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Surgery

Case Report: Volvulus of the Cecum on Complete Common Mesentery

Mohamed Lazrak[1*], S. Habibi[1], H. Ezzaki[1], T. Souki[1], K. Ibn Majdoub[1], I. Toughrai[1], K. Mazaz[1]

[1]Department of Surgery, Hassan II University Hospital, Sidi Mohamed Ben Abdellah University, Fes, Morocco

DOI: 10.36347/sjmcr.2023.v11i02.010 | **Received:** 11.12.2022 | **Accepted:** 19.01.2023 | **Published:** 11.02.2023

***Corresponding author:** Mohamed Lazrak
1Department of Surgery, Hassan II University Hospital, Sidi Mohamed Ben Abdellah University, Fes, Morocco

Abstract **Case Report**

It is an anomaly of rotation of the digestive tract, It is characterized by the persistence of an embryonic anatomical arrangement secondary to an anomaly of rotation of the primitive umbilical loop, thus constituting a meso common to the entire intestinal loop and a root extremely short mesentery. This insufficiency of rotation is most often associated with a lack of attachment. Acute volvulus requires emergency surgery and CT is the key diagnostic test. We report the case of a 38-year-old patient who is followed for a metastatic thymus tumor under chemotherapy, appendectomy by a Mcburney, who presents to the emergency room for an acute occlusive syndrome, the CT scan was inconclusive on the etiology of occlusion. The diagnosis of cecal volvulus on complete common mesentery was made intraoperatively. The patient was operated having benefited from a resection of the mobile segment of the colon and stoma, with a good postoperative evolution.

Keywords: Intestinal obstruction, volvulus, complete common mesentery, abdominal CT.

INTRODUCTION

The common mesentery results from an anomaly in the rotation of the digestive tract. It is characterized by the persistence of an embryonic anatomical disposition secondary to an anomaly of rotation of the primitive umbilical loop, thus constituting a meso common to the entire intestinal loop and an extremely short mesentery root [1]. It is most often associated with a lack of attachment, something that makes the colon more mobile and more likely to form a volculus. The anomaly most often encountered is an incomplete common mesentery, more rarely a complete common mesentery. The most formidable complication is total bowel volvulus, which occurs when the type of rotational anomaly is incomplete 180° common mesentery [2].

The most frequent complication in the case of a complete common mesentery is the volvulus of the cecum [3].

We discuss the case of an acute occlusion on a volvulus of the cecum on a complete common mesentery, the diagnosis of which was established intraoperatively.

CASE PRESENTATION

He is a 38-year-old patient, followed for a tumor of the metastatic thymus at the pulmonary level, appendectomy by a mc-burney, who presented to the emergency room for an occlusive syndrome which dates back 4 days, the examination found a patient who is tachycardic at 110 BPM having a distended abdomen tympanic, digital rectal examination found an empty bulb.

The biological assessment showed hyperleukocytosis with an increase in CRP. We had decided to perform an abdominal CT scan which had revealed secondary digestive occlusion at the level of the FID without signs of digestive distress.

The patient was admitted to the operating room.

Surgical exploration revealed cecal volvulus (figure 1) on a complete common mesentery (figure 2).

The procedure consisted of resection of the mobile colonic segment (figure 3) without anastomosis given the discovery of colonic pinworm infection with a pathological mucosa.

The patient evolved well postoperatively, he was declared discharged on D3 postoperatively.

The anatomopathological study of the surgical specimen had shown an inflammatory and congestive mucosa.

The restoration of continuity was done 02 months after the first operative gesture without complication thereafter.

