

Placenta Percreta with Uterine Rupture at 16th Weeks - Case Report

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We are reporting a case of a ruptured uterus at the uterine fundus at 16 weeks of gestation in a 27-year-old, gravida 3 para 2 patient with a history of two previous cesarean sections. She presented to the emergency department with sudden onset of severe abdominal pain and signs of shock. Urgent transabdominal ultrasound showed intraperitoneal fluid with blood clots and a myometrial defect at the uterine fundus. The patient was taken directly to theater for an exploratory laparotomy. A perforation at the uterine fundus was found through which a part of the placenta was protruding. A Supracervical hysterectomy was done, histopathology showed placenta percreta.

Key words: Ruptured Uterus, Second Trimester, Placenta Percreta, Hemorrhagic, Cesarean Section, Laparotomy, Hysterectomy.

INTRODUCTION

Rupture of the pregnant uterus is a rare but serious, and potentially fatal complication. Uterine rupture in the second trimester is very rare and if happens it usually happens at the site of a prior hysterotomy scar¹. Our patient had two prior lower segment cesarean sections, but the rupture occurred at the uterine fundus at 16 weeks of gestation.

Systematic review by Justus Hofmeyr et al showed that uterine rupture was reported to be lower in a community-based study (median 0.053%, range 0.016–0.030%) compared to a facility-based study (0.031, 0.012–2.9%). This prevalence was also higher in less developed countries (Sub-Saharan Africa) than in the developed countries².

A uterine rupture is defined as disruption of the whole uterine muscle and the covering visceral peritoneum. This term is sometimes confused with uterine dehiscence, in which the integrity of the visceral peritoneum is retained. Usually, uterine rupture occurs in the setting of a trial of labor after cesarean delivery and in later pregnancy³.

There are several risks factors that lead to uterine rupture; the most common one being the separation of a previous hysterotomy scar. Other risks factors include uterine trauma or injury or prior myomectomy scar, other uterine surgeries, or uterine anomalies⁴.

CASE PRESENTATION

This is a 27-year-old Gravida 3 para 2 with two previous lower segment cesarean sections (C/S). Obstetric history revealed that her last cesarean section was four years prior due to fetal distress. It was complicated by rupture of a previous cesarean scar and difficulty to deliver the baby. As a result of the dense adhesions, an inverted T incision was made along the lower uterine segment and not reaching the upper segment. The baby was delivered as breech. There was also urinary bladder injury, which was repaired by a urologist. At that time the patient was counselled and advised not to get pregnant again. This information was withheld by the patient and not disclosed to the medical team until two days after the surgery.

The patient presented to the Emergency Department at King Hamad University Hospital in the Kingdom of Bahrain at 15+6 weeks of

gestation complaining of sudden, severe, and generalized abdominal pain with signs of shock. She was evaluated and resuscitated in the emergency department.

She was hypotensive (70 /40mmHg) and tachycardic at 122 beats per min. The abdomen was distended with generalized tenderness and rigidity. Bedside ultrasound revealed a single live fetus at 14+5 weeks of gestation, the placenta was in an anterior position, and fundal. In addition, there were big clots and free fluid in the abdomen reaching the liver with suspicion of a hematoma at the uterine fundus. (Figure 1, 2). On clinical examination there was minimal brownish discharge from the vagina and the cervix was closed.

The patient and her family were counselled about the possibility of a ruptured uterus and the need for urgent exploratory laparotomy with possible hysterectomy. The consent was signed by the patient and her husband.

The patient was taken directly to the operating room and laparotomy was done through a low transverse suprapubic incision. Upon entry to the abdomen, almost 2 liters of blood and blood clots were removed from the abdomen.

There were dense adhesions between the uterus and anterior abdominal wall which warranted dissection and exposure of the uterus. A hole was noted along the left lateral upper part of the uterus about 1cm in diameter with placental penetration (placenta percreta) and active bleeding (Figure 3). The previous cesarean uterine scars were intact. While removing the blood from the abdominal wall and with manipulation of the uterus, the baby was spontaneously expelled from the hole in its sac (Figure 3, 4). The placenta was occupying most of the uterine cavity and firmly adherent to the uterine wall. We proceeded directly to a supracervical hysterectomy (Figure 5, 6) with preservation of both ovaries and tubes. The estimated total blood loss was about 2.5 liters. The patient received 4 units of packed red blood cells, 3 units of fresh frozen plasma, and 6 units of platelets. Hemostasis was secured and the patient was shifted after surgery to the ICU for observation. She was later transferred to the ward where she experienced an uneventful post-operative period and was discharged home after five days after surgery in stable condition.

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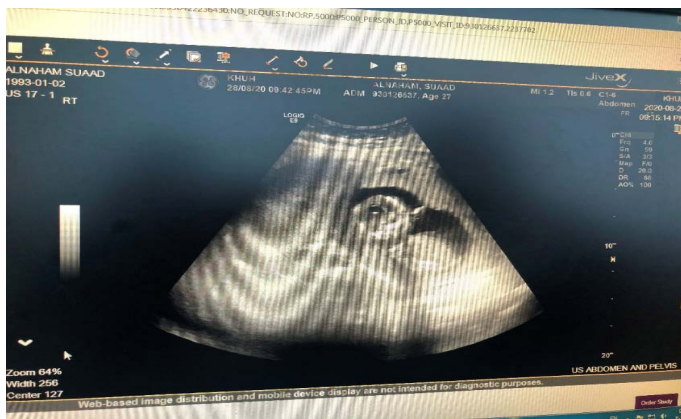


Figure 1: Transabdominal ultrasound of gravid uterus with a visible uterine defect in the fundus and viable fetus corresponding to 16 weeks



Figure 2: Transabdominal ultrasound of uterine defect with a suspicion of placenta percreta

