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Case Report

Transverse Colon Volvulus: A Rare Cause of Ileus with Large Intestine-Origin

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ABSTRACT

Transverse colon volvulus is a disease that mostly occurs in the elderly and is rare in young people and children. Some of the predisposing factors for transverse colon volvulus are mental retardation, dysmotility disturbances, presence of narrow or long mesentery, and chronic constipation. One of the treatment options is endoscopic reduction, which is performed in patients whose overall condition is stable. It is not considered in case of emergency surgery. The success rate is low and the recurrence rate is high. Herein, we present the case of an 80-year-old female patient who was diagnosed with transverse colon volvulus as a rare cause of intestinal obstruction.

Keywords: obstruction, volvulus, transverse colon

INTRODUCTION

Volvulus is when part of the intestine wraps around itself and its own mesentery resulting in a bowel obstruction. Transverse colon volvulus is one of the rare causes of intestinal obstruction. A successful treatment can be achieved with early diagnosis and timely intervention. The intraoperative presence of necrosis in the colon is the most important prognostic factor in these patients (1). In this article, we present the case of an 80-year-old female patient who was diagnosed with a transverse colon volvulus and was admitted due to complaints of severe abdominal pain and constipation.

CASE PRESENTATION

An 80-year-old female patient was admitted in the emergency department with complaints of abdominal pain and difficulty in defecation persisting since 4 days. The patient was morbidly obese with a history of heart failure. She had diffused abdominal tenderness and distention, and the auscultated intestinal sounds were hypoactive and partially metallic. Laboratory tests results were as follows: white blood cell: 20100/mm^3, hemoglobin: 9.5 g/dL, urea: 67 mg/dL, creatinine: 1.25 mg/dL, glucose: 139 mg/dL, albumin: 2.7 g/dL, sodium: 134 mmol/L, potassium: 3.2 mmol/L, calcium: 8.1 mg/dL, and c-reactive protein: 36 mg/dL. Other biochemical parameters were normal. Direct abdominal X-ray performed in a standing position showed dilated colonic segments and air-fluid levels. Computed tomography imaging showed that the transverse colon was dilated with intense colonic gas and perihepatic free fluid in the intestinal loops (Figure 1). No endoscopic detorsion procedure was performed. Based on the physical examination findings, an emergency laparotomy was decided. During exploration, the transverse colon was seen to be torsional, severely dilated, and edematous (Figure 2). It was seen that the peristaltism of the transverse colon was partially unclear, ischemic areas were seen, and there was no necrosis. The segment of the right colon proximal to the volvulus and the cecum were also dilated. Approximately 1000 cc of intraabdominal inflammatory reactional fluid was aspirated, and a subtotal colectomy, a terminal ileostomy, and a right hemicolectomy were performed. The patient was intubated and monitored in the postoperative intensive

