



Transverse Colon Volvulus and Hepatic Angle in 29-year-old male: Case report

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Summary

Introduction: Volvulus is a rare but life-threatening condition that occurs when a segment of the gastrointestinal tract twists on itself, causing intestinal obstruction and vascular involvement. Despite advances in imaging and surgical techniques, optimal management of the hepatic angle volvulus and transverse colon remains controversial, and long-term results are not well defined.

Objectives: To describe the clinical presentation, the diagnostic study, the treatment of a volvulus of the hepatic angle and the transverse colon in a young patient, with the aim of increasing awareness and understanding of this rare condition.

Materials and Methods: A descriptive, cross-sectional, retrospective study was conducted in a 29-year-old male patient with non-specific symptoms of acute abdominal pain.

Conclusion: This case report highlights the challenges associated with the diagnosis and management of the transverse colon and the volvulus of the hepatic angle. Therefore, careful review and interpretation of imaging studies, along with other clinical and laboratory findings, are crucial in arriving at an accurate diagnosis.

Keywords: Transverse colon volvulus; Hepatic angle volvulus; Diagnosis; Hepatic angle

Introduction

Volvulus is a rare but life-threatening condition that occurs when a segment of the gastrointestinal tract twists on itself, causing intestinal obstruction and vascular involvement [1]. The volvulus of the transverse colon and the hepatic angle, is a relatively uncommon type of volvulus that usually affects older adults with underlying gastrointestinal motility disorders [2]. However, it can rarely occur in younger patients. It may present with a wide range of non-specific symptoms [3] Despite advances in imaging and surgical techniques, optimal management of the volvulus of the hepatic angle and transverse colon remains controversial, and long-term results are not well defined [4,5]. Diagnosis can be challenging, but immediate surgical intervention is crucial to prevent serious complications, such as intestinal necrosis and perforation.

Objective

By presenting this case, we hope to contribute to a better understanding of this pathology and promote the development of more effective diagnostic and therapeutic approaches for patients with this condition.

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Description of the case

29-year-old male, previously healthy, without previous surgeries, who presented to the emergency department of a second level rural hospital, with 72 hours of evolution of abdominal pain of sudden onset, intense, colic type, which had progressed in intensity to be intolerable (ENA 10/10), referring inability to evacuate and not present gas channeling, as well as vomiting of food content. For this symptomatology, he previously went to a doctor in an external environment, who requested a simple abdominal computed tomography (CT) scan.

Simple abdominal CT, with findings of low intestinal occlusion, with transition zone at the level of the upper third of the rectum and a small amount of free fluid located at the perisplenic level.

At the examination he found dehydrated mucous membranes, distended abdomen, tympanic, missing peristalsis. An abdominal x-ray was performed with findings consistent with intestinal occlusion.

In its laboratories at admission highlights:

Leukocytes 18.50 x 103/ μ l, neutrophils 87.0%, hemoglobin 17.50 g/dl, hematocrit 51.5%, platelets 441.0, glucose 179, sodium 139, potassium 4.44, no alterations in coagulation times and general nonpathological urine examination.

Initial management: Analgesia, placement of SNG nasogastric probe, only with gastric content expenditure. 24-hour observation with no improvement, increased pain intensity: exploratory laparotomy is proposed, in which ascending and transverse colon volvulus was evidenced, with necrosis of the hepatic angle, performing right hemicolectomy, Terminal ileostomy and placement of drains, image 1. After the surgical procedure, there was apparent improvement, reduced pain and distension, evacuations through the ileostomy. However, 48 hours after the procedure, a fever is present, at the examination only seroma is identified at the level of the wound, which is drained; drains of serohematic characteristics. Six days later, he presented with adequate apparent evolution, without abdominal pain, with adequate tolerance to the oral route, and laboratories with a decrease in leukocytosis, in 14.2 x103/ μ l, with neutrophils in 79%, however, referring to generalized weakness and febrícula.

