Aswan Africa Obstetrics & Gynecology Journal, Volume 1/ No. 2/ May 2025 (86-96) online ISSN 3009-6480

Case Report

Posterior Wall Uterine Rupture with Placenta Percreta in the 18 Weeks in Non-Scared Uterus

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Abstract

Keyword:

uterine rupture, second trimester, placenta percreata, outcome, complications

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Background: First trimester uterine rapture is rare; and second trimester. Hence, diagnosis can be challenging as it may be confused with other causes of early pregnancy bleeding, such as ectopic pregnancy. Uterine rupture is a rare complication that can occur in the 18th week of pregnancy and posterior wall with placenta percreta. It can lead to serious maternal morbidity or mortality, which is mostly due to catastrophic bleeding. We present a case of G 3 P2 + 0 N V D 18-weeks' gestation presented with posterior wall uterine rupture with placenta percreta.

Case presentation: A 29-year-old patient G3 P 2 + 0 NVD with previous D&C for 4 years, presented to emergency unit in Aswan University Hospital with severe lower abdominal pain at 18 weeks of gestation and severe vaginal bleeding. By ultrasound, show professionally two uterine cavities, one of them contain decidual like tissues and the other contain pulsating 18-week pregnancy.

Conclusion: In conclusion, this case contributes to the body of evidence on uterine scarring caused by D&C procedures; the risk factors, clinical presentation, diagnostic imaging, and management outlined may help in early identification and management of this rare, but life-threatening condition.

Background

Uterine rupture mainly described as a complete disruption of uterine layers leading to changes in fetal and maternal status. Usually, it carries a high risk for maternal and fetal morbidity and mortality. It is very rare, the actual incidence in literature is unclear but most cases occur in the second and third trimester. The incidence of uterine rupture globally is 0.07%, but in Africa the incidence is 1.3%. The most common risk factor for uterine rupture is a previous cesarean section scar, usually when trying a vaginal birth after a cesarean section[12]-[3]

A classical uterine scar, short inter pregnancy interval and administration of misoprostol are attributed to increase the risk incidence. The incidence of rupture in women with a previous cesarean section scar is 0.3% while that of an unscarred uterus is 1 in 5,700 to 1 in 20,000 pregnancies[4]. A previous myomectomy scar, dilation pregnancy such as a motor vehicle accident and\or a fall from height can also lead to uterine rupture[5].

Acute severe abdominal pain and vaginal bleeding are usually the classical symptoms of uterine rupture. The patient may present with hemodynamic instability with hypotension, tachycardia, dizziness, nausea, vomiting, and light headedness. Bladder injury may also occur presenting with hematuria[6]. On examination, the abdomen is rigid and irritation of the diaphragm by the blood in the peritoneum could lead to referred shoulder tip pain. Intrapartum monitoring may reveal sudden fetal bradycardia, loss of fetal station, and variable decelerations and decreased contraction pattern[7]. Other complications of uterine rupture may include hemorrhage, shock bladder injury, and maternal and fetal death.

A timely diagnosis and intervention are essential in managing these patients. Abdominal sonography for trauma could be done to ascertain the diagnosis and rule

out differential diagnosis such as an ectopic pregnancy. The typical sonographic findings are free fluid in the peritoneum, an abnormality in the uterine wall, or fetal parts outside the uterus[8].

Surgery is the main line of management of uterine rupture to control maternal hemorrhage. Surgical interference depends on the location of uterine rupture, the degree of involvement of para uterine tissue, and desire for subsequent pregnancy. The timely decision either of uterine repair or hysterectomy depends on the severity of the uterine rupture. In literatures, the recommended approach to repair is exploratory laparotomy rather than minimally invasive surgery. Most women will survive in cases of uterine rupture with prompt surgical intervention and resuscitation. The risk of recurrent uterine rupture after previous repair is not well known as the general incidence of uterine rupture is low[9]. Here, we describe a rare case of early second trimester uterine dehiscence and provide a subsequent literature review on this condition.

