



## **Sigmoid Volvulus in Pregnancy Mimicking Abruptio Placenta**

**Khairunnisa Che Ghazali<sup>1\*</sup>, Nutrimala Nadia Nasip<sup>1</sup>,  
Ahmad Junaidi Ahmad Hamidi<sup>1</sup>, Karthigesu Aimanan<sup>1</sup>,  
Siti Nur Hamizah Hamidon<sup>2</sup>, Chin Tek Jee<sup>2</sup> and Aisah Munirah Wahi<sup>1</sup>**

<sup>1</sup>*Department of General Surgery, Hospital Miri, Jalan Cahaya, 98000 Miri, Sarawak, Malaysia.*  
<sup>2</sup>*Department of Obstetrics and Gynaecology, Hospital Miri, Jalan Cahaya, 98000 Miri, Sarawak, Malaysia.*

### **Authors' contributions**

*This work was carried out in collaboration among all authors. Authors KCG, NNN and SNHH were involved in the conception and designed of the manuscript, and wrote the first draft of the manuscript. Author KCG managed the literature searches. Authors AJAH, KA, CTJ and AMW supervised the work, and involved in editing, critically revising the manuscript and approval of the final version. All authors read and approved the final manuscript.*

### **Article Information**

DOI: 10.9734/JAMMR/2021/v33i230810

#### **Editor(s):**

(1) Dr. Mohamed Essa, Sultan Qaboos University, Oman.

#### **Reviewers:**

(1) Tsagkas Nikolaos, General Hospital Of Lefkas, Greece.

(2) Kafui Patrick Akakpo, University of Cape Coast, Ghana.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/64933>

**Case Study**

**Received 28 November 2020**

**Accepted 02 February 2021**

**Published 22 February 2021**

### **ABSTRACT**

Sigmoid volvulus complicating pregnancy is a rare condition with significant maternal and fetal morbidity and mortality. Therefore, a high index of suspicion is needed, and additional radiological imaging is beneficial if both mother and fetus are stable. A 28 years old lady, gravida 2 para 1 at 32 weeks gestation, with history of one previous LSCS for acute fetal distress, presented to our labour ward with generalised abdominal pain. A diagnosis of placental abruption was made, and patient was subjected to emergency LSCS for immediate delivery of the baby. A high index of suspicion of sigmoid volvulus should be suspected when a pregnant lady presents with a clinical triad of abdominal pain, distention, and absolute constipation. Timely surgical intervention reduces maternal and fetal morbidity and mortality.

**Keywords:** *Fetal morbidity; amenorrhea; sigmoid volvulus; surgical intervention.*

\*Corresponding author: E-mail: [khairunnisacg@gmail.com](mailto:khairunnisacg@gmail.com);

## 1. INTRODUCTION

Intestinal obstruction due to sigmoid volvulus is rare in pregnancy. The presenting signs and symptoms seen in these patients are the same as with non-pregnant patients and often nonspecific and a high level of suspicion is essential for early diagnosis. We report a case of pregnant lady with a history of one previous lower segment caesarean section who presented at 32 weeks gestation with acute abdomen initially attributed to placental abruption. Intraoperative finding was sigmoid volvulus for which she underwent a concomitant caesarean surgery and sigmoid colectomy. She had an uneventful post op recovery.

## 2. CASE REPORT

A 28 years old lady, gravida 2 para 1 at 32 weeks gestation, with history of one previous LSCS for acute fetal distress with short inter-delivery interval (previous delivery interval to current presentation was 10 months), presented to our labour ward with generalised abdominal pain which she described as “contraction-like” with some reduction in intensity in between contractions. She also had one episode of loose stool at home on the same day with 4 episodes of clear, non-projectile vomitus. She had neither vaginal bleeding nor leaking of liquor and her fetal movements were satisfactory. Clinically her abdomen was distended with no scar tenderness and her uterus was non tender at 30 weeks size. Contractions timed manually was 4 in 10 minutes about 30 seconds each time. She was previously admitted a week ago at 31 weeks gestation for a similar episode of pain which was treated as threatened preterm labour with administration of intramuscular dexamethasone injections and nifedipine tocolysis and was discharged home after she was pain free for two days.