Figure 1: Per operative view showing caecal volvulus with suffering signs

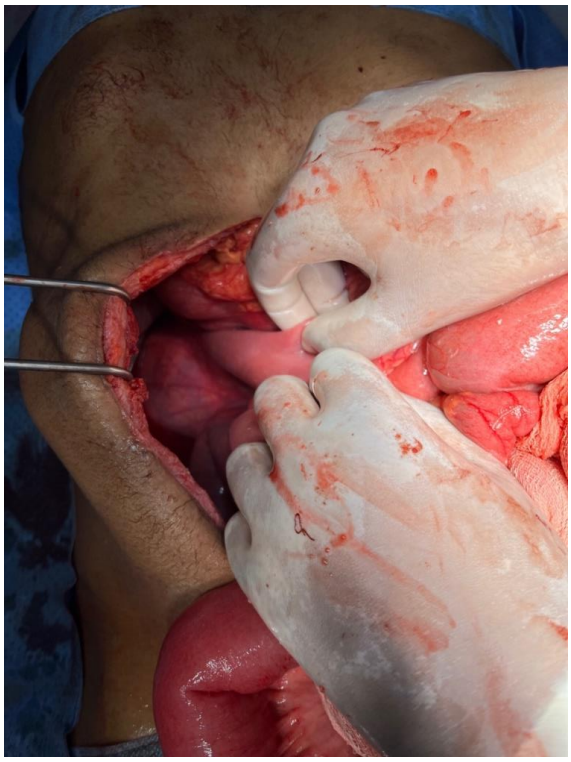

Figure 2: Intraoperative view showing the first jejunal loop located in front of the right kidney, to the right of the mesocolon

Figure 3: Right colectomie piece

DISCUSSION

It is an anomaly of rotation of the digestive tract, characterized by the presence of an extremely short root of the mesentery. This insufficiency of rotation is most often associated with a defect of attachment [1].

The diagnosis can sometimes be revealed by an attack of acute appendicitis or, in more serious cases, by an occlusive syndrome on a mesenteric volvulus [2].

The cecum is, in frequency, the second part of the colon concerned by the volvulus after the sigmoid and before the left angle and the transverse colon [4]. The mechanism of the formation of the volvulus is favored by two factors: the pivot at the cecal rotation in the type of flanges secondary to an inflammatory or postoperative condition, and cecal distension. In our case, the patient had a history of appendicitis, which could explain the creation of the inflammatory phenomenon resulting in the bridle, which is a factor favoring volvulus.

It affects only 0.2% to 0.5% of the entire adult population and is generally asymptomatic. 85% of common mesenteries are diagnosed during the first two weeks of life. Few studies on late acute complications occurring in adults have been described in the literature [5].

The clinical symptomatology can be that of a simple acute appendicitis, or an occlusive syndrome made of stoppage of matter and gas with abdominal bloating [6].

The most contributory radiological examinations are the unprepared abdomen and the scanner.

The unprepared abdomen shows hail-like water levels with a coffee bean appearance in the event of cecal volvulus [7].

The injected CT scan is the key examination, described by Fischer in 1981 under the name of whirl-like pattern, the “whirlwind” sign seems to be pathognomonic for the majority of authors [figure 4]. It corresponds to the tendril of the mesentery visible in the median position, in front of the aorta and at the level of the superior mesenteric artery, around which the superior mesenteric vein and the proximal jejunum “wrap around” [8, 9].

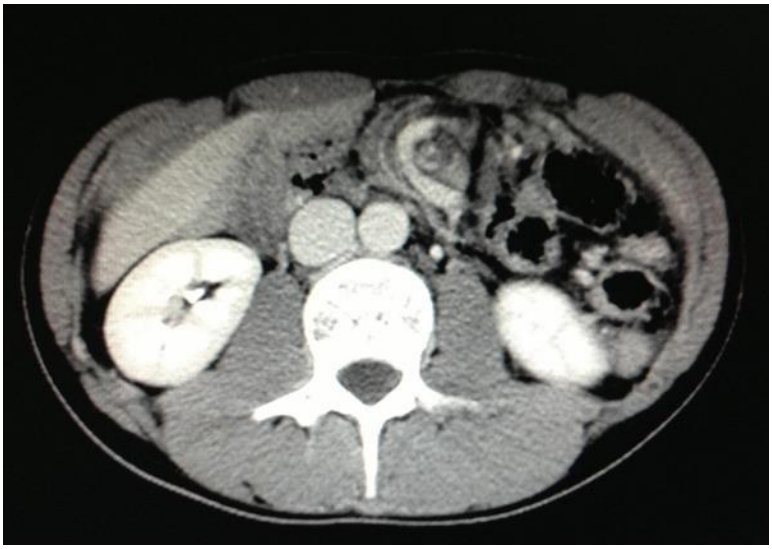

Figure 4: CT-scan view showing the whirl sign

The treatment is essentially surgical. The principle is to reduce torsion, treat progressive complications and prevent recurrences. Conservative techniques (caecopexy detorsion) are no longer indicated [3].

