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Case Report

Synchronic Volvulus of Sigmoid and Transverse Colon: A Rare Case of Large Bowel Obstruction

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Introduction: Volvulus of two segments of colon has been reported rarely, as either synchronous or metachronous events. Colonic volvulus involving both transverse and sigmoid colon is a rare medical problem frequently dismissed as a cause of large bowel obstruction.
Case Presentation: A 73-year-old female presented with colicky abdominal pain, abdominal distension and anorexia for several days. Abdominal radiography showed distended intestinal loops. Patient went under laparotomy and transverse and sigmoid volvulus was discovered.
Conclusions: In spite of transverse colon and sigmoid volvulus rarity, it is advised to include these in the differential diagnosis of patients with chronic abdominal pain associated with recurrent bowel obstruction.

Keywords: Intestinal Volvulus; Colon, Transverse; Colon, Sigmoid; Intestinal Obstruction

1. Introduction

Colonic volvulus is the axial twisting of the colon on its vascular pedicle. The most common site is sigmoid colon (75%) followed by cecum (22%). Rare sites of colonic volvulus include the transverse colon (about 2%) and splenic flexure (1-2%). A double transverse and sigmoid colon volvulus is an extremely rare situation. To our knowledge, there are few reports available on synchronous sigmoid and transverse colon volvulus to date. We presented our experience in successfully treatment of such a unique case.

2. Case Presentation

A 73-year-old woman was admitted to the emergency department (ED) of University Hospital of Kashani, Isfahan with a vague abdominal pain, obstipation and abdominal distension. The pain started 3 days before her admission to ED. It was a colicky pain lasted 5 minutes and associated with diminished abdominal sounds and disturbing bowel movements. Furthermore, the patient had nausea and anorexia with no defecation and gas passing for the last 2 days. She had experienced a same pattern of pain and difficulty in defecation once during the last 3 months. Reviewing her past medical history revealed no significant fact. During examination, the patient was awake with stable vital signs. Her lungs were clear and no abnormal sound was heard during her heart auscultation. The patient's abdomen was distended severely with generalized tenderness and diminished bowel sounds at the time of admission. Rectal examination showed empty rectum without any mucosal sloughing. Her emergent laboratory data were as follows: WBC 9600/mm^3, and hemoglobin 13.1 g/dL. The blood gas revealed a pH of 7.23, PCO_2 of 40 and HCO_3 of 16. Emergency abdominal plain radiography was the next step, which showed massively dilated loops of the large bowel (Figure 1).

Complete obstruction was considered as the early diagnosis. Considering clinical picture and generalized tenderness on physical examination, after a short period of resuscitation, an exploratory laparotomy was performed. Intraoperative findings revealed transverse colon volvulus and sigmoid volvulus associated with megacolon. Descending colon was normal, cecum, ascending, transverse colon and sigmoid were intensively distended and both transverse colon and sigmoid were twisted on their vascular pedicles (Figure 2).

There were findings of mural necrosis, change in color without perforation, ischemia and gangrenous in transverse colon and sigmoid. The volvuluses were untwisted, and due to macroscopic evidence, intestinal resection and subtotal colectomy were performed. After that, end to side ileocolic (terminal ileum to rectosigmoid junction) anastomosis was performed. The postoperative period was uneventful and the patient was discharged after seven days.

Implication for health policy/practice/research/medical education:
Synchronic volvulus of sigmoid and transverse colon is a rare case of large bowel obstruction which needs an early diagnosis and surgical intervention.

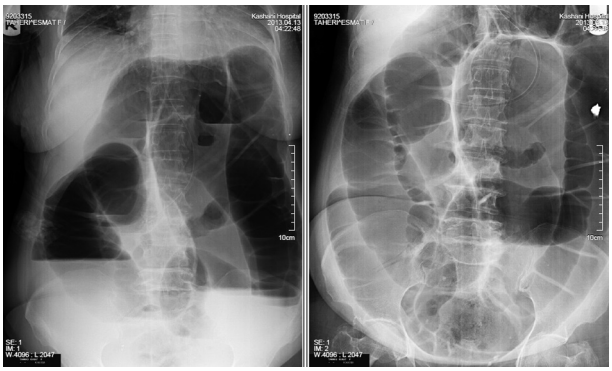

Figure 1. Plain Abdominal X-ray Delineates Intestinal Loop Distension

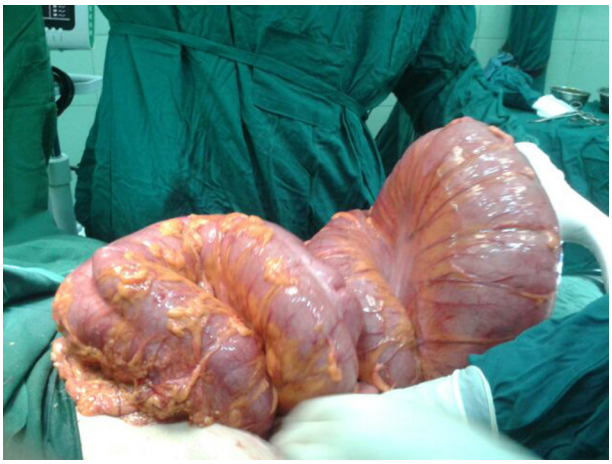

Figure 2. Gross Operative View of Volvulus

3. Discussion

Volvulus is described as abnormal twisting of bowel along its mesenteric axis leading to closed-loop obstruction. Volvulus stops venous return and compromises arterial supply leading to ischemia (1). Colonic volvulus is responsible for less than 10% of abdominal bowel obstructions. Transverse colon and cecum are involved in less than 5% of all cases respectively, despite the fact that sigmoid is the most common involved part of colon (1, 2). Simultaneous volvulus of transverse colon and cecum is rare. There are some causes for the fact that transverse colon is a rare location for colonic volvulus. Besides beneficial anatomical position of transverse colon, short mesocolon and colonic flexure keep this part of colon in its anatomical location. Some mechanical and physiological factors like megacolon, constipation, distal colon obstruction, adhesion band and previous surgery have been considered as etiologies of colonic volvulus. However, redundancy and non-fixation are the two essential factors in forming colonic volvulus (1-4). Clinical presentation of colonic volvulus is progressive abdominal pain along with nausea and vomiting, rebound tenderness and obstipation. The most common signs are abdominal distention and hypoactive or diminished bowel sounds during abdominal examination. Lab study usually shows mild or no leukocytosis and no fever in the early stages of the disease. Abdominal x-ray and CT-scan can be helpful to confirm the diagnosis like our patient (1, 5). The initial treatment in sigmoid volvulus is decompression which can be performed by colonoscopy and correcting the torsion through emergency resection surgery. As a matter of fact, some studies showed that solo detorsion is accompanied with a higher rate of recurrence in comparison to patients undergone subtotal or total colectomy Although, some studies use primary anastomosis as their first choice of treatment (4). Although transverse and sigmoid colon volvulus is a rare case of bowel obstruction, it is advised to consider it in the differential diagnosis of abdominal pain and recurrent bowel obstruction to prevent unfortunate outcomes.

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Authors' Contribution

Dr Hoseini brought forward the main idea of reporting this case. He mentioned that transverse and sigmoid colon volvulus should be an important differential diagnosis in patients with abdominal pain and further investigation is necessary to prevent unpleasant result. and Dr Eshragi was our second author in row. Dr Parsa is the corresponding author.

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