

Completely Herniated Gravid Uterus with Intrauterine Fetal Death in a Post Caesarean Incisional Hernia: A Case Report

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Abstract

Incisional hernia after caesarean section is not uncommon complication especially in case of inadequate repair of the anterior abdominal wall in the previous caesarean section (CS), also in case of sepsis in the postoperative period. The rising rate of primary CS is considered to be the leading cause of increased trend of incisional hernia following CS. Only about a dozen cases having gravid uterus as a hernial content have been recorded in literature. Paucity of cases has meant that there are no established guidelines for its management, which is totally individualized. We report here a very rare interesting case of large post caesarean incisional hernia with protrusion of the gravid uterus with the fetus dead inside, this patient was unlucky to have medical disorder in the form of primary hyperthyroidism and history of cardiac arrest during the last delivery. A multidisciplinary team was held and termination of pregnancy was done by hysterectomy-in-to and repair of the hernia was done in the same setting.

Keywords: Gravid uterus; Cesarean section; Fetal death

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Introduction

A postoperative ventral abdominal wall hernia, more commonly termed incisional hernia, is the result of a failure of fascial tissues to heal and close following laparotomy [1]. Incisional hernias occur in 8–25% after abdominal surgery [2-4]. In 2015, a systematic review on abdominal wall hernia and pregnancy was published, identifying 31 papers, all of which were either case-reports or smaller case-series. The study concluded that the literature was sparse, and no definite treatment recommendations could be made. Since then, several studies have emerged focusing on different aspects of ventral hernia in relation to pregnancy [5].

Case Report

A 33-year-old Egyptian female, gravida 11 para 7+3, previous 7 CS with 3 living females, 2 IUFD in third trimester and 2 early neonatal deaths. Gestational age on admission was 35+3/7 weeks gestation. Last CS was done 3 years ago with history of thyrotoxic crisis and cardiac arrest during CS and ICU admission for 1 week, also history of DVT after appendectomy 10 years ago. The patient was diagnosed to be Graves' disease (primary hyperthyroidism) for 5 years on treatment (Inderal and Propylthiouracil shifted

to Carbimazole during pregnancy). The patient was admitted to Zagazig university maternity hospital as a case of IUFD with the last perception of fetal movement few days before.

By general examination, the patient looked stressed, though normotensive, without vaginal bleeding with tachycardia (pulse 115 b/m and regular) afebrile, no abnormal complexion and exophthalmos with no corneal ulcers. By abdominal examination, there was massive incisional hernia at the site of previous CS scar measuring 38 × 25 cm with the whole uterus and baby inside (**Figure 1**), the skin above showed discolouration, maceration and multiple ulcers (**Figure 2**).

Complete laboratory investigations were done including new thyroid profile that showed that free T4 was 1.62 ng/dL (n 0.82-1.77 ng/dL) and TSH was 0.1 mIU/L (n 0.45- 4.50 mIU/L). Abdominal ultrasound was done that confirmed that the uterus and the dead baby inside were the contents of the hernia, also Doppler ultrasound for both lower limbs confirmed patent veins.

Multidisciplinary team was held including ob/gyn consultant, anesthesia consultant, endocrinology consultant, vascular



Figure 1 Large incisional hernia at the site of previous CS scar with the whole uterus and baby inside (a: Frontal view, b: Lateral view).



Figure 2 The skin above showed discolouration and maceration.

consultant, general surgery consultant and cardiology consultant. The committee opinion was termination of pregnancy by CS and tubal ligation (after patient counselling) with removal of all necrotic skin and hernioplasty. The patient and her husband were informed and counselled about the committee advice including the risk of surgical procedure and anticipated complications. The patient was consented for CS and tubal ligation with the possibility of hysterectomy (if needed), another high risk consent was signed.

The day before surgery

After admission the patient received LMWH for thromboprophylaxis and stopped 12 h before the procedure, ICU place was ready for postoperative care; Polypropylene mesh was ready with the appropriate size as ordered by surgical team, abdominal preparation and fasting.

