SAS Journal of Surgery
Abbreviated Key Title: SAS J Surg
ISSN 2454-5104
Journal homepage: https://www.saspublishers.com

OPEN ACCESS

General Surgery

Sigmoid Volvulus Revealing Adenocarcinoma: A Dual Mechanism of Colonic Obstruction and the Importance of Appropriate Management

Bouali Mounir[1*], Benzidane Kamal[1], Zalarh Fadoua[1], Bouali Ichrak[1], Ettaoussi Abdelhak[1], Kamal Khadija[1], Majd Abdessamad[1], El Bakouri Abdelillah[1], El Hattabi Khalid[1]

[1]Visceral Surgical Emergency, Department of General Surgery, IBN ROCHD University Hospital of Casablanca, Casablanca, Morocco

DOI: https://doi.org/10.36347/sasjs.2026.v12i01.016 | **Received:** 05.11.2025 | **Accepted:** 12.01.2026 | **Published:** 19.01.2026

***Corresponding author:** Bouali Mounir
Visceral Surgical Emergency, Department of General Surgery, IBN ROCHD University Hospital of Casablanca, Casablanca, Morocco

Abstract **Case Report**

Sigmoid volvulus is a frequent cause of acute colonic obstruction. Its association with an underlying colonic tumor is rare but clinically significant, as it directly influences therapeutic decision-making. We report the case of a patient admitted to the emergency department with acute intestinal obstruction. Surgical exploration revealed a clockwise sigmoid volvulus associated with a tumoral, sub-stenosing thickening of the twisted bowel loop. An oncologic sigmoid resection with Hartmann's colostomy was performed. Histopathological examination confirmed the neoplastic nature of the lesion. The postoperative course was uneventful, and the patient was referred for further oncologic management. The association between sigmoid volvulus and colorectal cancer is exceptional and rarely reported in the literature. The presence of an underlying tumor modifies surgical management, requiring an oncologic resection in accordance with oncological principles. Hartmann's procedure represents a safe option in emergency settings, particularly in cases of significant colonic distension, unprepared bowel, or impaired general condition. This case highlights the importance of suspecting an underlying tumoral etiology in cases of sigmoid volvulus, especially in the presence of atypical features. Appropriate surgical management and increased vigilance are essential to optimize prognosis and ensure adequate oncologic treatment.

Keywords: Sigmoid Volvulus, Colonic Obstruction, Colorectal Cancer, Hartmann's Procedure, Emergency Surgery.

INTRODUCTION

Colonic volvulus results from the rotation of an intestinal segment around its mesocolic axis, usually exceeding 180°, leading to bowel obstruction and possible vascular strangulation. Among the different locations, sigmoid volvulus is the most common form [1].

It is frequently associated with dolichosigmoid, favored by chronic fecal stasis and a high-fiber diet, resulting in a characteristic anatomical configuration with a long and wide sigmoid mesocolon and a narrow base [2]. Sigmoid volvulus represents a serious medico-surgical emergency with potential life-threatening consequences [3]. Clinically, it most often presents as acute mechanical colonic obstruction. Imaging plays a central role in diagnosis, while endoscopic detorsion and surgery constitute the main therapeutic options [4].

Through this report, we describe an exceptional case of colonic cancer revealed by sigmoid volvulus. This extremely rare event necessitates modification of the surgical strategy and significantly impacts early outcomes and overall prognosis.

CASE REPORT

A 94-year-old patient with a history of ischemic heart disease on aspirin therapy, hypertension under treatment, hypothyroidism treated with levothyroxine, right mid-leg amputation for lower limb ischemia in 2008, bladder stone surgery in 2003, and a former chronic smoker (35 pack-years, now abstinent).

He presented to the emergency department with symptoms of acute bowel obstruction, including cessation of stool and gas passage, associated with vomiting and progressive abdominal distension evolving over 13 days.

Clinical examination revealed a distended, tympanic abdomen. Digital rectal examination showed an empty rectal ampulla.

An abdominal CT scan provided by the patient demonstrated colonic obstruction secondary to sigmoid volvulus with a small amount of ascites (Figure 1).

