

Herniated near-term pregnancy through an incisional hernia treated with polypropylene mesh: A case report

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ABSTRACT

The management of a large incisional hernia amidst gravid uterus in its sac is a very challenging obstetric entity. Because of the uncommonness of this entity, there has not been any evidence-based guideline regarding the optimal mode of treatment and so treatment is largely individualised. We present the case of a 32-year-old booked G7P6+0 Nigerian woman with two living children who was already booked for elective repeat lower segment Caesarean section (CS) and 'Caesarean' herniorrhaphy at 38 weeks of gestation but only to present at 36-weeks gestation with a 4-hour history of labour pains. She had an emergency lower segment CS 2 years earlier due to obstructed labour but the CS was complicated by wound infection. Examination revealed gravid uterus that herniated through the incisional hernia. She subsequently had emergency lower segment CS with the repair of the hernia with polypropylene mesh. She had uneventful post-operative recovery. Herniated uterus of near-term pregnancy through an incisional hernia has not been reported in our hospital. As in our case, triumphant management required brave but multidisciplinary approach and currently there are emerging management options such as the use of mesh and laparoscopic technique.

Key words: Caesarean section, incisional hernia, polypropylene mesh, pregnancy, repair

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INTRODUCTION

Herniation of the uterus through an incisional hernia of anterior abdominal wall is a very uncommon condition in obstetrics practice.¹ It may pose a very serious risk to both the mother and the foetus. However, if incarcerated and strangulated, with resultant poor placental blood perfusion, it may ultimately lead to foetal demise if not relieved early.²

To the best of our knowledge, we report the first case of herniated uterus of near-term pregnancy through an incisional hernia developing in a woman with prior complicated caesarean section in the hospital. We also discuss the issues surrounding its management.

CASE REPORT

A 32-year-old booked G7P6 with two living children presented at 36-weeks gestation with a 4-hour history of labour pains. She had an emergency lower segment Caesarean section (CS) at a private hospital 3 years earlier due to obstructed labour. This was complicated by wound infection with resultant healing by secondary intention. Incisional hernia was diagnosed at booking (20 weeks gestation) and subsequently she was counseled on elective repair at repeat CS at 38-weeks gestation due to borderline pelvis.

Examination revealed young lady in intermittent painful distress. She was pale. The pulse rate was 90/minute regular, blood pressure was 100/70 mmHg and respiratory rate was 22/minute. The patient's chest was clear and cardiac examination was also normal.

Abdomen showed midline sub-umbilical scar. There was necrotic ulcer below the umbilicus. There was a huge defect on the anterior abdominal wall measuring about 14 by 14 cm with the uterus herniating through the defect [Figure 1]. The symphysio-fundal height was 41 cm. The lie and presentation could not be ascertained. The foetal

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Figure 1: Hernia in advanced pregnancy

heart rate was 140/minute regular. Vaginal examination revealed cervix that was 2-cm dilated and intact foetal membranes. A diagnosis of latent phase of labour in a grand multiparous woman with huge incisional hernia was made.

Emergency CS and repair of the hernia with the general surgery team on call was planned. Consent was obtained and surgery was done under spinal anaesthesia. Intraoperative findings included large defect on the anterior abdominal wall about 14 by 14 cm, massive peritoneal adhesions, live female baby that weighed 2.6 kg (APGAR 8/10; 9/10). The rectus sheath was mobilised and repaired with nylon 2 with application of polypropylene mesh. Skin was closed with nylon 0 by interrupted mattress suture. Patient made uneventful post-operative recovery and was discharged 8 days later. Wound was healthy and healed on a 2-week follow-up.

DISCUSSION

In pregnancy, ventral abdominal hernias are conceivably an enigma because of their rare occurrence. Occasionally, they do become genuine obstetric problem if complications such as hernia result leading to incarceration, strangulation or spontaneous rupture.^{1,3} A number of factors may contribute to its rarity in pregnancy. By the time the uterus reaches the level of hernial aperture, it is usually too large to enter the hernial sac and subsequently will not be noticed.²

The risk factors for developing incisional hernia may be patients' factors or surgeons' factors. The patients' factors include obesity, wound infection, poor nutritional status, anaemia and post-operative chest infection.^{1,3,4} The surgeons' factors include midline vertical incisions, emergency procedures, poor surgical technique and the use of inappropriate suture material to close the rectus sheath.^{1,3} The patient in this report had a combination of

these factors. Since the first CS was done in private hospital as emergency, the poor surgical technique and the use of inappropriate suture material in the rectus sheath cannot be ruled out.

There is dilemma in the management of incisional hernia in pregnancy because no evidence-based approach has been described in literature. Conservative management such as manual reduction and use of abdominal binder until term has been applied with unreliable success.² Additionally, surgical intervention such as antepartum hernial repair has also been undertaken in few women while allowing for normal vaginal delivery at term.²

Some authorities recommend postponing herniorrhaphy until post-partum because the enlarged uterus itself and laxity of the abdominal wall may hinder optimal repair and enlargement with advancing gestation may further disrupt the repair.⁵ Thus, delayed mesh repair at 6-8 weeks post-partum has been described as an option considering the risk of bleeding and infection.⁵ On the contrary, few other authorities have recommended that herniorrhaphy can be performed during pregnancy if there is evidence of gross incarceration, strangulation or skin necrosis.^{1,2}

Although the recurrence rate after simple repair of anterior abdominal wall hernias has been reported to be more than twice the rate when mesh is used, we did use mesh in our repair, since it was not only indicated but was available at that time in our hospital.⁶ With the tension-free mesh technique the recurrence rates for hernias compared to tissue repairs has drastically reduced.⁷ Thus, as in our case, herniorrhaphy has been successfully performed as part of the CS with no increased incidence of wound infection and recurrence.⁸ Alternatively, Keel's repair may be offered in regions with scarce facilities for standard repair with mesh.⁹ This is usually after anterior abdominal wall muscle physiotherapy and so this method may not be practicable in pregnancy.

Although surprisingly, we could not identify any study in literature regarding the subject of management of women with mesh repairs in subsequent pregnancies, there is absolute recommendation for our patient to have elective CS in the next pregnancy. Therefore, this needs looking into.

Recently, successful laparoscopic hernioplasty during pregnancy was reported.¹⁰ More data are still required to standardise such procedures in pregnancy and prognosticate its use in subsequent pregnancies.¹⁰

CONCLUSIONS

Pregnant women with uterus lying in incisional hernia needs individualised care. As in our case, triumphant management required brave but multidisciplinary

approach and currently there are emerging management options such as the use of mesh and laparoscopy.

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The woman whose story is told in this case report signed permission for its publication.

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