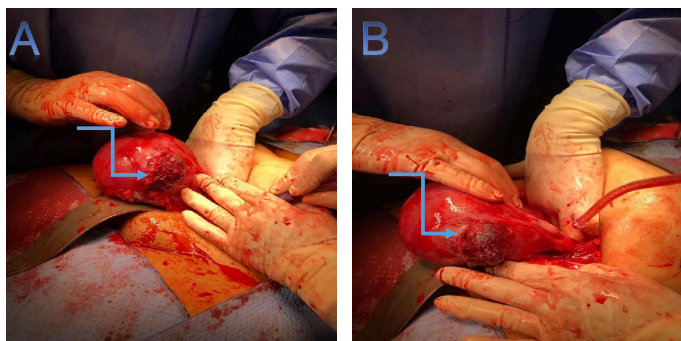


Figure 3 (A,B): Showing exploratory laparotomy . Placenta percreta with bulging of gestational sac through the uterine defect



Figure 4: Showing bulging of the placenta with gestational sac through the uterine defect

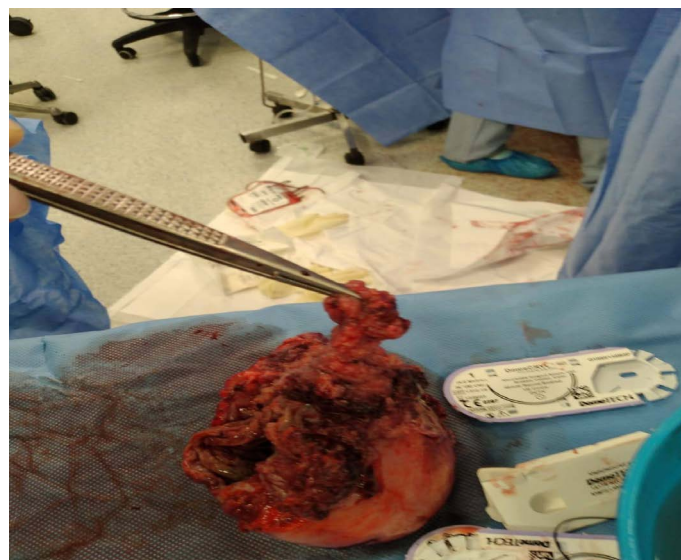


Figure 5: Showing uterus after hysterectomy with site of rupture by large defect in the fundus



Figure 6: Showing fetus corresponding to 16 weeks

DISCUSSION

Rupture of the gravid uterus is defined as disruption of all uterine layers during pregnancy. Spontaneous rupture is a rare condition in a pregnant uterus but may lead to catastrophic sequences . Its incidence is between 0.7 to 5.1 per 10.000 deliveries in unscarred and scarred uteri respectively⁵. It is likely to happen in a trial of labor after cesarean section or after uterine surgical intervention⁶. Uterine rupture in the first and second trimesters of pregnancy are extremely rare and the course of events may vary according to clinical presentation⁷. It is a life threatening situation for both the mother and fetus⁶. In our case the uterine rupture was due to placenta percreta away from the previous scars. In placenta percreta, the decidua basalis is partially or completely absent, and the chorionic villi invade the entire myometrium up to the serosa. Uterine rupture caused by placenta percreta mainly occurs in the later part of pregnancy, with few reports occurring in the first and second trimesters⁸.

The main risk factors for spontaneous ruptures include: history of uterine surgery (caesarean section, myomectomy, salpingectomy, uterine perforation), short time interval (less than 6 months) between cesarean sections, grand multiparity, advanced maternal age, multiple pregnancies and abnormal placentation. Other predisposing factors

include Ehlers-Danlos syndrome, cocaine abuse, in utero exposure to diethylstilbestrol, uterine abnormalities, adenomyosis, labor dystocia and use of uterotonic drugs⁹.

Spontaneous rupture of uterus in early pregnancy is a diagnostic challenge as the symptoms are vague and nonspecific⁸. In our case, the patient presented with severe abdominal pain, tenderness and rigidity in the abdomen. She was taken directly to the operation room for laparotomy and, intraoperatively the placenta was found to be percreta. Signs of rupture uterus in 2nd trimester are not specific and should be distinguished from other causes of acute abdomen. ultrasound has restricted role in diagnosis of rupture uterus. However, the defect can be visualized if it is large⁶ as in our case and exploratory laparotomy gives the definitive diagnosis⁸. The rupture is more common in the lower uterine segment¹⁰ but in our case the rupture was at the fundus of the uterus which is rare and not related to the previous scars.

The aim of management is to interfere quickly to stop hemorrhage, repair the anatomical defect and reduce morbidity or hysterectomy depending on the size of the uterine defect, patient age, fertility issue and comorbidities⁶. A hysterectomy is commonly performed due to significant hemorrhage during the procedure¹².

Other modalities to stop bleeding include internal iliac balloon occlusion and internal iliac occlusion. Both have been shown to reduce blood loss and reduce the risk of proceeding to a hysterectomy¹¹. In emergency conditions like the case presented above, a hysterectomy was the most appropriate mode of treatment to save patient's life given the significant defect and that the placenta was morbidly adherent occupying most of uterine cavity.

Rupture of the uterus is usually complicated by anemia, the need for blood transfusion, and surgical site infections¹³.

In our case the patient received blood transfusions to correct her hypovolemic shock. She was then subsequently discharged in good condition with no complications.

CONCLUSION

Rupture of the pregnant uterus during the second trimester is a life threatening and extremely rare condition. The rates of uterine rupture have increased due to the rising incidence of cesarean sections and should be distinguished from other causes of acute abdomen. Ultrasound plays a role in early detection of the rupture and immediate intervention⁹. However, performing a laparotomy is the definitive diagnosis.

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