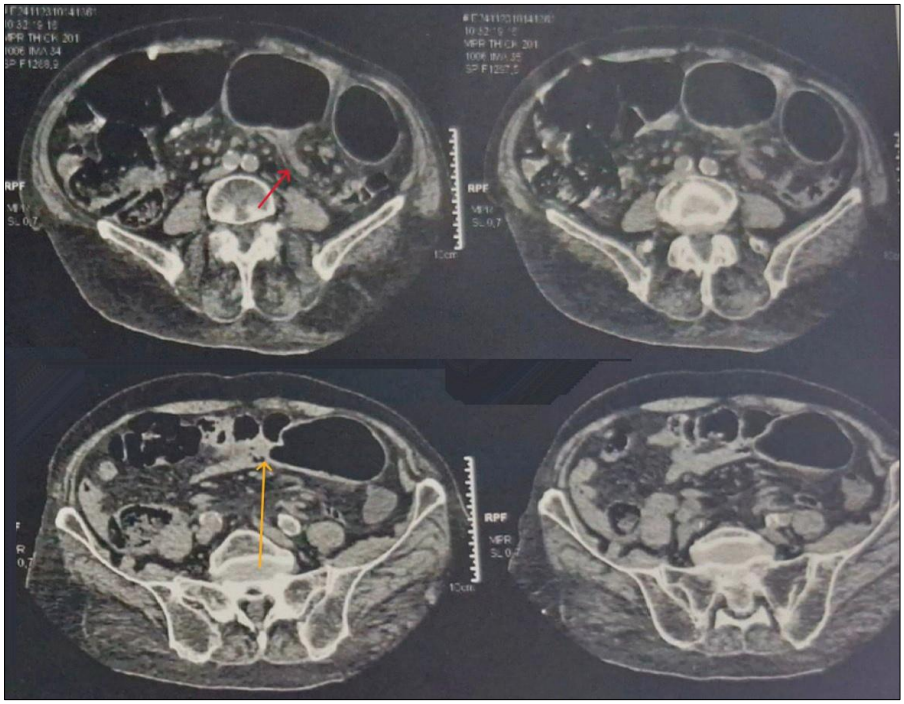

Figure 1: CT scan showing the vascular whirl sign (red arrow) and the convergence of the two colonic limbs (yellow arrow)

Based on these findings, the diagnosis of sigmoid volvulus was confirmed, and emergency surgical intervention was indicated. The patient was promptly transferred to the operating room.

Intraoperative exploration revealed a small amount of peritoneal fluid and a clockwise sigmoid volvulus (Figure 2). At the apex of the volvulus, a 3-cm sub-stenosing, hemi-circumferential thickening was identified (Figure 3), with no signs of bowel ischemia or secondary intra-abdominal lesions.