Figure 1. Computed tomography image of the dilated transverse colon

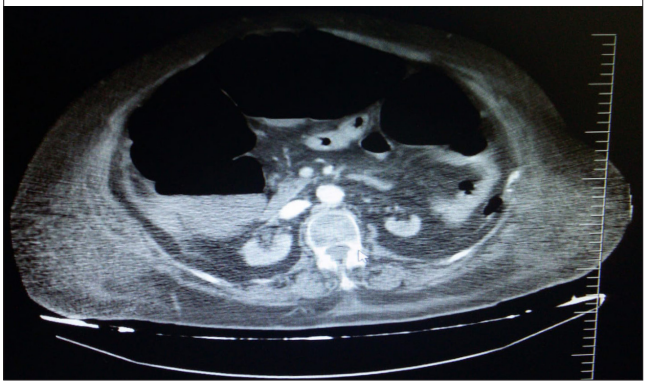

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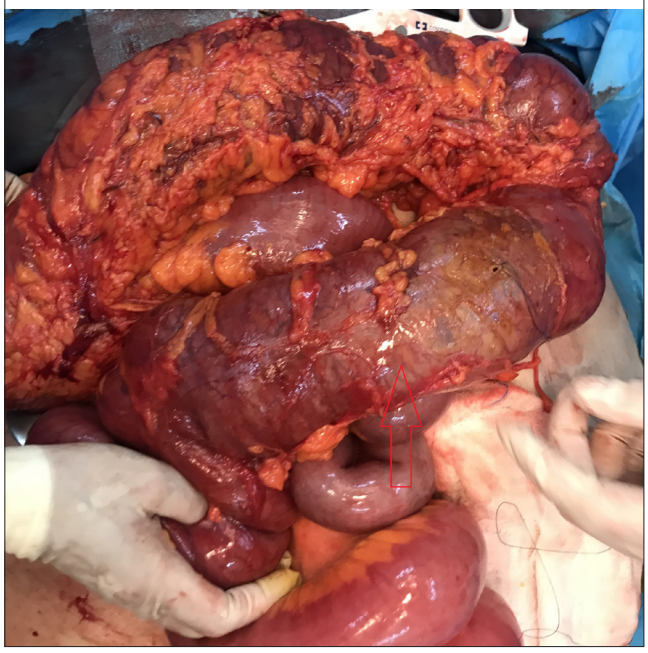
Figure 2. Intraoperative view of the torsioned and dilated transverse colon (red arrow)



care unit and died on postoperative day 14 because of multiple organ failure.

DISCUSSION

Transverse colon volvulus is rarely seen compared to sigmoid and cecal volvulus. Abnormal rotation of the bowel results in a closed loop. This rotation takes place along the mesenteric axis, resulting in venous occlusion first and then arterial occlusion. The predisposing factors for transverse colon volvulus are excessive colon mobilization and chronic constipation (2).

Transverse colon volvulus has two different clinical presentations; acute fulminant or subacute progressive form. The acute form presents with complaints such as; sudden-onset severe abdominal pains, distention, abdominal tenderness, vomiting, leukocytosis, and a rapid worsening of the overall condition. Even though intestinal sounds are hyperactive at the beginning, they can disappear with time. In the subacute form, symptoms are unclear and intermittent. The severity of abdominal pain is less. Nausea and vomiting may not occur. Number of leukocytes may be normal or a little high. The lack of leukocytosis may be due to the lack of ischemia. Distention is more prominent than abdominal pain (3).

Main Points:

- Sigmoid volvulus can be detorsioned by sigmoidoscopy or colonoscopy while a surgical operation is usually required for transverse colon volvulus.
- The intraoperative method is decided, taking into account the condition of the patient.
- Ileostomy to the terminal ileum was used for protection purposes.

Preoperative diagnosis of transverse colon volvulus cannot be made normally. The colonoscopic detorsion procedure for treatment is usually considered as a temporary remedy before preparing the patient for an elective surgery. Hemorrhagic colonic content during colonoscopy is due to ischemia and strangulation. In case of unsuccessful detorsion and the presence of acute abdominal symptoms, surgery must be done immediately (4).

Sigmoid volvulus can be detorsioned by sigmoidoscopy or colonoscopy while a surgical operation is usually required for transverse colon volvulus. The surgical options are; detorsion, resection and primary anastomosis, detorsion through colopexy, resection and colostomy as well as mucous fistula, resection, anastomosis and deflector ileostomy. Detorsion and detorsion through colopexy have high rates of recurrence. The intraoperative method is decided taking into account the overall condition of the patient, intestinal contamination degree, intraabdominal contamination and ischemic situation of the colonic segments. The intraoperative presence of necrosis in the colonic wall is the most important prognostic factor for these patients (5).

In literature, it is emphasized that the most appropriate treatment procedure should be chosen based on the location of the volvulus and time of admission (6, 7). We did not consider doing an anastomosis in our case because of the risk of leakage as the proximal segment to the colon was excessively dilated, the complaints had persisted for 4 days, and the lack of preoperative intestinal preparations. We decided to do an ileostomy to the terminal ileum for protection purpose.

CONCLUSION

Even though transverse colon volvulus is a rare type of colonic volvulus, it should be kept in mind especially in elderly patients who are admitted due to signs of bowel obstruction.

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