The day of surgery

Once in the operative theatre, the patient's pulse was 140 b/m so the anesthesiologist started intravenous beta blocker with the appropriate dose and sedation, after that, the patient's pulse came back to 100 b/m. Spinal anesthesia was conducted very smooth and worked efficiently during the whole procedure. Sterilization with betadine of the area between xiphi-sternum and the knees was done and the herniated mass was elevated to give access for good sterilization to the area beyond (**Figure 3**).

The surgical team started the incision; it was an elliptical incision

about 40 cm in the healthy skin all around the herniated mass. Some omental and intestinal adhesions were dissected at the neck of the hernia to give access to the uterus. During the procedure the abdominal cavity was very narrow to accept the outside travelling uterus to come back inside again and so it could lead to compartmental syndrome after abdominal closure. Also in case the uterus was opened, we would not be able to put a mesh (especially in the situation of IUFD that raise the possibility of infection) and only herniorrhaphy would be done that sure would increase the chance of hernia recurrence. For these 2 reasons, we planned to go for hysterectomy-in-toto with conservation of both ovaries (**Figure 4**). Both ovaries were fixed to the abdominal wall to avoid torsion ovary in the future (**Figure 5**).

The redundant macerated unhealthy skin was removed first (**Figure 6**), then closure of the rectus sheath with PDS 2 and insertion of polypropylene mesh and suction drain with securing hemostasis (**Figures 7 and 8**). The patient received 2 units of blood and one unit of plasma.



Figure 3 Sterilization.

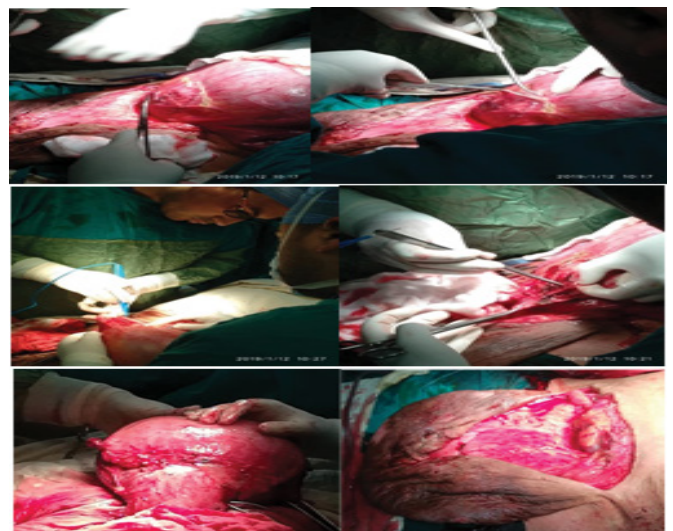


Figure 4 Hysterectomy-in-toto with conservation of both ovaries (a, b: Mobilization of the urinary bladder. C: Conservation of the ovaries. d: Hemostasis of the back of the bladder. e: Uterus after mobilization of the bladder and conservation of the ovaries. f: After hysterectomy).



Figure 5 Bilateral fixation of the ovaries to anterior abdominal wall.



Figure 6 Removal of the redundant macerated unhealthy skin.

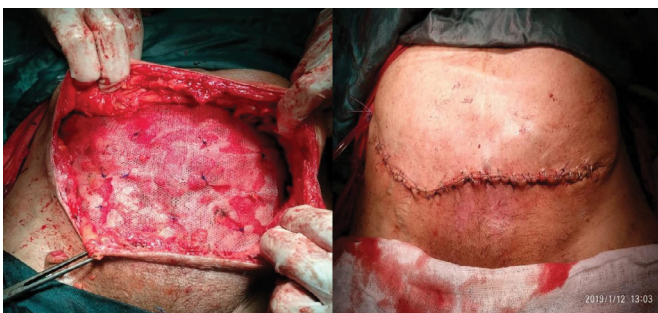


Figure 7 Hernioplasty and closure of the abdominal wall.

Post-operative care

The patient was transferred to ICU, She was put in 45 degree position in bed and informed to wear elastic compression stocking immediately and started thromboprophylaxis 6 h later, good analgesia and strong antibiotics were given. The patient Started oral feeding and her oral medications after 6 h. Cabergoline 1 gm single dose was given to prevent lactation and postpartum pyrexia. Urinary catheter was removed after 12 h.