In the typical form of intestinal rotation at 180°, known as incomplete common mesentery: the duodenum is short, interrupting after D2 with a Treitz angle located to the right of the spine; a cecum in subhepatic position; a very short root of the mesentery, centered by the superior mesenteric vascular axis and most often giving a pedunculated appearance of the mesentery [10]. The treatment in this case is a repositioning of the right colon to the left, after having freed it from adhesions of LADD, and the hail and the mesentery to the right with a systematic appendectomy. This is the LADD procedure [11].

In the form of colonic volvulus on a complete common mesentery, the principle is to resect the mobile digestive segment [3]. This was the treatment performed in our case, a right hemi-colectomy with a Bouilly Volkmann double stoma and anastomosis at a distance from the first surgery, after adequate antiparasitic treatment, given the pathological state of the digestive segments.

CONCLUSION

Fearsome and exceptional complication in adulthood. The heavy mortality due to the diagnostic delay imposes the knowledge of these anomalies of rotations as well as the complications that they can generate for each practitioner. The clinical symptomatology being non-specific, the realization of radiological examination should not be accused of any delay. The prognosis of total volvulus of the small bowel is that of the occlusive syndrome, of the microbial proliferation that it causes and strongly depends on the time taken for management and the terrain.

REFERENCES

1. Plouard, C., Rivoal, E., Broussine, L., Blondin, G., & Trellu, X. (2000). Volvulus du grêle sur mésentère commun: Intérêt de l'échographie doppler: à propos d'un cas. *J Radiol.*, 81(2), 151–153. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4469452/#CIT0001
2. Peycelon, M., & Kotobi, H. (2012). Complications des anomalies embryologiques de la rotation intestinale: prise en charge chez l'adulte. *EMC - Techniques chirurgicales - Appareil digestif.*, 7(4), 1–12. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4469452/#CIT0002
3. Abita, T., Lachachi, F., Durand-Fontanier, S., Maisonnette, F., Roudaut, P. Y., Valleix, D., & Descottes, B. (2005). Les volvulus du cæcum. *J Chir.*, 142(4), 220-4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4469452/#CIT0002
4. Fukuya, T., Brown, B. P., & Lu, C. C. (1993). Midgut volvulus as a complication of intestinal malrotation in adults. *Dig Dis Sci.*, 38(3), 438–444. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4469452/#CIT0001
5. Rousset, J. (1955). Accident dus aux défauts de rotation de l'anse ombilicale primitive. *Mémoires de l'academie de chirurgie,* 81, 477-81.
6. Sarazin, R., Voisin, R., Sarroste, J., & Manabie, B. (1967). Mésentérium commune découvert chez l'adulte à l'occasion d'une appendicite aigue. *Journal de médecine de Bordeaux,* 144, 1556-61.
7. Anderson, R., & Lee, D. (1980). Acute coecal volvulus. *Br J Surg.*, 67, 39-41.

8. Fisher, J. K. (1981). Computed tomographic diagnosis of volvulus in intestinal malrotation. *Radiology*, 140(1), 145–146.
9. Israelit, S., Brook, O. R., Nira, B. R., Guralnik, L., & Hershko, D. (2009). Left-sided perforated acute appendicitis in an adult with midgut malrotation: the role of computed tomography. *Emerg Radiol.*, 16(3), 217–218.
10. Lin, P. H., Koffron, A. J., Heilizer, T. J., & Lujan, H. J. (1999). Intestinal volvulus following laparoscopic cholecystectomy. *Surgical Laparoscopy Endoscopy & Percutaneous Techniques*, *9*(2), 140-142.
11. Tan, V., Kotobi, H., & Parc, Y. (2017). Technique chirurgicale: la procédure de Ladd pour volvulus total du grêle sur malrotation. Journal de Chirurgie Viscérale, *154*(3), 204-208. https://www.sciencedirect.com/journal/journal-de-chirurgie-viscerale/vol/154/issue/3