

Case report

Cesarean delivery without uterine artery embolization for the management of placenta accreta spectrum disorder: case report and review of the literature



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Abstract

Placenta accreta is the abnormal adherence of the placenta to the myometrium. Its incidence is about 0.33% of all deliveries. And it's associated with considerable maternal morbidity including large volume of blood transfusion, peripartum hysterectomy, cystotomy, intensive care unit (ICU) admission, infection, and prolonged hospitalisation. Identifying risk factors as placenta previa, maternal age over 35 years, grandmultiparity, previous curettage, previous myomectomy, previous uterine surgery, submucous myoma, Asherman's syndrome and a short caesarean-to-conception interval, is important to perform ultrasound and magnetic resonance imaging. Planned caesarean hysterectomy performed at an earlier gestation to avoid emergency delivery in women with suspected placenta accreta has the potential to reduce maternal morbidity. However, limited data are available to guide optimal management. In this paper, we will report the case of a 34 years old female, G3P2, admitted in our structure for peripartum hemorrhage because of because of placenta abnormalitie.

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Introduction

Placenta accreta is the abnormal adherence of the placenta to the myometrium [1]. Its incidence is about 0.33% of all deliveries [2]. And it's associated with considerable maternal morbidity including large volume of blood transfusion, peripartum hysterectomy, cystotomy, intensive care unit (ICU) admission, infection, and prolonged hospitalisation. However, limited data are available to guide optimal management [3]. We report the case of a 34 years old female, G3P2, admitted in our structure for hemorrhage during pregnancy.

Patient and observation

We report the case of a woman, aged 34, with no particular history. The first two deliveries were by vaginal delivery, with no notion of peripartum hemorrhage. The patient was referred to our structure for a third trimester hemorrhage. An ultrasound was performed, it showed a defect in placental insertion; the MRI demonstrate a posterior placenta accreta without signs of serosa (Figure 1, Figure 2). The patient was obtunded and polypneic with on examination a significant bleeding. The blood pressure was 10/5 cmH₂O and the heart rate estimated at 145 beats per minute. Patient directly admitted to the operating room after oxygen and taking a peripheral venous catheter, with a request for blood and a complete biological assessment. The patient was intubated, an internal jugular central venous catheter and an arterial catheter were performed. Decision to perform a cesarean delivery before the hysterectomy, the newborn was weighing 3 kg with an APGAR of 6, 8 then 10. Surgical exploration revealed the presence of an overlying posterior placenta. The patient received a blood transfusion during the procedure, without the use of vasoactive drugs. Patient sent to intensive care at the end of the surgical procedure. The evolution was

favorable and the patient left the hospital 4 days later with no complication.

Discussion

The placenta attaches to the uterine wall and allows metabolic exchange between the fetus and the mother. The placental membrane separates the embryonic blood from maternal blood. A normal placenta is round or oval shaped and about 22 cm in diameter. It is 2 cm to 2.5 cm thick and weighs about a pound. Placenta accreta is the abnormal adherence of the placenta to the myometrium [1]. It occurs when there is a defect of the decidua basalis, resulting in abnormally invasive implantation of the placenta [4]. Placenta accreta is associated with considerable maternal morbidity including large volume of blood transfusion, peripartum hysterectomy, cystotomy, intensive care unit (ICU) admission, infection, and prolonged hospitalisation [3]. The rate of placenta accreta in the literature varies between 0.001% and 0.9% of deliveries, a rate that depends on the definition adopted for accreta (clinical or histopathologic diagnosis) and the population studied [5]. Risk factors for accreta include: placenta previa, maternal age over 35 years, grandmultiparity, previous curettage, previous myomectomy, previous uterine surgery, submucous myoma, Asherman's syndrome and a short caesarean-to-conception interval [4]. Identifying risk factors is important to perform ultrasound and magnetic resonance imaging [6]. The placentas accretas are screened by pelvic ultrasound coupled with doppler between the 20-24 weeks of gestation, a pelvic MRI should be performed within 15 days [7]. Ultrasound coupled with doppler shows: the absence of the hypoechoic border between placenta and myometrium. An interruption of the hyperechoic zone between uterine serosa and bladder wall. Visualization of exophytic placental tissue opposite the uterine serosa. The presence of intraplacental gaps next to the accreta area.

For pelvic MRI, the protocol used includes the rapid T2 weighted images (of the RARE or single shot fast spin echo type, with axial, true and sagittal planes in the axis of the cervix, performed with a pelvis antenna). The steady state free precession (SSFP) sequence acquired in 4 mm sections allows better identification of the interfaces between the tissues and increases the contrast between myometrium and placenta without injection. The diagnostic semiology of placenta accreta is a loss of continuity in the “myometrium-placenta” interface, which appears in the form of a T2 hyposignal border, on several sections. The presence of exophytic tissue in T2 hypersignal within the more intense signal myometrium. The extension of the placental tissue in T2 hypersignal to the adjacent organs, in particular to the bladder, the “uterine-bladder serous” interface being thinned or interrupted and defining the percreta form [7]. Antenatal diagnosis allows a preoperative ureteric stenting and scheduled caesarean hysterectomy without attempts at placental removal, both of which appear to reduce maternal morbidity [3]. Planned caesarean hysterectomy performed at an earlier gestation to avoid emergency delivery in women with suspected placenta accreta has the potential to reduce maternal morbidity. More than half of all emergency deliveries for vaginal bleeding occurred at or beyond 32 weeks of gestation [3]. The rate of peripartum hysterectomy is 1.0 to 1.4 per thousand of deliveries and placenta accreta is reported as the leading or the second most common indication for peripartum hysterectomy, [7] constituting 23.8% to 64% of these cases [8]. Retrospective study showed that placental removal before hysterectomy results in increased maternal morbidity [9]. Ramos *et al.* noted increased blood loss and need for transfusion of blood and fresh frozen plasma among women with accreta who had emergency, rather than scheduled hysterectomies [10]. One retrospective case-control study of women with placenta accreta has shown no benefit to prophylactic internal iliac occlusion [11]. There are several case reports and small case series advocating embolisation in cases of accreta [12]. In contrast, others reported no benefit from

