



Case Report: A Rare Presentation of Sigmoid Volvulus During Pregnancy With an Integrative Postoperative Approach

Zahraa Muhmmmed Jameel Al-Sattam,^{1,2} Sabah Mahdi Saleh,³ Hussein Alaa-Alden Fadhel³

Abstract

Sigmoid volvulus during pregnancy is an extremely rare but potentially life-threatening condition for both the mother and the foetus. Prompt diagnosis and timely surgical intervention are critical for favourable outcomes. Nutritional support and gut motility regulation may also play a supportive role in recovery. A 25-year-old woman, G3P2A0, at 34 weeks of gestation, came to the emergency department with severe abdominal distension and two weeks of constipation. Despite initial conservative treatment, her condition worsened and she required urgent surgical intervention. A multidisciplinary team, including surgeons, obstetricians and anaesthetists, performed a caesarean delivery followed by resection of the perforated sigmoid colon and a Hartmann's procedure. The patient recovered well with a functioning stoma and her newborn was healthy following neonatal intensive care. Early surgical decision-making proved critical in saving both lives. This case highlights the importance of early recognition and rapid intervention in managing bowel obstruction during pregnancy. A multidisciplinary approach and timely surgical management are essential to ensure the best outcomes.

Key words: Colon, sigmoid; Intestinal volvulus; Pregnancy; Surgical procedures, operative; Emergency; Acute care surgery; Pregnancy outcome.

1. Obstetrics and Gynaecology Department, Al-El-wiya Maternity Teaching Hospital, Baghdad, Iraq.
2. Al-Kindy College of Medicine, University of Baghdad, Ministry of Higher Education, Baghdad, Iraq.
3. Surgery Department, Al-Kindy College of Medicine, University of Baghdad, Ministry of Higher Education, Baghdad, Iraq.

Citation:

Al-Sattam ZMJ, Saleh SM, Fadhel HA. Case report: a rare presentation of sigmoid volvulus during pregnancy with an integrative postoperative approach. Scr Med. 2025 May-Jun;56(3):617-20.

Corresponding author:

ZAHRAA MUHMMED JAMEEL AL-SATTAM
E: zahraamjameel@kmc.uobaghdad.edu.iq

Received: 25 March 2025

Revision received: 22 April 2025

Accepted: 22 April 2025

Introduction

Sigmoid volvulus during pregnancy is a rare but serious condition that can threaten the lives of both mother and baby. The estimated incidence is less than 1 in 10,000 pregnancies, with high maternal and foetal mortality rates if untreated.¹ Predisposing factors include chronic constipation, previous abdominal surgeries and physiological changes such as reduced bowel motility due to elevated progesterone levels.²

A growing body of evidence suggests that integrative medicine approaches, including dietary fibre optimisation, probiotic supplementation and stress reduction techniques, may support bowel function and mitigate risk factors for volvulus.³ Here, a case of sigmoid volvulus in a 25-year-old pregnant woman at 34 weeks of gestation is presented, emphasising the importance of early diagnosis and a multidisciplinary approach, complemented by integrative strategies for postoperative care.

Case history

A 25-year-old woman, G3P2A0, in her third trimester, presented to the emergency department at Al-Kindy Teaching Hospital, Baghdad, Iraq, complaining of abdominal distension and constipation for two weeks. She had no significant past medical history but reported two prior caesarean sections.

On examination her general appearance was alert and oriented; vital signs were: blood pressure: 120/70 mm Hg, pulse: 90 bpm, temperature: afebrile. Abdominal examination showed severely distended abdomen, positive bowel sounds and no palpable masses. Per rectum examination revealed an empty rectum.

Laboratory findings showed normal complete blood count and serum chemistry, except for hypokalaemia (2.5 mEq/L). Abdominal ultrasound and CT scan showed markedly dilated large bowel loops with scattered air-fluid levels, consistent with intestinal obstruction. There was no evidence of a definitive mass lesion or transition point.

