International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Wade M et al. Int J Reprod Contracept Obstet Gynecol. 2024 Nov;13(11):3335-3337
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20243201

Case Report

A particular etiology of spontaneous uterine rupture in second trimester of pregnancy: placenta increta

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Received: 14 September 2024
Accepted: 10 October 2024

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ABSTRACT

Placenta accreta is characterized by an abnormal placental adhesion, particularly rare and dangerous, it's associated with serious hemorrhagic complications, in particular uterine rupture during pregnancy. We report a case of placenta increta complicated by uterine rupture, revealed by hemoperitoneum at 21 weeks' amenorrhea in a 27-year-old patient with a third gesture and second pare. We performed an emergency subtotal hysterectomy. The interest of this case lies in the diagnostic difficulties that may result from this atypical clinical condition, which is rare in obstetric practice.

Keywords: Placenta accreta, Spontaneous hemoperitoneum, Diagnostics difficulties

INTRODUCTION

Placenta accreta is a generalized term used when an abnormal, firmly adherent placenta implants with some degree of invasion into the uterus. The increta form is an invasion of the placental villi into the myometrium.[1] This obstetrical situation can lead to high risk of complications during pregnancy and delivery. Spontaneous uterine rupture early in course of pregnancy is a very rare complication.[2] We report an interesting case of this potentially life-threatening complication where placenta increta led to uterine rupture in second trimester necessitating hysterectomy due to massive hemorrhage, in a patient with a history of 2 cesarean sections as a risk factor.

CASE REPORT

This was a 27-year-old, 3rd gesture, 2nd pare, with 2 previous 2 caesarean sections, the first in 2014 and the second in 2017, the indications for which were not specified. The pregnancy was being monitored with 2 antenatal consultations and a normal prenatal check-up. She had undergone an ultrasound scan at 8 weeks of amenorrhea, which dates the pregnancy at 21 weeks. She was admitted with severe abdominal and pelvic pain, which began abruptly. The examination revealed: signs of cardiovascular collapse, the patient is agitated, with hypotension and a thready pulse; abdominal tenderness with a uterus that has preserved contours without deformation, and a uterine height of 20 cm. Fetal heart rate are regular at 135 beats per minute. There was no vaginal bleeding. The remainder of the examination was normal. The emergency ultrasound revealed a hemoperitoneum and a 20-week and 4-day intrauterine pregnancy, the uterine rupture wall was intact. Due to diagnostic uncertainty, a computed tomography (CT) scan was performed after the patient was stabilized. The CT scan showed a large peritoneal effusion, an intrauterine fetus with thinning of the posterior-fundal wall of the uterus, and no apparent anomalies the solid organs (Figure 1a). Laboratory tests revealed a hemoglobin level of 6.8 g/dl. An exploratory laparotomy revealed a large hemoperitoneum of 3 liters, a posterofundial rupture of the uterus over 5 cm exposing the amniotic membrane which was intact, and hypervascularization of the uterine serosa.

The muscular defect was surrounded by friable placental tissue as shown in Figure 1b. A subtotal hysterectomy was performed with examination of the surgical specimen and transfusion of 3 bags of blood (Figure 2a). The diagnosis of spontaneous uterine rupture due to placenta accreta was suggested and histological examination of the hysterectomy specimen was conducted. Microscopic examination (Figure 2b) revealed terminal placental villi with a vascularized axis surrounded by a regular trophoblast. These villi were inserted deeply into the inner two-thirds of the uterine wall. Additionally, the myometrium showed remodeling with areas of necrosis and congestion, confirming the diagnosis of placenta increta. The postoperative course was simple without complication.

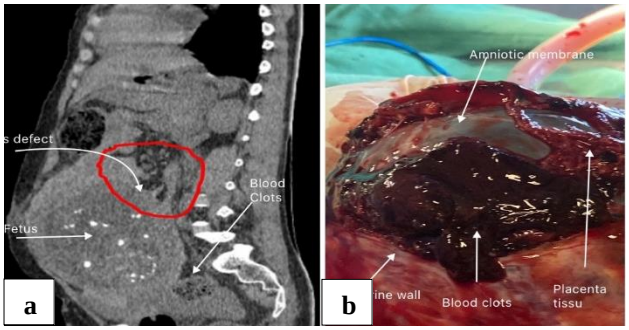

Figure 1: (a) CT scan view, and (b) laparotomy view.

