

Combined volvulus affecting transverse to sigmoid colon: a case report

Salma Khan, Haider Abid

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Author Information*Dr Salma Khan*

Assistant Professor
Department of Surgery
Rehman College of Dentistry,
Peshawar, Khyber
Pakhtunkhwa, Pakistan
(Corresponding Author)
Email:
salma.khan@rmi.edu.pk

Dr Haider Abid

Fellow Surgical Oncology
Department of Surgery
Shaukat Khanum Memorial
Hospital, Peshawar, Khyber
Pakhtunkhwa, Pakistan

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ABSTRACT

Colonic volvulus accounts for 1-4% of all cases of intestinal obstruction and is responsible for 10-15% cases of colonic obstruction in western countries. The most frequent sites of involvement are sigmoid colon and cecum, respectively.

Unusual sites of colonic involvement has been reported but are extremely rare. The patient usually present with signs and symptoms of intestinal obstruction and early diagnosis can avoid emergency surgery. The authors present the unusual case of volvulus which involved long segment of colon with resultant bowel ischemia and necrosis. Diagnostic modalities such Computed tomography (CT) was very helpful in making diagnosis.

Keywords: Intestinal volvulus; Intestinal obstruction; Intestine, Large; Laparotomy; Tomography.

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INTRODUCTION

Volvulus is a common cause of large bowel obstruction worldwide.¹ The common sites involved are Sigmoid (60%), Cecum (34%), Transverse colon (3%) and splenic flexure (1%).^{2,3} It often occurs when mobile portion of colon twists around its fixed base.⁴ It causes closed loop obstruction.⁵ Volvulus affecting isolated segment of bowel has been reported in literature.⁶ To the best of our knowledge, the authors are reporting a first case of extensive volvulus affecting sigmoid, descending colon, transverse colon, and splenic flexure.

CASE PRESENTATION

A 60-year-old lady presented in emergency room in first week of January 2018 with acute onset severe abdominal pain, progressive abdominal distension and absolute constipation for three days. She also had copious amount of bilious vomiting. She had a history of long-standing constipation, managed by laxatives and high fiber diet. On examination, the pulse was 120 bpm, Blood Pressure was 110/70 mmHg, and Respiratory Rate was 30 breaths per minute. Abdomen was significantly distended, tympanic, and with absent bowel sounds. It was tender to deep palpation, and digital rectal exam revealed empty rectum with no blood on gloved figure.

Her past medical history was significant for laparotomy 20 years back with no hospital record available to review the reason for surgery nor did she remember. She had also had incisional hernia repair two years ago. After that she was alright till these symptoms developed.

Complete blood count showed leukocytosis although electrolytes were within normal range. X-ray abdomen revealed distended bowel but full films could not be captured, while chest X-ray in erect position did not reveal free air under the diaphragm. Computed tomography of abdomen with oral and IV contrast were obtained which showed extensive long segment volvulus involving Sigmoid, Descending and Transverse colon (Figure 1). It resulted in closed loop obstruction with massive transverse colon dilatation and no free intra-peritoneal air.

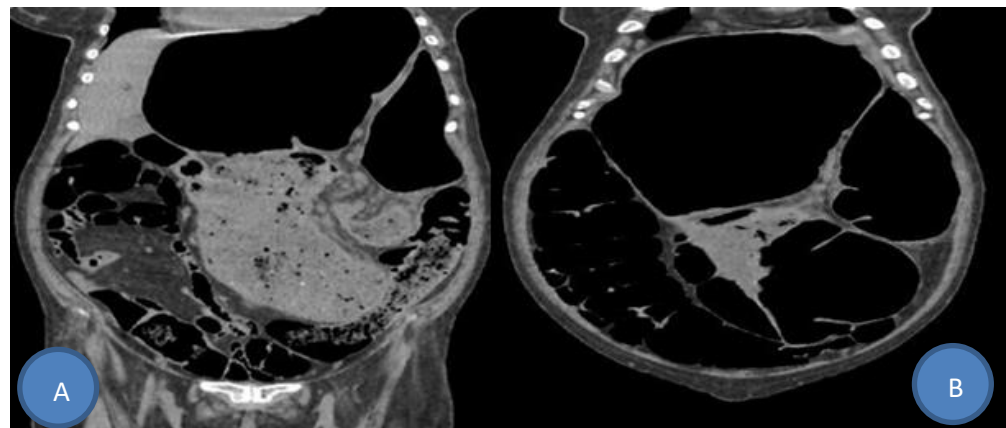


Figure 1: CT scan of abdomen (A) twisted Sigmoid colon (B) distended large bowel

Resuscitation was started with intravenous crystalloids; nasogastric tube was passed, 500 ml of bilious fluid was drained, and patient was catheterized. After resuscitation, sigmoidoscopic de-twisting was attempted but unsuccessful. After informed consent was obtained, the patient was taken for laparotomy. Intraoperatively we found massive dilatation of entire large bowel with twisting of distal 2/3rd of transverse colon, splenic flexure, descending and sigmoid colon with patchy areas of necrosis. De-twisting was done and involved segment excised and transverse colon brought out as stoma and rectum was left inside peritoneal cavity as Hartman pouch. (Figure 2).