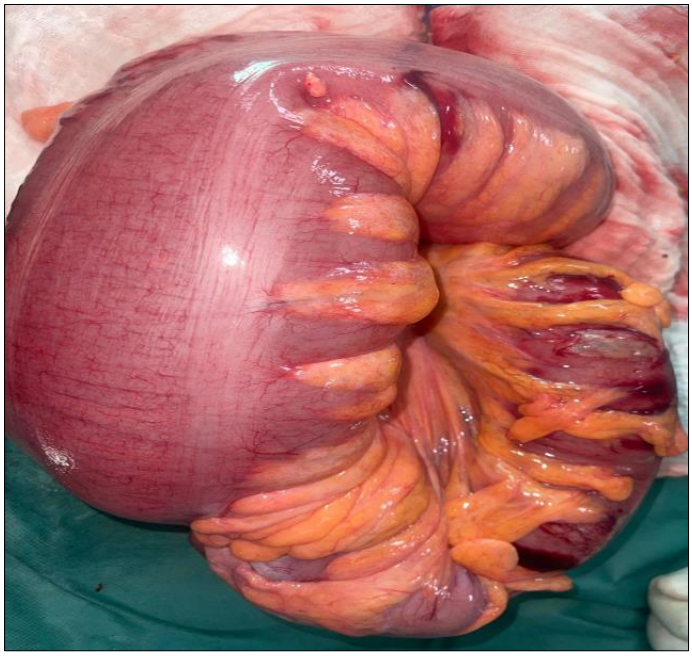

Figure 2: Intraoperative view showing sigmoid volvulus

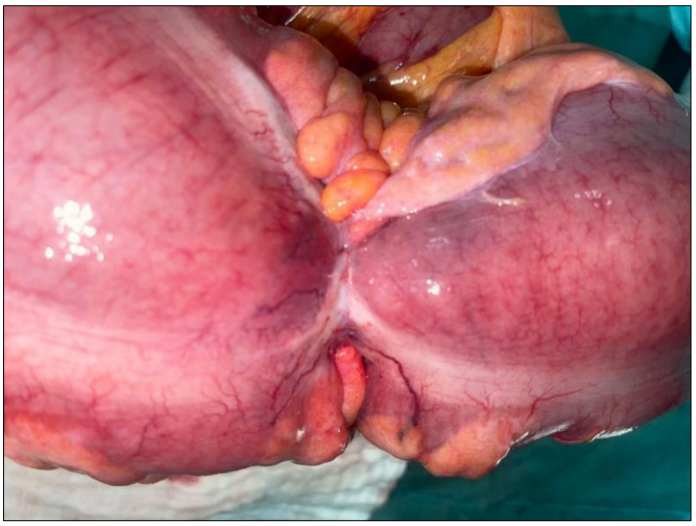

Figure 3: Intraoperative image showing tumoral thickening of the volvulated sigmoid loop

A low segmental colonic resection including the volvulated segment and tumoral lesion was performed, followed by a left iliac Hartmann-type colostomy.

Histopathological examination revealed a moderately differentiated, non-specific invasive adenocarcinoma infiltrating the colonic wall up to the subserosa, with no vascular emboli or lymph node metastases (0+/15 nodes). Resection margins were tumor-free.

Postoperative recovery was uneventful. The colostomy was functional on postoperative day 2. Stoma care was initiated, and the patient was referred to the oncology department for further staging and oncologic management.

DISCUSSION

The term "volvulus" derives from the Latin *volvere*, meaning torsion, and was first described by Rokitansky in 1836 [5]. Sigmoid volvulus is the most common type of colonic volvulus, accounting for 50–90% of cases [7]. It represents the third leading cause of large bowel obstruction worldwide, following colorectal cancer and complicated sigmoid diverticulitis [2].

Its incidence varies geographically. In the so-called "volvulus belt" — including Africa, South America, Eastern Europe, the Middle East, India, and Brazil — sigmoid volvulus accounts for 13–42% of intestinal obstructions [6]. In Western countries, it represents less than 5% [6].

Any mobile segment of the colon may be affected, with sigmoid involvement in 60–75%, cecal involvement in 25–40%, and transverse colon involvement in 1–4% of cases [2].

Dolichocolon, characterized by an elongated, dilated sigmoid loop with a narrow mesenteric base, is the most common anatomical predisposition [2]. Its rarity in patients under 30 years supports an acquired origin, possibly related to chronic constipation [1].

Clinical presentation varies widely. Our patient presented with acute abdominal pain and complete colonic obstruction. Symptoms may range from mild to severe and can progress to life-threatening complications such as peritonitis and septic shock [3, 4].

Although rare, stenosing colonic cancer may promote sigmoid volvulus by causing proximal obstruction and elongation of the colon, increasing loop weight and facilitating mesenteric rotation. Few cases have been reported, emphasizing the need for heightened surgical vigilance. Warning signs include weight loss, altered bowel habits, anemia, and hepatic lesions on imaging [1].

Emergency imaging is essential. Plain abdominal radiography may reveal the classic "coffee-bean" sign, but CT scanning is now the gold standard, demonstrating marked colonic dilatation and the "whirl sign," reflecting twisting of the colon and mesentery [8–10].

To our knowledge, only six cases describing the association of sigmoid volvulus with colonic tumors have been reported [1–15]. The presence of malignancy significantly alters surgical management.

While limited resection may suffice in uncomplicated sigmoid volvulus, oncologic resection with vascular ligation at the origin of the pedicles and lymphadenectomy is mandatory in neoplastic cases, as performed in our patient [16].

Hartmann's procedure was justified due to severe proximal distension and impaired general condition, offering a safe and efficient option in emergency settings [17].

CONCLUSION

Sigmoid volvulus is a surgical emergency requiring prompt and context-adapted management. Although usually related to anatomical predisposition, its association with colorectal cancer is exceptional and significantly alters therapeutic strategy. This case highlights the importance of considering an underlying malignancy, particularly in atypical presentations. Surgery remains the cornerstone of treatment in complicated cases. Heightened vigilance and individualized management are essential to optimize outcomes and ensure appropriate oncologic care.