The patient was admitted for conservative management: nil per mouth (NPO); nasogastric tube insertion, intravenous fluids with potassium replacement (100 mEq/24 hours); daily digital rectal stimulation and rectal tube decompression. Despite these measures, her condition deteriorated over three days, with new symptoms including severe abdominal pain, hypotension (90/50 mm Hg), tachycardia (135 bpm), vomiting and absent bowel sounds.

An emergency laparotomy was performed by a multidisciplinary team involving surgeons, obstetricians, anaesthetists and paediatricians. A midline incision was made for caesarean delivery and a healthy male infant weighing 2 kilograms was delivered via an upper transverse uterine segment incision. The placenta was removed and the uterus was closed carefully. Intraoperative findings included green free fluid and an enlarged descending sigmoid colon with a perforated volvulus (Figure 1 and 2). The surgical team performed a resection of the sigmoid colon followed by a Hartmann colostomy. A drain was placed and the surgical site was closed in layers.

The patient had an uneventful recovery and was discharged three days later with a functioning



Figure 1: A - C: Intraoperative image of megacolon

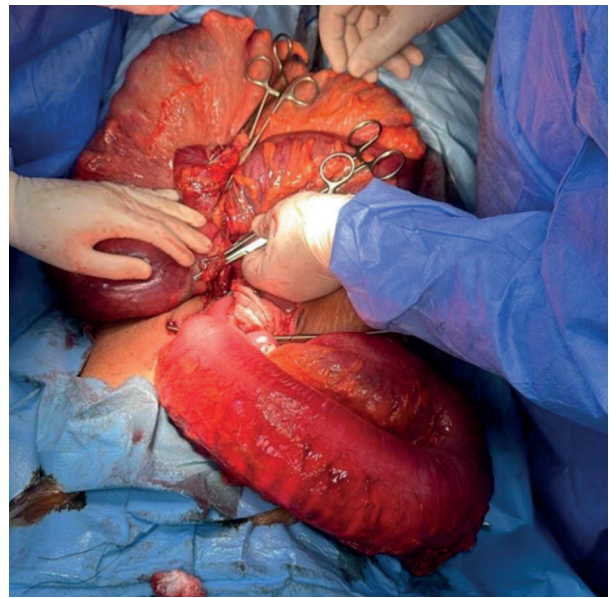
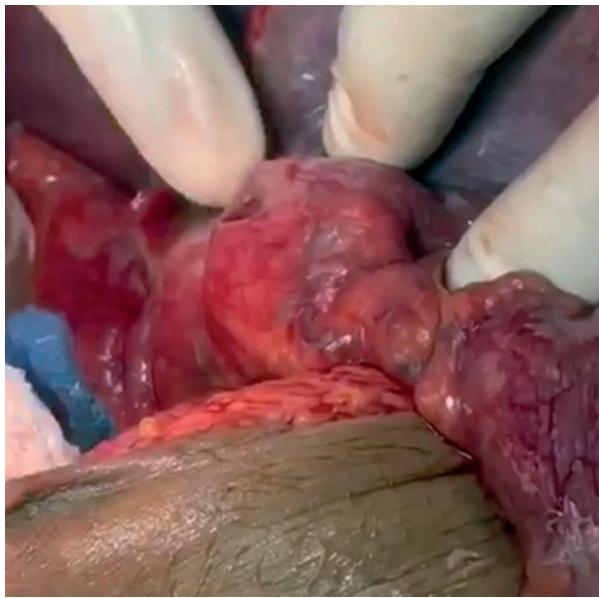


Figure 2 A and B: Intraoperative image of perforated sigmoid volvulus



Figure 3: Hartman colostomy

stoma (Figure 3). Postoperative recovery was enhanced by: dietary adjustments: a high-fibre diet with gradual reintroduction of soft solids; probiotics to support gut flora balance post-antibiotics; hydration optimisation: encouragement of fluid intake to prevent future constipation; stress reduction techniques: guided breathing and relaxation exercises to reduce sympathetic overdrive. Her histopathological examination confirmed acute ischaemic bowel without malignancy or granulomas. Her baby, admitted to the neonatal intensive care unit, was discharged healthy after ten days.