On the seventh postoperative day, changes in drainage characteristics (purulent) and fecal appearance were identified 12 hours later. He underwent a new exploratory laparotomy (LAPE) under the suspicion of intestinal perforation, identifying dehiscence of the closure of the suture of the dysfunctional loop of the transverse colon, performed manual resection and closure, cavity washing and repositioning of drains. He received broad-spectrum antibiotic therapy,



Image 1: Dilation of loops secondary to occlusion by volvulus.

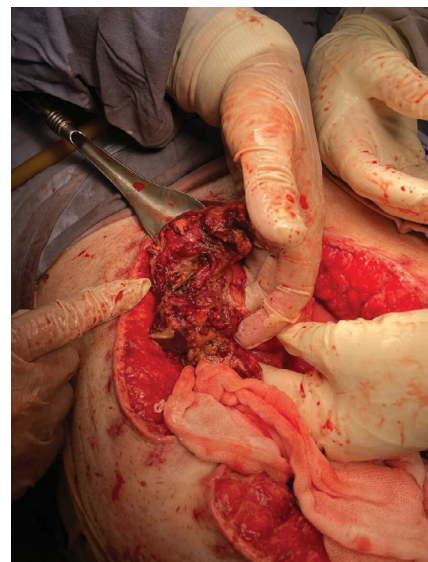


Image 2: Dysfunctional transverse colon loop deficiency site during the second procedure.

remitting thermal elevations, all drains were removed on the seventh day and was discharged on the eighth day, image 2.

The histological study of the resected segment in the first procedure reported focal and segmental intestinal ischemia with mucosal, submucosal and muscular involvement, as well as acute and chronic peritonitis. No evidence of neoplasia.

Discussion

Colonic volvulus is a relatively uncommon cause of large bowel obstruction that usually affects mobile intraperitoneal colonic segments [6,7]. Congenital or acquired anatomical variation may be associated with an increased risk of colonic volvulus that may occasionally affect retroperitoneal segments [8,9].

Colonic volvulus is a relatively uncommon cause of large

bowel obstruction and accounts for almost 5% of all cases of intestinal obstruction and 10% of colonic obstruction. It usually involves mobile, intraperitoneal colonic segments, such as the cecum, transverse colon, and sigmoid colon [9].

Each segment of the colon can be rotated if it has a long, loose mesentery, which narrows at its base. The short mesentery of the transverse colon and the fixed hepatic and splenic angles are undoubtedly factors that prevent it. Among the predisposing factors, we can identify previous surgical procedures that cause intestinal concrecence or translocation, cancer, pregnancies and birth defects such as intestinal malrotation with an imperfect fixation of the posterior abdominal wall. In addition, chronic constipation appears to be associated with the appearance of transverse colon volvulus by causing its excessive elongation [9,10].

Given the clinical picture our patient had no medical history or abdominal surgery, but presented a transverse colon volvulus and hepatic angle diagnosed until the completion of surgery, there are no characteristic radiographic features, as in the case of the volvulus of the sigmoid colon.

In the case of the transverse colon volvulus, the mortality rate is 33%, which is much higher than the mortality rate recorded for the sigmoid or cecum volvulus, which is 21% and 10%, respectively [10].

Comments and Conclusions

This case report highlights the challenges associated with the diagnosis and management of the transverse colon and the volvulus of the hepatic angle, a rare condition that can present with non-specific symptoms and simulate other gastrointestinal conditions. Through the presentation of this case, we have demonstrated the importance of considering this condition in the differential diagnosis of acute abdominal pain, even in young patients. Early diagnosis and early surgical intervention are essential to prevent serious complications, it is imperative to maintain a degree of suspicion and conduct a thorough diagnostic study when evaluating patients with acute abdominal pain. Although imaging studies such as computed tomography (CT) can help in the diagnosis of the transverse colon and the volvulus of the hepatic angle, they may not always accurately identify this condition. Therefore, careful review and interpretation of imaging studies, along

with other clinical and laboratory findings, are crucial in arriving at an accurate diagnosis.

Conflicts of interest

All authors certify that they have no affiliation or participation in any organization or entity with any financial interest, or non-financial interest in the subject or materials discussed in this article. The authors do not declare a conflict of interest related to the study presented.

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