

Sigmoid Volvulus: A Retrospective Study

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Abstract

Original Research Article

Sigmoid volvulus is a surgical emergency caused by the torsion of the sigmoid colon around its mesenteric axis, leading to acute intestinal obstruction. The diagnosis relies on clinical assessment and imaging. Rectal tube is the initial treatment in the absence of intestinal compromise. In case of failure or complications, surgical management is required, ranging from simple detorsion to sigmoidectomy with or without stoma. We report a retrospective study of cases managed in our department over a three years period.

Keywords: Sigmoid volvulus, Intestinal obstruction, Rectal tube decompression, Sigmoidectomy, Hartmann procedure, Dolichosigmoid.

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INTRODUCTION

Sigmoid volvulus is a surgical and medical emergency characterized by the rotation of the sigmoid colon around its mesenteric axis, leading to bowel obstruction. This can result in strangulation, which may progress to ischemic necrosis and, if untreated, perforation.

OBJECTIVES

The aim of this study is to describe the epidemiological, clinical, paraclinical, and therapeutic profiles of patients with sigmoid volvulus managed in our institution.

MATERIALS AND METHODS

This is a retrospective study including a series of 9 cases of sigmoid volvulus managed in our department over a 3-year period (2021–2024). Data collection was based on review of patient records, including clinical presentation, complementary examinations, operative reports, and postoperative follow-up data.

RESULTS

The mean age was 58 years (range : 35–75 years), and all patients were male. Chronic constipation and sub-obstructive episodes were reported in 5 patients. Two patients had psychiatric disorders, and one patient had Parkinson's disease. The mean time to consultation was 2.5 days.

The clinical presentation was a complete intestinal obstruction in all patients, with peritoneal signs observed in 2 patients.

Abdominal X-ray (upright) suggested the diagnosis in 5 patients, while abdominal CT scan was performed in all cases.

Management :

Seven patients underwent rectal tube decompression, achieving successful detorsion in 6 cases; the procedure failed in 1 patient.

Emergency laparotomy was indicated in 3 patients (2 immediately, 1 after failed rectal tube decompression).

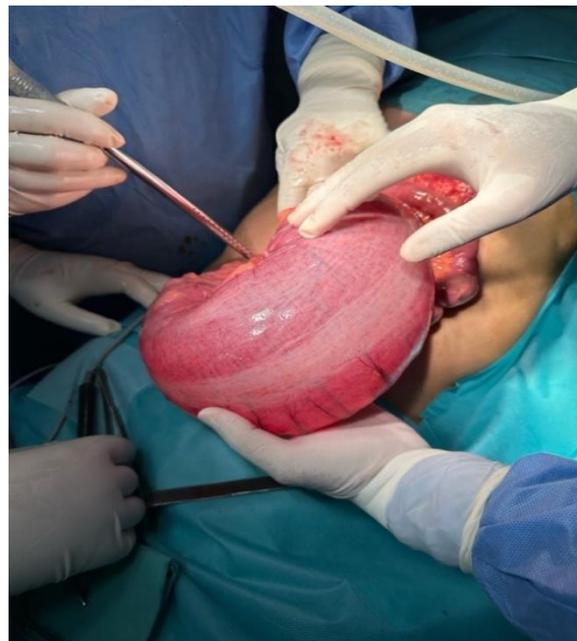
Surgical findings included:

- Distension and necrosis of the sigmoid loop in 1 patient → sigmoid resection with Bouilly-Volkman stoma.
- Stercoral peritonitis in 1 patient → sigmoidectomy with Hartmann procedure.
- Viable distended sigmoid in 1 patient → surgical detorsion followed by delayed sigmoidectomy.
- One patient refused surgery after rectal tube decompression.
- Five patients underwent elective sigmoidectomy with end-to-end anastomosis after colonic preparation, in whom exploration had revealed dolichosigmoid.

- The two stoma patients had restoration of bowel continuity within 3 months.
Outcomes:
- One death occurred due to aspiration pneumonia.
- The remaining postoperative courses were uneventful.



Upright abdominal X-ray showing a double-loop appearance suggestive of sigmoid volvulus. Department of Visceral Surgery, Ibn Tofail Hospital



Intraoperative image showing a distended but viable sigmoid loop. Department of Visceral Surgery, Ibn Tofail Hospital

DISCUSSION

Sigmoid volvulus is a surgical and medical emergency, most commonly affecting elderly patients with a male predominance. A dolichosigmoid or megasigmoid is the major predisposing factor.

Two forms are distinguished:

Mesenteroaxial volvulus, the most common type, in which the sigmoid colon rotates 180° to 360° around its vascular axis.

Organoaxial volvulus, corresponding to rotation around the longitudinal axis of the sigmoid.

Torsion of the sigmoid loop can lead to ischemia and gangrene, with a risk of perforation and stercoral peritonitis.

Diagnosis is based on :

Clinical examination: signs of intestinal obstruction.

Imaging :

- Upright abdominal X-ray: “coffee-bean” or arch-shaped appearance.
- CT scan: “whirl sign,” which confirms the diagnosis and evaluates signs of severity.

Management involves:

1. Medical stabilization: fluid resuscitation and correction of electrolyte imbalances.
2. Instrumental decompression:
 - Rectal tube detorsion, with success indicated by passage of stool and gas and symptomatic relief.
 - A follow-up abdominal X-ray is mandatory to confirm decompression and exclude bowel perforation.
 - Endoscopic detorsion can also be performed if an urgent gastroenterologist is available.
3. Surgical treatment, which is definitive:
 - Indicated in cases of failed rectal tube detorsion or presentation with signs of severity (peritonitis or ischemia).

Surgical options:

- Conservative methods (in the absence of bowel compromise):
- Detorsion with sigmoidopexy: fixation of the sigmoid to the left parieto-colic gutter, similar to cecopexy.
- Mesosigmoidoplasty: longitudinal incision of the peritoneal serosa of the meso-sigmoid followed by transverse closure to correct a long mesentery.

Radical methods:

- Two-stage procedure: resection with colostomy (Hartmann or Bouilly-Volkman), with delayed restoration of continuity in emergency settings.
- One-stage procedure: sigmoidectomy with primary anastomosis, performed in elective or “cold” contexts when feasible.

CONCLUSION

Sigmoid volvulus is a medical-surgical emergency whose prognosis depends on the timeliness of management. Rectal tube decompression, when possible, is associated with the lowest mortality.

Definitive treatment is based on non-oncological sigmoid resection, ideally with restoration of bowel continuity in the same operation.

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