Case presentation

A 29-year-old patient, G3 P2+0, with a history of a D&C procedure performed four years prior, presented to Aswan University Hospital on October 10, 2021, at 18 weeks of gestation, complaining of severe lower abdominal pain , described as sharp and continuous, which had gradually worsened over the past four hours. The pain was accompanied by dizziness and vaginal bleeding.

Her obstetric history is as follows:

First pregnancy (2015): Uncomplicated. The patient had a spontaneous NVD at 39 weeks after becoming fully dilated, delivering within one hour. The neonate had a good outcome.

Second pregnancy (2017): Delivered via NVD at 38 weeks. The patient presented to the emergency unit with cervical dilation of approximately 4 cm. She was admitted to Esna Hospital, where augmentation of the cervix and embryonic membrane stripping was performed, as reported by the patient. She delivered within four hours with a good neonatal outcome.

Third pregnancy (2020): Ended in an incomplete first-trimester miscarriage, managed at a private center with dilation and curettage. The patient reported no complications following the procedure.

Clinical findings

On admission, the patient's vital signs were stable: blood pressure was 110/67 mmHg, pulse rate 89 beats per minute, oxygen saturation 100%, respiratory rate 16 breaths per minute, and temperature 36.8 °C. She exhibited mild conjunctival pallor. On abdominal examination, a generalized severe tenderness and guarding was observed.

Diagnostic Assessment:

Her complete blood count revealed a hemoglobin level of 9.2 g/dL, platelet count of 200,000 cells/µL, and white blood cell count of 12,000 cells/µL. A focused abdominal ultrasound showed free fluid in the abdomen, a viable intrauterine pregnancy, and the appearance of another uterine structure, raising suspicion of a bicornuate or double uterus.

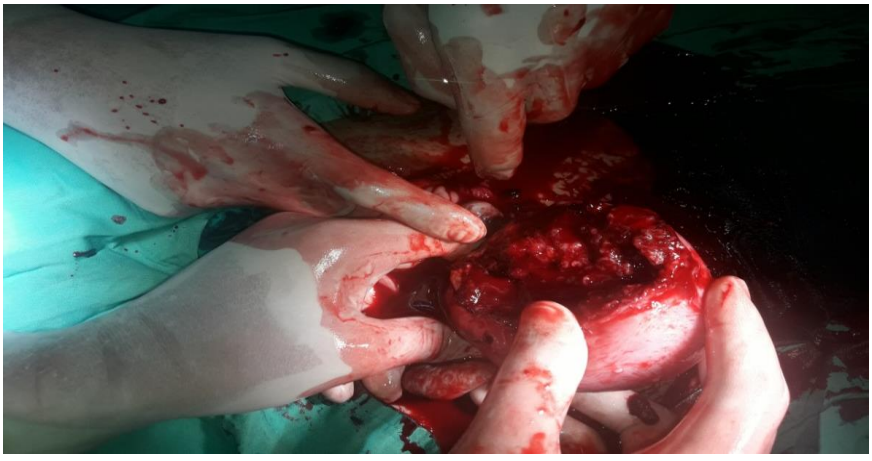
The patient provided informed consent for an urgent diagnostic laparotomy and was immediately taken to the operating theater.