Post operatively, the patient remained stable. Her stoma started to work on 3rd post-operative day and she was allowed oral intake. She was discharged on 5th postoperative day, and was followed in clinic. Histopathology of resected bowel showed acute inflammatory cells and no evidence of malignancy. Harman reversal was done three months after initial surgery with uncomplicated post-surgery course. She was followed for 6 months after second surgery and had no complaints.

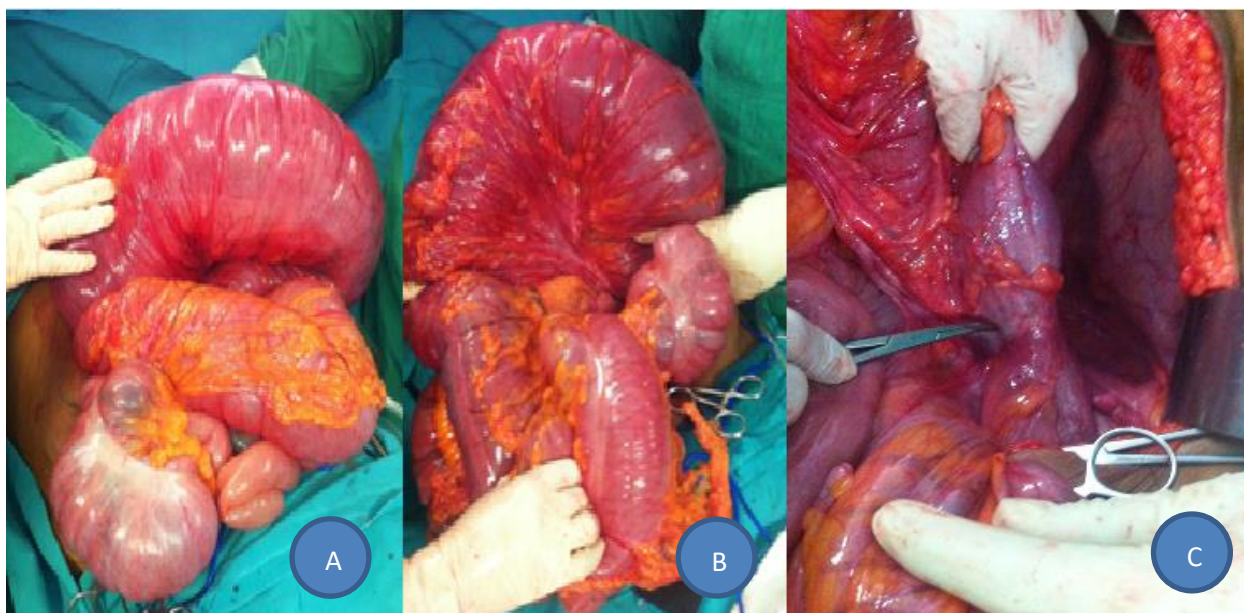


Figure 2: Intraoperative pictures (A) Twisted Transverse and descending colon (B) DE twisting of colon (C) Point of twist at sigmoid colon

DISCUSSION

We report the first case of extensive volvulus affecting both fixed and mobile parts of colon. Exact cause of this condition is unknown but previous laparotomies, chronic constipation, megacolon and high fiber diet are considered as predisposing factors.⁷ The term “volvulus” originates from the Latin word “volvere”, which means twist.⁸ The first case of volvulus was reported by n von Rokitansky in 1841.⁹ The commonest site of involvement is sigmoid (75%), followed by cecum (22%). Rare site of involvement includes transverse and descending colon.¹⁰ Initially all cases were managed by surgery but later it was challenged by Brusgaard in 1947.¹¹ He introduced sigmoidoscopic decompression and rectal tube placement in patients with no signs of peritonitis.¹¹ Although it has significantly reduced mortality but with attended risk of recurrence as high as 90%.

Colonic volvulus can be diagnosed with plain radiograph of abdomen in 85% of cases although CT has diagnostic yields of 100%.¹² If there are no signs of peritonitis, urgent sigmoidoscopic decompression should be performed.^{4,12} Operative decompression or resection is required if patient develops sign of bowel ischemia.⁸

This case highlights atypical case of volvulus affecting very long contiguous segments of the colon. The most likely cause for this rare entity is the previous laparotomy. It requires high index of suspicion in such setting and early diagnosis and intervention to prevent bowel ischemia and need for resection.

CONCLUSION

Although volvulus is uncommon cause of large bowel obstruction it may present with involvement of fixed parts of colon. CT scan abdomen should be performed in suspected cases and early treatment is a key to avoid bowel resection.

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