

Herniated gravid uterus through an infra-umbilical laparotomy scar: a case report

Ahmed M. Abbas,¹ Armia Michael²

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Abstract

Herniation of a gravid uterus through the abdominal wall is a rare and potentially serious condition due to its antecedent complications. Management is determined by gestational age. Simultaneous hernioplasty with cesarean section is considered safe. Clinical awareness of this complication will prevent delay in its diagnosis and treatment. Delay in recognition of this condition can lead to incarceration and subsequent strangulation of the gravid uterus. Strangulation at or near term appears to be a genuine indication for early hospitalization and elective cesarean section, possibly combined with hernia repair. Here we report the case of a middle aged woman who presented with abdominal pain at 28 weeks of gestation with an unusual bulge of her abdomen. The lower abdominal bulge turned out to be her gravid uterus herniated through the anterior abdominal wall. Cesarean delivery with herniorrhaphy was done for the large abdominal defect.

¹Department of Obstetrics and Gynecology, Faculty of Medicine; Assiut University, Assiut, Egypt

²Faculty of Medicine; Assiut University, Assiut, Egypt

Introduction

Incisional hernia is an abdominal wall defect that occurs at the site of a previous surgical incision following breakdown in the continuity of the fascia closure.¹ It is a common complication of abdominal surgery, reported in up to 11 % of patients' generally,² and in up to 23 % of those who develop postoperative wound infections.³

Anterior abdominal wall hernias are uncommon in pregnancy; herniation of a gravid uterus through the abdominal wall is an even rarer and potentially serious condition due to its antecedent complications like burst abdomen, preterm labor, spontaneous abortion, accidental hemorrhage, intrauterine growth restriction, dysfunctional labor, obstructed labor, uterine rupture and intrauterine fetal death.⁴ It is usually associated with an umbilical or incisional hernia of the anterior abdominal wall. Initially, these hernias may be reducible, but delay in recognition of this condition

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Corresponding author: Ahmed M. Abbas, MD, Department of Obstetrics and Gynecology, Faculty of Medicine; Assiut University, Assiut, Egypt; Woman's Health Hospital, 71511, Assiut, Egypt, Cellular: +20 10033851833; Tel: +20 88 2414616; email: bmr90@hotmail.com

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can lead to incarceration and subsequent strangulation of gravid uterus.⁵

Because of the rarity of the condition, no consensus exists regarding the timing of the surgical repair or the ideal technique to be used. Here, we report the case of a herniated gravid uterus through an incisional hernia of a midline infra-umbilical incision presented at 28 weeks of gestation.

Case Presentation

A 32-years-old woman, gravida 6 para 5, pregnant 28 weeks (based on her last menstrual period) presented to the Emergency unit of Assiut Woman's Health Hospital with acute abdominal pain. She had 5 living children delivered vaginally. She was a non-smoker with a body mass index 25.3 kg/m². She has had an incisional hernia since her last delivery 3 years ago, in a midline infra-umbilical incision secondary to an exploratory laparotomy due to a perforated appendix during the last pregnancy at 34 weeks. She didn't develop any surgical site infection postoperatively. She didn't seek medical advice before the current pregnancy as the hernia was small and she didn't have a bothering complaint from it.

Abdominal examination revealed an infra-umbilical vertical scar with stretched, shiny skin, and an ulcerated area 3 X 4 cm. There was a large abdominal wall defect about 10 X 8 cm. The uterus herniated from the defect and was palpable superficially (Figure

1). Her ultrasound scan reported a single living fetus with average biometry of 28 weeks. Surgical consultation advised MRI to exclude strangulation (Figure 2). MRI revealed no strangulation, so the patient was managed conservatively with good care of the skin, bed rest and analgesics till resolution of symptoms.