Therapeutic intervention

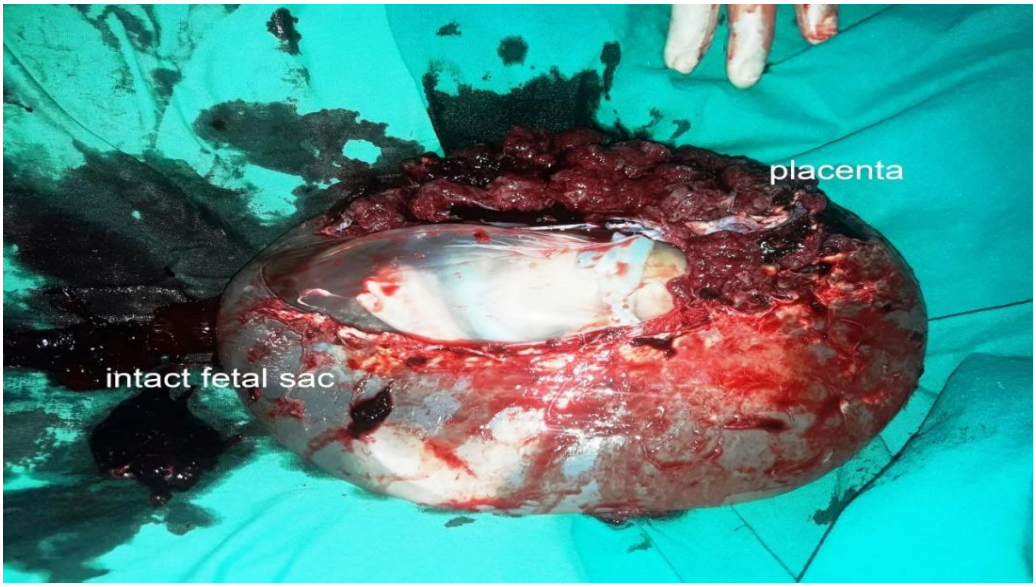
An open procedure was performed to ensure optimal uterine repair due to the early nature of the dehiscence. During the procedure, the gestational sac was found displaced from the uterus and had spontaneously expelled into the abdominal cavity with intact membrane.

Rupture of the posterior uterine wall accompanied by a hemoperitoneum of approximately 1000 mL. The posterior uterine rupture of approximately 10 cm was found. The fallopian tubes and ovaries appeared normal bilaterally. The placenta was expelled next, with one part attached to the posterior uterine wall and the other to the fetal sac, Placenta percreta was suggested. The uterine rupture was repaired in three layers using 0 polyglactin (Vicryl) sutures to achieve hemostasis.

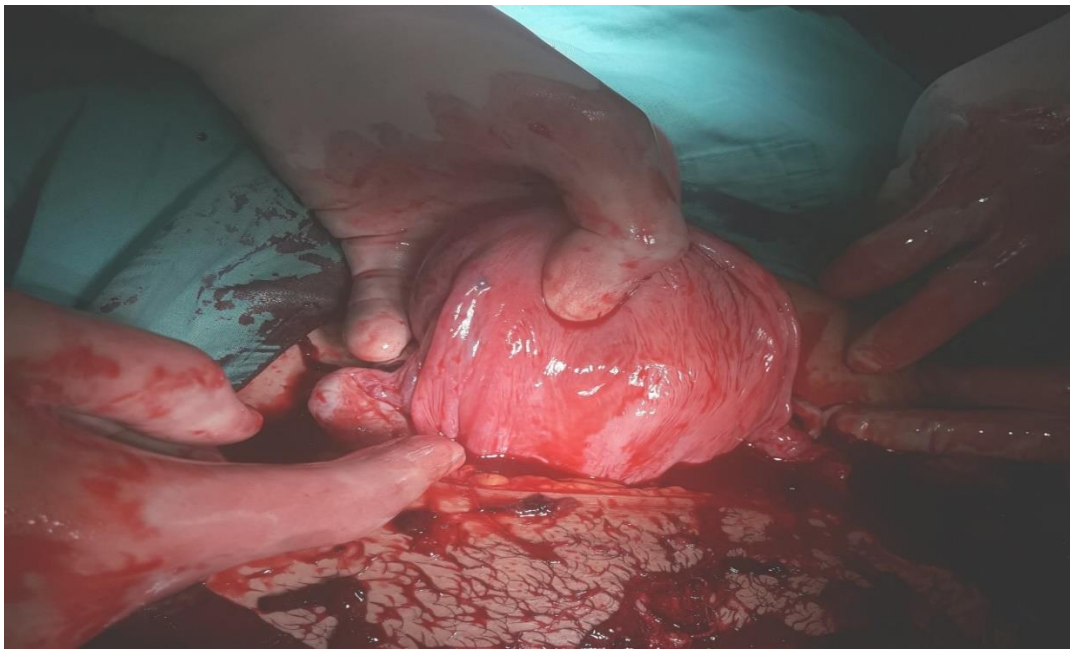
An abdominal washout was performed with normal saline, and the abdomen was closed in layers. There were no immediate intraoperative complications. The patient recovered well and was discharged on the third postoperative day.



