



Case report

Placenta percreta as a cause of uterine rupture in the second trimester: Case report[☆]

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ABSTRACT

Introduction: Placenta accreta spectrum is a very life-threatening obstetrical condition whose rate increased significantly the past years due to the increase of caesarean deliveries. In some rare cases, it can cause uterine rupture which needs to be diagnosed and managed quickly to avoid catastrophic outcomes.

Case report: We present a case of a 33-year-old patient who was admitted to the emergency room for signs of shock at 29 weeks of a poorly supervised pregnancy, secondary to a spontaneous uterine rupture on a previously scarred uterus by a caesarean delivery two years prior to the events. She presented with massive haemoperitoneum with no vaginal bleeding. Foetus was in bradycardia. Quick total hysterectomy allowed favorable maternal and foetal outcome.

Discussion: Placenta accreta spectrum (PAS) occurs when the placenta becomes abnormally adherent to the myometrium and serosa rather than the uterine decidua. Its most important complication is hemorrhage after delivery of the placenta. In rare cases it can lead to spontaneous uterine rupture at any trimester, as it was the case of our patient. Antepartum diagnosis by ultrasound examination is recommended to avoid complications and improve management. It should be carefully done in high-risk patients of PAS. PAS is associated with high maternal and foetal morbidity and mortality. Definitive diagnosis is obtained after pathology examination of the specimen.

Conclusion: Uterine rupture should be considered a differential diagnosis for abdominal pain in any trimester, in case of shock even in the absence of vaginal bleeding, especially when associated to abnormal placentation. Quick diagnosis, management and intervention improves survival rate and decreases maternal and foetal morbidity.

1. Introduction

Placenta percreta is a rare life menacing obstetrical condition for both the mother and the foetus. It is a part of the placenta accreta spectrum (PAS) defined by abnormal placentation [1]. PAS is associated with high foetal and maternal morbidity in ante-per and post-partum due to complications of hemorrhage. We present a case of a rare spontaneous silent uterine rupture of the second trimester with massive hemoperitoneum in a shocked patient.

This case report has been reported in line with the SCARE 2020 Criteria [16].

2. Case report

33-year-old women, G2P1 with one living child delivered by c-section, was admitted into the labour ward with significant vomiting, heart palpitations and severe chest pain that occurred 2 h prior to arrival. She had no history of hypertension, trauma, surgical or medical illness. Her obstetrical history was marked 2 years ago by a lower segment caesarean delivery full term without complications. This pregnancy was poorly supervised. She was at 29 gestational weeks and 5 days based on her last menstrual period date as she didn't have a proper first trimester ultrasound to determine her due date. She had gestational diabetes, controlled by diet and lifestyle. Placenta praevia with features

Abbreviations: PAS, Placenta accreta spectrum.

[☆] The case has never been presented at a conference or regional meeting.

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suggestive of increta without bladder invasion had been noted by her ob-gyn on a routine ultrasound at 27 weeks. Further investigation and management were planned but the complications occurred prior to these appointments. One day before admission, she complained of minor bleeding per vaginum and mild lower abdominal pain. Upon arrival at the emergency room, she presented extreme pallor, her blood pressure was 63/45 mmHg, heart rate was 156 beats per minute. Physical examination showed a soft abdomen with mild tenderness. Vaginal exam reported some brownish blood stains which were compatible with the bleeding she stated. Transabdominal ultrasound showed singleton pregnancy with bradycardia and a placenta praevia with massive ascites. A suspected diagnosis was made of uterine rupture with massive hemoperitoneum. The patient was rushed into the operating room. The anesthesiology team secured intravenous access with two size 16 cannula and blood samples were collected for grouping and cross matching blood. Normal saline was rushed through one of vascular assesses while waiting for the packed red blood cells. An emergency laparotomy was performed under general anesthesia which revealed massive hemoperitoneum of about three liters. Upon exploration, an adherent uterine lower segment to the anterior abdominal wall was noted. A fundal uterine c-section was quickly performed to save the fetus. The placenta was left in place and a challenging hysterectomy was then started. After the dissection of the adherent bladder a ruptured uterus with active bleeding located on the previous caesarean scar with protruded placental tissue over it was noticed. Placenta percreta with uterine rupture was confirmed. The bladder was intact. The patient received a total of 8 units of blood and 4 units of Fresh frozen plasma. Post-op recovery was uneventful. The specimen (Fig. 1) was sent to pathology where the diagnosis of placenta percreta was confirmed.