Figure 1: Abdominal examination revealed a big infraumbilical incisional hernia

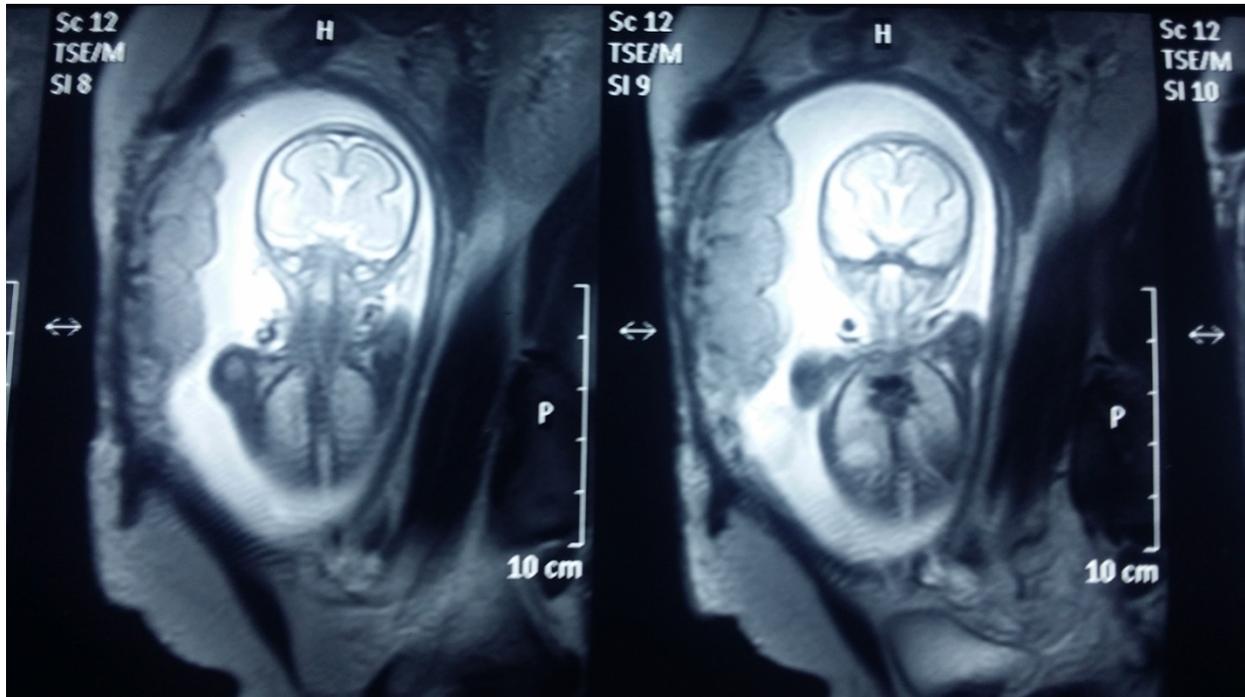


Figure 2: MRI view showing the uterus and the fetus inside the herniated sac with no strangulation.

At 35 weeks of gestation, the patient presented at the emergency department with abdominal pain and a sudden gush of fluid per vagina. Sterile speculum examination revealed an open cervix. Vaginal examination revealed that the cervix was dilated 5 cm, rupture of membranes, and the head station was at -2. Trial of vaginal delivery was commenced, but there was a failure of head descent. A decision of urgent cesarean delivery (CD) was made. We consulted the surgical team before delivery who advised to perform herniorrhaphy at the same time of CD.

Under general anesthesia through a Pfannenstiel incision, a transverse lower segment CD was done by a senior obstetrician. A healthy male neonate with an Apgar score of 8/10 at 1 minute

and birth weight of 2400 gm was delivered followed by placental delivery. Closure of the uterus in double layers with bilateral tubal sterilization, after taking the patient's consent, was performed. The uterus was reduced through the facial defect.