Assessment upon admission showed good fetal well-being with reactive fetal cardiotocography and transabdominal scan of the fetus showed a singleton fetus, cephalic, with fetal parameters ranging from 31 to 32 weeks with an estimated fetal birth weight of 1277 grams; the placenta was located posteriorly at the upper segment of the uterus but had abnormal sonographic features with mixed echogenicity at the entire retroplacental base, suspicious of abruption (Fig. 1); otherwise there was no free fluid noted in the abdomen. Maternal full blood count and coagulation profile showed normal parameters.

A diagnosis of placental abruption was made, and patient was subjected to emergency LSCS for immediate delivery of the baby. Intraoperatively, there were no features of placenta abruption and the baby was delivered with birth weight 1450 grams with good APGAR scores; however, there was gross dilatation of the large bowel for which our surgical team was called in. Upon further inspection, the sigmoid colon was grossly dilated and had a 270 degrees clockwise rotation at root of mesentery. A portion of the sigmoid colon was redundant with elongated mesentery. The proximal and distal large bowels were dilated, but otherwise healthy-looking and viable with no vascular embarrassment (Fig. 2 (A-C)). Sigmoid colectomy was performed via the Pfannenstiel incision made earlier for caesarean section (Fig. 3). Post operatively, she was continued on broad spectrum antibiotics and made a rapid recovery. The premature baby was also growing well and was subsequently discharged healthy.

## 3. DISCUSSION

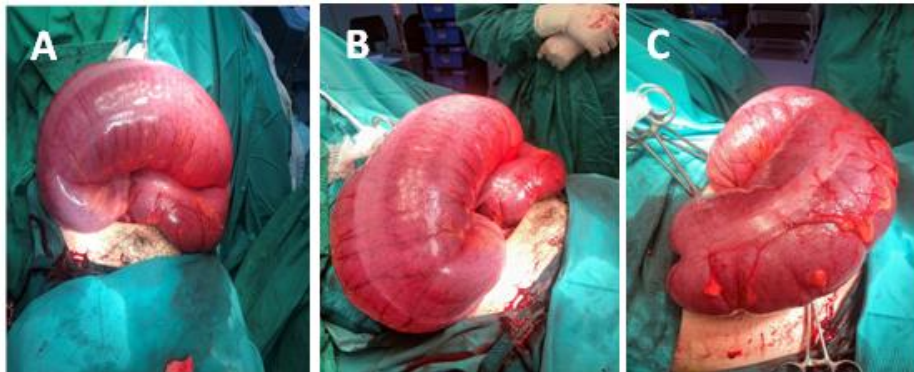
Houston, first described intestinal obstruction in pregnancy in 1830, which was a rare entity [1]. Sigmoid volvulus is the most common cause of bowel obstruction complicating pregnancies up to 44 percent of cases [2,3]. There were only 101 cases of sigmoid volvulus in pregnancy and puerperium reported in literature to the year 2016 [1,3,4]. It is postulated that the occurrence of sigmoid volvulus in a gravid uterus is due to displacement of redundant or an abnormally elongated sigmoid colon out of pelvis hence increasing risk of rotation at the mesenteric axis which is common during the 3<sup>rd</sup> trimester [1,4].

A high index of suspicion of sigmoid volvulus is required when a pregnant lady presents with a clinical triad of abdominal pain, distention, and absolute constipation [3,4]. However in this patient, there was no suspicion of volvulus since she was still able to pass flatus and stool, with vomiting being the only symptom of intestinal obstruction. Not forgot to mention, the more common possibility of intestinal obstruction secondary to adhesion is at the back of mind since this patient had previous scar. Furthermore, the finding of abdominal distension was difficult to pick up due to the gravid uterus.