Vital signs, drains and the patient general condition were assessed in the ICU for 24 h then she was referred to the ward. the postoperative period passed uneventful, the intraperitoneal

drain was removed the patient completed admission for one week, after that, she was discharged with the suction drain and she was informed to come back two weeks later to remove the drain.

Discussion

There is a substantial rise in trend of institutional-based CS among Egyptian mothers sampled in 2005, 2008, and 2014 by more than three-fold [6]. The private sector appears to be the driver of the rising CS in Egypt, a substantial increase was also observed in use of this surgical procedure in public sector. The more than 4-folds increase in CS in the private sector was driven by substantial increases in CS among mothers who are potentially at low risk for CS delivery. In Egypt, the nearly 60% population-based proportion of CS performed in 2014 greatly exceeds the threshold of 10–15% recommended by WHO [7]. A population based proportion of CS >10% did not lead to health improvements for mother or newborn. Although the observed over time increase in CS rate in Egypt is in line with what has been noted in many national and international studies [8-11], this over time increase places Egypt as a country with the highest CS performed worldwide, after Brazil (45.9%) [12]. The patient in this case report has already previous seven CS done in public hospital with bad closure of the last one because the patient was arrested during CS and the surgical team was in hurry to complete the surgical procedure and send the patient to the ICU.

Incisional hernia with pregnancy may pose a serious obstetric threat necessitating urgent intervention. The possible complications include preterm labour, abortion, strangulation, haemorrhage, intrauterine growth restriction, intrauterine foetal death, dysfunctional labour, rupture of the lower uterine segment, and postpartum haemorrhage amongst others [13].

There is wide variation in rates of incisional hernia occurrence after laparotomy. A recent meta-analysis found an incidence of ventral incisional hernia of 4.7% in transverse skin incisions [14]. In a review of 848 cases where a Pfannenstiel incision was used for obstetric and gynecological surgery with follow-up of 0.5–14 years, and the rate of incisional hernia was reported as 0.0–2.1% [15]. There is a lack of evidence about the incidence of incisional hernia formation specific to caesarean section. There is a strong association between maternal CS and subsequent incisional

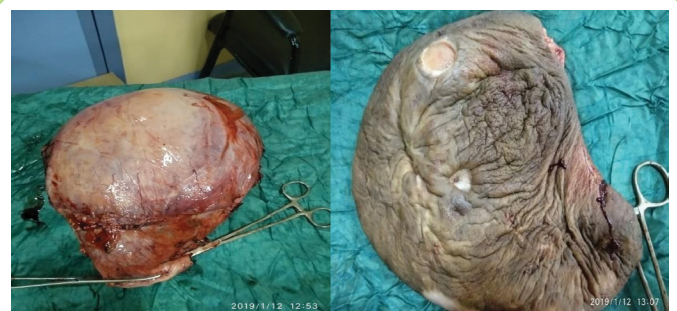


Figure 8 Specimen removed (uterus with the dead baby and the excised macerated skin).

hernia repair, which is correlated to the increase of the number of CS [16].

Therapeutic measures should factor in fetal viability and the associated morbidity and mortality of the mother. Management of incisional hernia in pregnancy is mainly conservative. The therapeutic options include a caesarean section which offers a means of hernia repair during surgery, as opposed to vaginal birth which involves delayed repair. However, given the uncertainties about the integrity of the anterior abdominal wall during labour especially in the case of an incisional hernia, elective caesarean section is considered by many obstetricians as the safest mode of delivery. During these caesarean sections, concomitant

herniorrhaphy can be carried out. Nevertheless, elective postpartum herniorrhaphy is reported as the normal standard, the reason being that the overstretched abdominal wall may limit proper repair, and the associated risk of wound dehiscence and infection may be higher [17].

Conclusion

This patient was unlucky to have multiple medical disorders in the form of uncontrolled thyrotoxicosis and history of thyrotoxic crisis and cardiac arrest in the last CS, also the past history of DVT. All these points were challenging during the patient preparation for surgery.

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