General surgeons started their procedure by extending the Pfannenstiel incision and another mid line incision was performed. Redundant skin and subcutaneous tissue were removed followed by removal of hernia sac. Closure of the abdominal wall in layers by non-absorbable sutures was done after insertion of an intraperitoneal drain. Operative time was about 2 hours and the patient received 1 unit of packed RBCs. The patient and her normal healthy baby had a smooth

postoperative course. They were discharged three days later with an uneventful postpartum period.

Discussion

Incisional hernia (IH) is known to occur in 11-23% of laparotomies.⁶ Predisposing factors to IH can be categorized into two groups: "patient factors" including obesity, old age, abdominal distension, post-operative cough, jaundice, and wound sepsis and "surgeons' factors" related to the type of incision, closure technique and type of suture materials used.⁶

The usual contents of the abdominal wall hernia sac are omentum and loops of small intestine. Herniation of gravid uterus is probably rare because of the fact that because, in most instances, by the time the uterus is large enough to reach the fascial defect on the abdominal wall, it is also too large to protrude through the hernia.⁷

Careful management is necessary due to potential complications such as spontaneous abortion, preterm labor, accidental hemorrhage, intrauterine fetal death and rupture of the lower uterine segment during the labor.⁴ An infrequent, but more serious complication is incarceration of gravid uterus with or without strangulation along with ulceration and excoriation of the overlying skin.⁷ Diagnosis of the above condition is clinical and it can be confirmed on ultrasonography. In cases of doubt of strangulation an MRI can be diagnostic.⁸

A major challenge in treating these patients, because of the rarity of the condition, is that no consensus exists in

the literature on the ideal treatment to be used⁹ and there is still dilemma.¹⁰ The management of pregnant patients with IH depends upon the trimester at diagnosis. For those presenting early in pregnancy, manual reduction of the hernia and use of an abdominal binder during the antenatal period and labor has been applied with varying success.^{7,11} Surgical intervention in the form of antenatal hernia repair in the second and third trimesters has also been undertaken in two patients and then the pregnancy carried to term and normal vaginal delivery allowed.¹²

This approach, however is associated with a significant risk of anesthesia during pregnancy. Moreover, the enlarged uterus itself may hinder optimal herniorrhaphy and further enlargement with advancing gestation may disrupt the hernia repair.¹³ Strangulation at or near term appears to be a genuine indication for early hospitalization and elective caesarean section, possibly combined with hernia repair, which has successfully been reported.⁴ We believe that the same can be applied to cases such as ours, and we approached the repair planning a single-stage procedure as long as the delivery had been uncomplicated for the mother and child. Elective cesarean section is considered to be safest as the integrity of the weak anterior abdominal wall and or the scarred uterus during vaginal birth is uncertain.¹⁴

Hernia repair can be done at the time of cesarean section or can be done at an interval of 6-8 weeks. Postpartum elective herniorrhaphy allows an optimal repair as the overstretched abdominal wall skin can be fashioned to the correct dimension. Furthermore, the repaired

abdominal wall is not subjected to the mechanical stresses of labor and there is no associated risk of wound disruption and infections.¹⁴ However, incarceration, burst abdomen or strangulation will necessitate an immediate repair even in the antenatal period. The pregnancy then grows to term.¹⁵

Elective antenatal hernia repair has been reported during the 2nd and 3rd trimester of pregnancy with an outcome of a normal term vaginal delivery. However, such an approach is associated with a significant risk of anesthesia and surgical intervention during pregnancy. Moreover, the enlarged uterus itself may hinder optimal herniorrhaphy, and further enlargement with advancing gestation may disrupt the hernia repair.⁴

Conclusions

In conclusion, we report this case to highlight that the clinical awareness of herniated gravid uterus in an incisional hernia sac, which is a delayed, but rare complication of an abdominal wall closure will prevent delay in its diagnosis and treatment. A gravid uterus in an incisional hernia with skin defect is an exceedingly rare occurrence, and the management is determined by gestational age. Simultaneous hernioplasty with cesarean section is safe.

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