REFERENCES

1. Khalifa MB, Romdhan W, Ghannouchi M, Aouadi S, Maatouk M, Boudokhane M. Sigmoid volvulus revealing large bowel cancer: A case report with a literature review. Int J Surg Case Rep. 2025 Mar; 128:111075. doi: 10.1016/j.ijscr.2025.111075. Epub 2025 Feb 24. PMID: 40020378; PMCID: PMC11919599.
2. L. Perrot, A. Fohlen, A. Alves, J. Lubrano. Management of the colonic volvulus in 2016. Journal of Visceral Surgery, 153 (3) (2016), pp. 183-192 ISSN 1878–7886. https://doi.org/10.1016/j.jviscsurg.2016.03.006
3. S. Negm, A. Farag, A. Shafiq, *et al.,* Endoscopic management of acute sigmoid volvulus in high risk surgical elderly patients: a randomized controlled trial . Langenbecks Arch. Surg., 408 (2023), p. 338, 10.1007/s00423-023-03071-4
4. B.W.C.A. Tian, G. Vigutto, E. Tan, et al. WSES consensus guidelines on sigmoid volvulus management . World J. Emerg. Surg., 18 (2023), p. 34, 10.1186/s13017-023-00502-x
5. Tan PY, Corman ML. History of colonic volvulus. Semin Colon Rectal Surg. 1999;10:122–128.
6. D. Gingold, Z. Murrell . Management of colonic volvulus ; Clin Colon Rectal Surg, 25 (2012), pp. 236-244 ; DOI: 10.1055/s-0032-1329535
7. Tabitha Gana, H.S. Narula . Pseudo-obstruction, acquired megacolon and sigmoid volvulus; Surgery (Oxford), 41 (7) (2023), pp. 436-439. ISSN 0263-9319. https://doi.org/10.1016/j.mpsur.2023.02.027
8. World Society of Emergency Surgery (WSES). Guidelines for the management of sigmoid volvulus. World J Emerg Surg. 2023.
9. Fisher JK. Computed tomographic diagnosis of volvulus in intestinal malrotation. Radiology. 1981
10. Rossi P, Tasellari P, Mariotti L, Pio EL, Qweider NA, Elia E, Ricci P, Valiani S, Donini A. Sigmoid volvulus showing a "whirl sign" on computed tomography. BMC Geriatr. 2009 Apr 1;9(Suppl 1):A48. doi: 10.1186/1471-2318-9-S1-A48. PMCID: PMC4290889.
11. T.U. Yilmaz, A. Güneş, G. Pösteki, E. Okay; Rett syndrome with colon cancer presented with sigmoid volvulus: report of a case . Int. J. Surg. Case Rep., 5 (9) (2014), pp. 577-579, 10.1016/j.ijscr.2014.07.008
12. S.H. Lee, B.K. Ahn, S.U. Baek; Volvulus of the sigmoid colon associated with rectal cancer: a case report. Gastroenterology Res., 8 (1) (2015), pp. 160-162, 10.14740/gr619w (Epub 2015 Feb 14. PMID: 27785289; PMCID: PMC5051175)
13. A. Aras, R. Kızıltan, A. Batur, S. Çelik, Ö. Yılmaz, Ç. Kotan; Colon cancer presented with sigmoid volvulus: a case report. Int. J. Surg. Case Rep., 17 (2015), pp. 16-18, 10.1016/j.ijscr.2015.10.021
14. N. Senejoa, P.S. González-Ausique, N. Enamorado-Enciso. Sigmoid volvulus and descending colon adenocarcinoma, a double cause of intestinal obstruction: a case report. Vólvulo del sigmoide y adenocarcinoma de colon descendente, una doble causa de obstrucción intestinal: un reporte de caso ; Cir. Cir., 91 (6) (2023), pp. 839-843, 10.24875/CIRU.22000179
15. S. Mousazadeh, S. Anvariazar, S. Ghasemi, et al. Sigmoid volvulus, initial manifestation of rectosigmoid invasive adenocarcinoma in a 52-year-old female: a case report ; Int. J. Surg. Case Rep. (2025), 10.1016/j.ijscr.2025.110872
16. C. Denet, A. Laforest, Traitement chirurgical des cancers du côlon gauche, Volume, Issue/2022, Pages, ISSN 0246 0424, doi: https://doi.org/10.1016/S0246-0424(22)92102-8.
17. J. Barbieux, F. Plumereau, A. Hamy ; Current indications for the Hartmann procedure ; J. Visc. Surg., 153 (1) (2016), pp. 31-38.