(Figure 1): Laparotomy revealing rupture of the posterior uterine wall and placenta percreta.



(Figure 2): Intact fetal sac at 18 weeks of gestation.



(Figure 3): The anterior uterine wall appeared normal.

Discussion

In the present case, diagnosis was promptly made due to the patient's previous history of D&C which gave the clinicians a high index of suspicion of complete perforation of the posterior wall during the operation.

The feature observed on ultrasound in this case was free fluid in the peritoneum with no intrauterine gestation. These features are the most commonly observed on sonography in cases of uterine rupture. Other features that have been described include: distortion of the uterine wall or presence of fetal parts outside the uterus.

First and early second trimester uterine ruptures are rare with an incidence of during term deliveries and virtually unheard of in the first and approximately 0.3% second trimester[10]. The associated morbidity and mortality is significantly high with mortality occurring in about 1 in 500 cases of rupture. Hysterectomy will be required in about 23% of patients with a larger proportion of them requiring transfusion[11].

Uterine rupture is mostly associated with previous uterine scarring from procedures such as a prior cesarean section, myomectomy, or hysteroscopic resection of a uterine septum[12]. Although data is limited, a history of previous rupture significantly increases the risk of uterine scar dehiscence in subsequent pregnancies.

Include instrumentation during evacuation is one of the iatrogenic causes of uterine rupture[13]. Few cases of spontaneous rupture of first or early second rupture are documented in literature. One of these cases have had a history of placenta percreta-induced uterine rupture in the first trimester in a patient with no previous history of cesarean section but had two previous spontaneous abortions treated by dilation and curettage[14].

Delay of the diagnosis occurs due to nonspecific features of the clinical presentation of a uterine rupture in the first and second. This delay in diagnosis can lead to

catastrophic bleeding and death[15]. A high index of suspicion is therefore important especially in the presence of acute abdominal pain and unstable vitals. Differential diagnosis includes an ectopic pregnancy, heterotopic pregnancy, molar pregnancy with molar invasion, or a bleeding corpus luteum[16].

The risk of occurrence of uterine rupture in the literature is estimated to be 4-33% in subsequent pregnancies[17]. So, patients are advised to undergo a cesarean section in subsequent pregnancies, before the onset of labor or immediately at the onset of spontaneous preterm labor. No ideal management policy of pregnancy after uterine rupture in first-trimester due to insufficient literature[18], but it can be posited that close clinical surveillance will aid in early identification of subsequent ruptures.

Conclusion and Recommendations

This case adds to the growing body of evidence on uterine scar dehiscence in the early second trimester, highlighting its risk factors, clinical presentation, and diagnostic challenges. Early recognition through appropriate imaging and prompt management are crucial in preventing severe complications. Increased awareness among clinicians can aid in timely diagnosis and intervention, ultimately improving maternal outcomes for this rare but potentially life-threatening condition.

The presence of an intrauterine pregnancy with fluid collection on ultrasound does not necessarily indicate an intact uterus or rule out the possibility of an ectopic pregnancy. Clinicians should maintain a high index of suspicion for uterine rupture, particularly in patients with relevant risk factors.

Declaration

Ethics Approval and Consent to Participate

Ethics approval for this study was obtained from the Research and Ethics Committee at Aswan Specialty Hospital. The patient provided informed consent prior to the acquisition and summarization of their case.

Consent for Publication

Written informed consent was obtained from the patient for the publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Competing Interests

The authors declare that they have no competing interests related to this study.

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