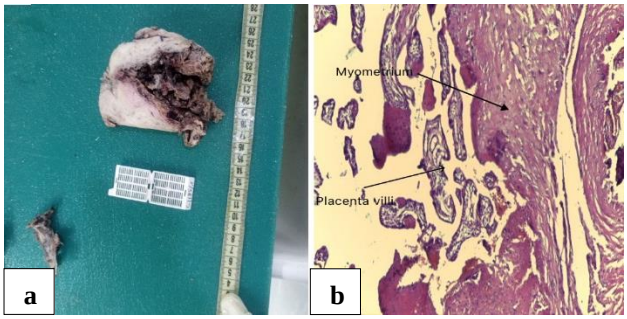

Figure 2: (a) Macroscopic aspect of hysterectomy specimen, and (b) microscopic examination He x100: invasion of the chorionic villi into myometrium.

DISCUSSION

Placenta accreta is becoming increasingly common, with its incidence having risen tenfold over the past fifty years, from 1 in 30,000 births to 1 in 2,500, according to American studies. This increase is strongly associated with the rise in cesarean section rates.[3]

In normal pregnancies, trophoblast invades the endometrium until they reach Nitabuch's layer (spongiosus layer of the decidua). Upon reaching this layer, cytotrophoblasts cease invasion and begin to differentiate into the placental tissue.[4] The pathophysiology of placenta accreta disorders remains uncertain. Nonetheless, the result is the abnormal adherence of trophoblast cells surrounding the blastocyst to the myometrium, which leads to an excessive and abnormal invasion of the uterine wall. This pathological adherence disrupts the normal separation of the placenta from the uterine lining, leading to complications during delivery and sometimes during pregnancy. Several risk factors for placenta accreta have been identified: manual removal of the placenta, uterine curettage, endometritis and a previous caesarean section.[1,3] Although our patient had a history of two cesarean sections, the fundal location of the rupture suggests that the fragility of the myometrium may be more attributable to curettage performed after delivery rather than the previous cesarean sections alone. This uterine revision after delivery can be quite traumatic for the endometrium, potentially compromising the underlying myometrial integrity and increasing the risk of abnormal placentation.

Uterine rupture is extremely rare in second trimester of pregnancy and is usually diagnosed intra-operatively.[2,5] The interest of this case lies in the diagnostic difficulties that may result from this atypical clinical condition, which is rare in obstetric practice. Healthcare professionals might inadvertently focus on non-gynecological causes in front of spontaneous hemoperitoneum. This can delay the correct diagnosis and appropriate treatment for the underlying gynecological emergency. In our case, CT scan was done to rule out other causes of hemoperitoneum. This attitude was found in literature.[6] Indeed, ultrasound diagnosis of intrauterine pregnancy together with fluid collection does not mean that the uterus is intact. However, when placenta incréta is suspected, it is usual to look for the absence of a hypoechoic line at the utero-placental interface, the presence of placental lacunae at the site of abnormal insertion, and the detection of vascular structures of placental origin penetrating the myometrium in Doppler mode.[7] When ultrasound findings are inconclusive, magnetic resonance imaging (MRI) is a more indicated. In studies from centers with expertise in accreta, the sensitivity and specificity of MRI is reported to be more than 90% and 98%, respectively.[8] The gold standard remains histologic examination of the placenta and uterus, which provides definitive documentation of abnormal trophoblast invasion into the myometrium. In our patient, placenta accreta was suspected during laparotomy for hemoperitoneum due to uterine rupture, which necessitated an emergency hysterectomy. However, some teams propose a conservative approach: after performing a fundal hysterotomy and fetal extraction, the placenta is left in place in the uterus, with subsequent surgical and/or medical management.[9,10] This conservative strategy may help reduce maternal morbidity and preserve fertility.

CONCLUSION

Detecting placenta accreta remains challenging, as it is associated with a high risk of severe hemorrhagic complications during pregnancy and the postpartum period. Therefore, a targeted screening and information

policy for at-risk populations is essential to enhance management in high-level maternity units.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Wade M, Keita A, Mbengue SMB, Dedde MY, Sarr AN, Sané D, et al. A particular etiology of spontaneous uterine rupture in second trimester of pregnancy: placenta increta. Int J Reprod Contracept Obstet Gynecol 2024;13:3335-7.