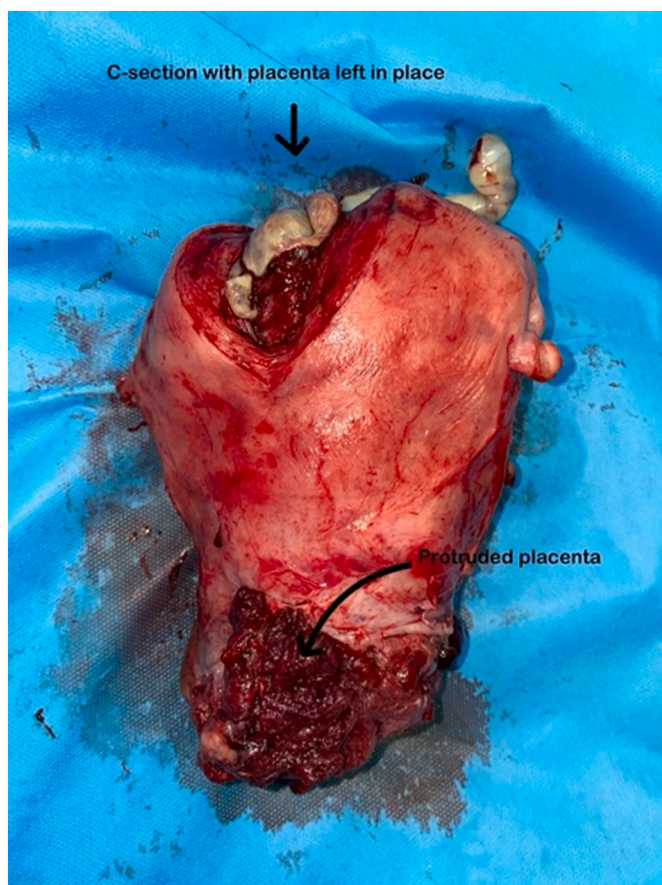


Fig. 1. Showing uterus with rupture and placenta protruding out of the lower segment causing haemoperitoneum.

3. Discussion

Placenta accreta spectrum (PAS) occurs when the placenta becomes abnormally adherent to the myometrium and serosa rather than the uterine decidua. The term PAS is used to describe:

- Accreta: invasion of the endometrium
- Increta: invasion of the myometrium
- Percreta invasion beyond the serosa or the near-by organs

It occurs due to atypical development of the decidua basalis that was most likely altered by one or more prior c-section scars, in case of which the cytotrophoblast does not receive the normal “stop” sign and keeps invading the uterus to an abnormal degree [1].

Rates of PAS are increasing dramatically over the last years, essentially due to the increase in the rate of caesarean delivery. It has been demonstrated that 95% of patients who underwent emergency peripartum hysterectomy for abnormal placentation had one or more previous caesarean sections [2]. Additional pre-disposing factors include: prior myomectomy or uterine surgeries, curettage, multiparity, advanced maternal age [3].

In order to optimize outcomes, it is highly recommended to diagnose PAS prior to delivery. Most women are diagnosed in the second and third trimester. Features of PAS prior may be present during the first trimester. The most used and sensitive tool being ultrasonography. The main helpful and common sign being the presence of placenta praevia as it was the case of our patient [4]. Other signs include multiple vascular lacunae within the placenta, loss of hypoechoic zone between the placenta and myometrium, abnormalities of uterine serosa and bladder interface [5]. Increased vascularity in the placenta-bladder interface or turbulence can be found when using color doppler. However, the absence of these signs doesn't preclude a diagnosis of PAS.

Magnetic resonance imaging is the other major tool used for the antenatal diagnosis for PAS [6]. In our case the patient presented with complications before this additional examination.

The primary risk of PAS is hemorrhage and associated complications such as uterine rupture like in our case. Placenta percreta is an unusual cause of uterine rupture, it occurs at any trimester as it has been documented in the literature [7,8]. The presenting features include signs of shock, pain in the abdomen and vaginal bleeding. Our case is among very rare atypical ones that report silent uterine rupture associated with PAS [9], that include little to no vaginal bleeding and very mild abdominal pain in contrast with the extension of lesions. Foetal bradycardia or death can be very suggestive of a uterine rupture [10] as it was the case of our patient.

Emergency surgery is required to stop hemorrhage and salvage the patient as most cases report in the literature. The most common indication of total emergency peripartum hysterectomy is PAS as reported in a study by Sahin et al. [11,12], so an immediate hysterectomy after delivery of the foetus should be performed to arrest hemorrhage which is aggravated by the increased abnormal vascularity, the challenging anatomy and the friability of involved tissues [13], as it was the case of our patient.

Some cases of conservative surgery were also reported in a more stable disease, it includes a local excision followed by repair of the resulting defect therefore preventing a hysterectomy [14].

The final diagnosis is based on specific macroscopic and histologic features found after pathologic study of the excised specimen [15].

4. Conclusion

Uterine rupture should be considered a differential diagnosis for abdominal pain in any trimester in case of shock even in the absence of vaginal bleeding especially when associated to abnormal placentation. Quick diagnosis, management and intervention improves survival rate and decreases maternal and foetal morbidity.

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Ethical approval

Ethical approval from the hospital: Maternity of Souissi has been obtained to proceed with the current publication.

Consent

Written consent was given by the patient for this publication.

Author contribution

Sarah BOUJIDA made substantial contributions to management of the case, conception and design of the manuscript, acquisition of data, analysis and interpretation of data; she has been involved in drafting the manuscript and revising it critically for important intellectual content. Oumaima M'HAMDI and Farah FLISSATE made substantial contributions to interpretation of data and they have been involved in drafting the manuscript and revising it critically for important intellectual content. Aziz BAIDADA and Aicha KHARBACH made substantial contributions to acquisition of data and supervised the redaction of the manuscript.

Registration of research studies

None.

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Declaration of competing interest

No conflicts of interest.

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