Discussion

Pregnancy brings about significant anatomical and hormonal changes, which can sometimes result in rare complications like sigmoid volvulus. The enlarging uterus shifts the position of abdominal organs and elevated progesterone levels slow bowel motility, both of which can contribute to the risk. In this patient, chronic constipation likely played a key role.¹

This case demonstrates just how crucial timely surgical intervention is. When conservative management failed and her symptoms escalated, the quick decision to proceed with surgery made all the difference. Without it, the outcome could have been tragic for both mother and baby. The swift response by the care team was instrumental in ensuring a positive result.²

Although supportive measures like dietary adjustments and stress management can help after surgery, in acute situations like this, the priority must be swift recognition and immediate action. That is ultimately what saved this patient's life and the life of her child.³

Fewer than 100 cases of sigmoid volvulus in pregnancy have been reported, which highlights the need for more awareness and high suspicion among clinicians when pregnant patients present with unexplained abdominal symptoms.¹⁻⁴

Recommendation

Because of the seriousness of sigmoid volvulus in pregnancy and the potential for rapid decline, we recommend that healthcare providers maintain a high level of suspicion when pregnant patients report prolonged abdominal discomfort or constipation. Acting early, assembling a multidisciplinary team and prioritising prompt surgical decisions can save lives. Sharing more cases like this one can help build a better understanding and guide future care.

Conclusion

This case reminds us always to consider rare but serious causes when evaluating abdominal symptoms in pregnancy, especially in patients with known risk factors like constipation. Fast diagnosis and immediate surgical management are key to preventing severe complications. While supportive care aids recovery, the speed and coordination of surgical care made the real difference here.

Ethics

The Scientific Committee of Al-Kindy Medical College, University of Baghdad, approved the study (Decision No 7/2025, dated 19 March 2025). The patient signed informed written consent. This work complies with the World Medical Association Declaration of Helsinki.

Acknowledgement

We would like to thank the anaesthetic and surgical teams at Al-Kindy Teaching Hospital and the obstetrical and paediatric teams at Al-Elwiya Maternity Teaching Hospital for their teamwork and collaboration in saving the lives of the mother and baby.

Conflicts of interest

The authors declare that there is no conflict of interest.

Funding

This review received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Data access

The data that support the findings of this study are available from the corresponding author upon reasonable individual request.

Author ORCID numbers

Zahraa Muhmmmed Jameel Al-Sattam (ZMJA):
0000-0001-6067-5745
Sabah Mahdi Saleh (SMS):
0009-0002-0754-8821
Hussein Alaa-Alden Fadhel (HAAF):
0009-0006-8362-3271

Author contributions

Conceptualisation: ZMJA, SMS, HAAF
Methodology: ZMJA, SMS, HAAF
Formal analysis: ZMJA, SMS, HAAF
Investigation: ZMJA, SMS, HAAF
Data curation: ZMJA, SMS, HAAF
Writing - original draft: ZMJA, SMS, HAAF
Writing - review and editing: ZMJA, SMS, HAAF

References

1. Lord SA, Boswell WC, Hungerpiller JC. Sigmoid volvulus in pregnancy. *Am Surg.* 1996 May;62(5):380-2. PMID: 8615567.
2. Atamanalp SS. Recommendations for the management of sigmoid volvulus. *Dis Colon Rectum.* 2022 Feb 1;65(2):e85. doi: 10.1097/DCR.0000000000002324.
3. Serafeimidis C, Waqainabete I, Creaton A, Vakamacawai E, Kumar R. Sigmoid volvulus in pregnancy: case report and review of literature. *Clin Case Rep.* 2016 Jun 30;4(8):759-61. doi: 10.1002/ccr3.617.
4. Perdue PW, Johnson HW Jr, Stafford PW. Intestinal obstruction complicating pregnancy. *Am J Surg.* 1992 Oct;164(4):384-8. doi: 10.1016/s0002-9610(05)80910-9.