



Gangrenous sigmoid volvulus with minimal clinical signs in an elderly patient: a case report

Addid Yeshitila Kidane¹

Correspondence: Addis Yeshitila Kidane, Assistant Professor in General Surgery, Hakim Gizaw Hospital, Asrat Woldeye Health Science College, Debre Berhan University, Debre Berhan, Ethiopia. **Email:** addissyeshitilaa21@gmail.com. **ORCID:** 0000-0001-7965-5242

Abstract

Sigmoid volvulus is a common cause of large bowel obstruction in regions with high prevalence of dolichosigmoid, particularly in Africa, and carries substantial morbidity when complicated by ischemia. We report the case of an 82-year-old man with recurrent sigmoid volvulus who presented with abdominal distension, constipation, and mild abdominal pain without clinical or laboratory indicators of bowel ischemia. He had previously undergone successful non-operative decompression on three occasions. During the current admission, rectal tube decompression failed, prompting exploratory laparotomy. Intraoperative findings revealed a 360° clockwise torsion of a markedly distended sigmoid colon with gangrene extending to the proximal rectum. En bloc resection with Hartmann's procedure was performed. The postoperative course was uneventful, and the patient was discharged on day seven. This case highlights the diagnostic difficulty of gangrenous volvulus in elderly patients and emphasises the need for early surgical intervention when non-operative management fails despite deceptively benign clinical findings.

¹ Hakim Gizaw Hospital, Asrat Woldeye Health Science College, Debre Berhan University, Debre Berhan, Ethiopia

Cite as: Kidane AY. Gangrenous sigmoid volvulus with minimal clinical signs in an elderly patient: a case report. *Impact Case Reports*, 2(1), 1-4. <https://doi.org/10.62463/icr.325>

Introduction

Sigmoid volvulus is a mechanical bowel obstruction that develops when a redundant segment of the sigmoid colon twists around its mesenteric attachment. This torsion can lead to a closed-loop obstruction and risks vascular compromise of the affected segment. It represents one of the most common aetiologies of large bowel obstruction in regions such as Africa and parts of Asia, a pattern often associated with diets high in fibrous content and the anatomical predisposition of a long, mobile sigmoid mesocolon¹.

In Ethiopia, sigmoid volvulus is especially prevalent, accounting for a substantial number of emergency surgical admissions. The classic presentation involves abdominal pain, distension, constipation,

Figure 1: The plain abdominal X-ray with absent rectal gas shadow and without the typical coffee bean sign





and vomiting. However, elderly patients frequently exhibit atypical or subtle symptoms, which complicates and delays early diagnosis. If not promptly identified and treated, progression to gangrene of the bowel represents a severe and life-threatening complication².

Sigmoid volvulus, the twisting of the sigmoid colon on its mesentery, is a significant cause of large bowel obstruction, especially among the elderly. Without prompt diagnosis and treatment, it can rapidly progress to life-threatening complications such as gangrene, perforation, and peritonitis. The condition is notably more prevalent in specific geographical regions, a pattern often linked to anatomical predispositions and dietary habits.

Given its association with multiple comorbidities in the elderly, surgical management for sigmoid volvulus carries high morbidity and mortality risks. Early intervention is therefore critical. Endoscopic detorsion is frequently employed as a less invasive initial approach for high-risk patients. However, if gangrenous changes are present, indicating irreversible vascular compromise and a high risk of sepsis, immediate surgical intervention is mandatory³⁻⁵. This report describes a rare case of gangrenous sigmoid volvulus in an 82 years old male with recurrent episodes of volvulus but minimal clinical and laboratory signs of ischemia.

Figure 2: Intra-operative distension



Case Report

An 82-year-old male presented to the emergency department with progressive abdominal distension and failure to pass stool or flatus for two days. He reported intermittent, cramp-like abdominal pain but denied vomiting, fever, or rectal bleeding. His medical history was notable for three previous admissions over the preceding year with similar symptoms, each successfully managed with rectal tube decompression.

Figure 3: Resected sigmoid colon



On examination, the patient appeared comfortable and haemodynamically stable. His blood pressure was 130/80 mmHg, heart rate 86 beats per minute, and temperature 36.8°C. The abdomen was markedly distended, hyper-tympanic on percussion, and mildly tender without guarding or rebound tenderness. Bowel sounds were reduced. Digital rectal examination revealed an empty rectum.

Laboratory investigations showed a white blood cell count of 8,000/ μ L and haemoglobin level of 13.5 g/dL. Serum electrolytes and renal function tests were within normal limits. Initial clinical assessment suggested recurrent sigmoid volvulus without clear evidence of bowel ischemia.

Rectal tube decompression was attempted but proved unsuccessful. The patient was therefore



taken for emergency exploratory laparotomy. Intraoperatively, the sigmoid colon was found to be grossly distended and twisted 360° clockwise around its mesenteric axis. The bowel was gangrenous, with ischemic changes extending into the proximal one-third of the rectum.

An en bloc resection of the gangrenous sigmoid colon and affected rectal segment was performed, followed by Hartmann's procedure with end colostomy and closure of the rectal stump. Postoperatively, the patient received broad-spectrum intravenous antibiotics, fluid resuscitation, and stoma care education. His recovery was uneventful, and he was discharged on the seventh postoperative day in stable condition.