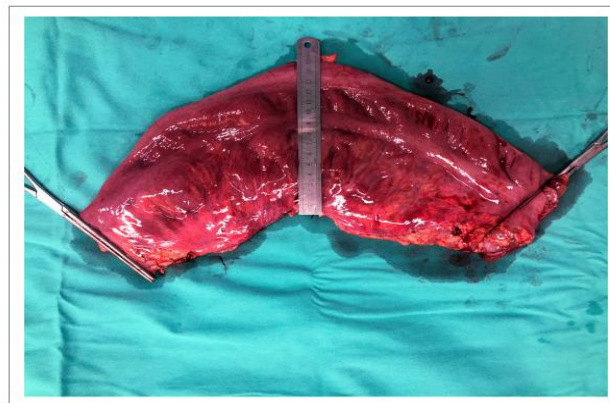
Another area of concern is the usage of diagnostic radiological imaging modalities for assessment of acute abdomen in pregnant ladies. In this scenario the imaging has a role to



**Fig. 1. Mixed echogenicity at retroplacental base, suspicious of abruption**



**Fig. 2. (A-C) Gross dilatation of sigmoid colon**



**Fig. 3. Resected specimen of sigmoid colectomy. After decompression, the resected bowel length was approximately 15cm in diameter**

differentiate intestinal obstruction from placental abruption. However, in this patient the abdominal x-ray was not deemed necessary since the working diagnosis was placental abruption which was diagnosed with a transabdominal ultrasound. Literature review showed MR

imaging is superior to US in the evaluation of placenta haemorrhage, likely owing to the improved soft tissue contrast and wider field of view [5]. However clinicians judgment supervene choice of imaging in order not to delay the prompt intervention.

The management of sigmoid volvulus in a pregnant lady is akin to a non-pregnant lady. It requires a multidisciplinary approach involving a general surgeon, obstetrician and neonatologist. The basis of resuscitation, fluids and electrolytes correction and also nasogastric decompression apply [2]. In cases where there is fetal immaturity, corticosteroid administration to promote fetal lung maturity and tocolysis to suppress uterine irritability may be considered provided it is safe to wait [1].

Assessment of bowel viability is important during surgery, and segmental resection with or without anastomosis is indicated. Primary anastomosis in an unprepared and edematous bowel is usually avoided as the procedure carries higher morbidity to patient [2]. In the event of a sigmoid volvulus detected early with the absence of bowel mucosal ischemia, there is a role of endoscopic decompression and detorsion; and later on the patient would be subjected to elective surgery for sigmoid colon resection [1]. Despite being successful in most non-pregnant patients, endoscopy during the third trimester, as in the present case, could be limited by the enlargement of the uterus. However, some authors reported successful detorsion and decompression of sigmoid volvulus in late pregnancy using this modality [6,7].

#### 4. CONCLUSION

Sigmoid volvulus complicating pregnancy is a rare condition with potentially significant maternal and fetal morbidity and mortality. Therefore, a high index of suspicion is needed, and additional radiological imaging is beneficial if both mother and fetus are stable. Timely surgical intervention reduces maternal and fetal morbidity and mortality.

#### CONSENT

As per international standard or university standard, patient's consent has been collected and preserved by the authors.

#### ETHICAL APPROVAL

It is not applicable.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

#### REFERENCES

1. Aftab Z, Toro A, Abdelaal A, Dasovsky M, Gehani S, Mola AA. Endoscopic reduction of a volvulus of the sigmoid colon in pregnancy: Case report and a comprehensive review of the literature. *World J Emerg Surg.* 2014; 9(41):1–6.
2. Al AM, Barsoum AK, Moneer MM. Sigmoid volvulus during pregnancy: A rare non-obstetric complication . Report of a case and review of the literature. *Int J Surg Case Rep.* 2015;17:61–4.
3. Serafeimidis C, Waqainabete I, Creaton A, Vakamacawai E, Kumar R. Sigmoid volvulus in pregnancy: case report and review of literature. *Clin Case Reports.* 2016;4(8):759–61.
4. Wu C, Zhu X, Liu W, Ruan T, Tao K. Case Report Sigmoid volvulus during late pregnancy: a case report and literature review. *Int J Clin Exp Med.* 2017;10(12):16733–8.
5. Parizel PM, Makkat S, Van Miert E, Van Goethem JW, van den Hauwe L, De Schepper AM. Intracranial hemorrhage: principles of CT and MRI interpretation. *Eur Radiol.* 2001;11(9): 1770–1783.
6. Ahmad A, Shing K, Tan K, et al. Sigmoid volvulus in pregnancy: early diagnosis and intervention are important. *Am. J. Emerg. Med.* 2014;32:491-492
7. Alshawi JS. Recurrent sigmoid volvulus in pregnancy: report of a case and review of the literature. *Dis. Colon Rectum.* 2005;48: 1811-1813.