Discussion

Sigmoid volvulus accounts for up to 50-70% of colonic volvulus cases in endemic regions. Predisposing factors include a long sigmoid mesocolon, chronic constipation, high-fibre diet, and aging, which causes redundancy of the sigmoid loop^{3,6,7}. In older individuals, atypical presentation and absence of systemic inflammatory response can delay diagnosis and intervention, increasing the risk of bowel gangrene.

Non-surgical decompression using a rectal tube or sigmoidoscopy is effective in uncomplicated cases. However, failure of decompression or suspected ischemia/gangrene mandates emergency surgery^{5,8,9}. Treatment is dictated by the presence of complications. For uncomplicated cases, endoscopic detorsion serves as the primary and definitive intervention. In contrast, urgent surgery is mandatory for patients presenting with signs of bowel perforation, peritonitis, or following unsuccessful endoscopic detorsion. For the most severe presentation, gangrenous sigmoid volvulus, the Hartmann's procedure remains the surgical standard. This approach, which avoids an immediate anastomosis, is particularly critical in elderly or hemodynamically unstable patients to prevent life-threatening anastomotic complications¹⁰.

The "volvulus belt" is an endemic region where colonic volvulus represents a substantial 13% to

42% of all intestinal obstructions. This vast geographic area encompasses Africa, South America, Russia, Eastern Europe, the Middle East, India, and Brazil. The aetiology of colonic volvulus is likely multifactorial. Some predisposing factors, such as chronic constipation, a high-fibre diet, frequent laxative use, and a specific anatomic predisposition, are common across these locations. Chief among the anatomic factors is dolichosigmoid (an elongated sigmoid colon on a narrow mesenteric attachment_ which is most frequently cited as the key predisposition for sigmoid volvulus⁴. Ethiopia has sigmoid volvulus as its most common cause of large bowel obstruction, which is seen in this study (73%) and previous studies (Gondar 56%)².

Sigmoid volvulus presents in two distinct clinical forms. The acute fulminating type is characterized by sudden onset with localized pain, early vomiting, marked prostration, and rapid progression to gangrene, perforation, and shock. In contrast, the subacute progressive type, more common in older patients, has an insidious onset with cramp-like, sometimes left-sided pain, and fewer systemic symptoms initially. In both types, early diagnosis is critical, as ischemia often results from prolonged bowel distension rather than immediate strangulation, making timely intervention before necrosis essential to prevent severe complications⁶.

Consent: Written informed consent was obtained from the patient for publication of this case report and is held by the authors.

References

1. Atamanalp SS. A nightmare: sigmoid volvulus. *Am J Surg.* 2025;239:115883. doi:10.1016/j.amjsurg.2024.115883
2. Mulugeta GA, Awlachew S. Retrospective study on pattern and outcome of management of sigmoid volvulus at district hospital in Ethiopia. *BMC Surg.* 2019;19:107. doi:10.1186/s12893-019-0561-1
3. Korkut E, Peksoz R, Disci E, Atamanalp SS. Factors affecting recurrence in sigmoid volvulus. *Pak J Med Sci.* 2023;39(1):150–153. doi:10.12669/pjms.39.1.6882
4. Masina T, N'gombe JAJ, Msiska F, Masangano P, Kaomba LY, Mulwafu W, et al. Epidemiology, presentation, and outcomes of sigmoid volvulus in Malawi: an 11-year retrospective review. *BMC Surg.* 2025;25:450. doi:10.1186/s12893-025-03188-x
5. Silahooji SI, Widodo B. Successful treatment with rectal tube placement and barium enema in uncomplicated acute



sigmoid volvulus: a case report. *Indian J Forensic Med Toxicol.* 2022;16(3):381–386.

6. Atamanalp SS, Disci E, Peksoz R. Sigmoid volvulus and concomitant clinical entities. *Formos J Surg.* 2024;57(2):87–92. doi:10.4103/fjs.fjs_201_23
7. Loria A, Jacobson T, Melucci AD, Bartell N, Nabozny MJ, Temple LK, et al. Sigmoid volvulus: evaluating identification strategies and contemporary multicenter outcomes. *Am J Surg.* 2023;225(1):191–197. doi:10.1016/j.amjsurg.2022.05.032
8. Abdelrahim A, Zeidan S, Qulaghassi M, Ali O, Boshnaq M. Dilemma of sigmoid volvulus management. *Ann R Coll Surg Engl.* 2022;104(2):95–99. doi:10.1308/rcsann.2021.0207
9. Simsek D, Ozgen G. Recurrent sigmoid volvulus: cause of colon perforation, sepsis, and fetal death. *J Obstet Gynaecol Res.* 2021;47(6):2230–2233. doi:10.1111/jog.14769
10. Maddah G, Kazemzadeh GH, Abdollahi A, Bahar MM, Tavassoli A, Shabahang H. Management of sigmoid volvulus: options and prognosis. *J Coll Physicians Surg Pak.* 2014;24(1):13–17.