uterine artery embolisation [10]. The use of autologous blood salvage devices (CellSaver) has been advocated by the American College of Obstetrics and Gynecology for use in women where massive haemorrhage is anticipated [13]. Prognosis Strategies include leaving the placenta after caesarean delivery with surgical uterine devascularisation, embolisation of the uterine vessels, uterine compression sutures and/or over sewing of the placental vascular bed. Some authors also have advocated the use of methotrexate to inhibit trophoblast growth and hasten postpartum involution of the placenta. It is unclear whether this treatment is useful since most trophoblast cells are not actively dividing in the third trimester [3]. Earlier reports have shown that placenta accreta was associated with higher rates of small-for-gestational age, preterm delivery, and perinatal mortality compared with normal pregnancies [6].

Conclusion

The placenta accreta is a serious problem of the pregnancy and the delivery; it's a major factor of maternal mortality. A good knowledge of the main risk factors, the diagnosis and therapeutic ways will allow us a better management of the patients.

Competing interests

The authors declare no competing interests.

Authors' contributions

Khaoula Sibbou, contributions to conception and design, acquisition of data, analysis and interpretation of data and

drafting the article. Yassine Smiti, contributions to conception and design, acquisition of data, drafting the article and revising it critically for important intellectual content. Nazik Allali, contributions to conception and design, acquisition of data, analysis and interpretation of data and revising it critically for important intellectual content. Siham El Haddad, contributions to conception and design, acquisition of data, analysis and interpretation of data and revising it critically for important intellectual content. Latifa Chat, contributions to conception and design, acquisition of data, analysis and interpretation of data and revising it critically for important intellectual content. All the authors have read and agreed to the final manuscript.

Figures

Figure 1: axial t2 weighted imaging showing a lower uterine bulge modifying the normal shape of the pear in the pregnant uterus and an inhomogeneous placenta with a marked thinning of the myometrium

Figure 2: sagittal t2 weighted imaging showing a lower uterine bulge modifying the normal shape of the pear in the pregnant uterus and an inhomogeneous placenta with a marked thinning of the myometrium

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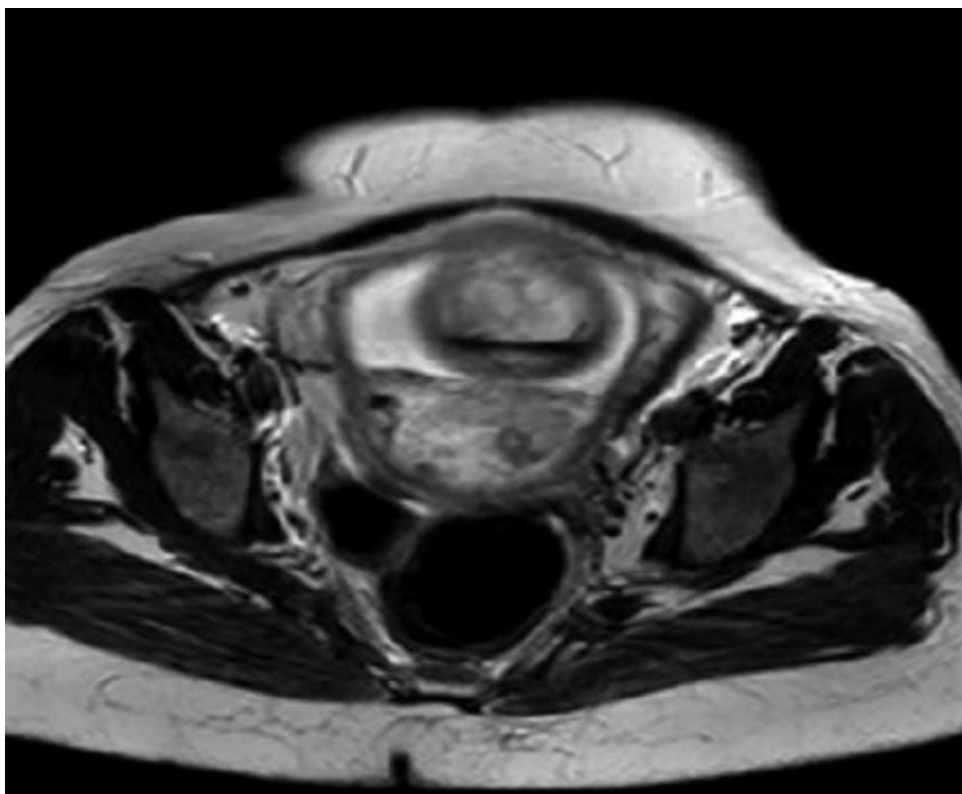


Figure 1: axial t2 weighted imaging showing a lower uterine bulge modifying the normal shape of the pear in the pregnant uterus and an inhomogeneous placenta with a marked thinning of the myometrium

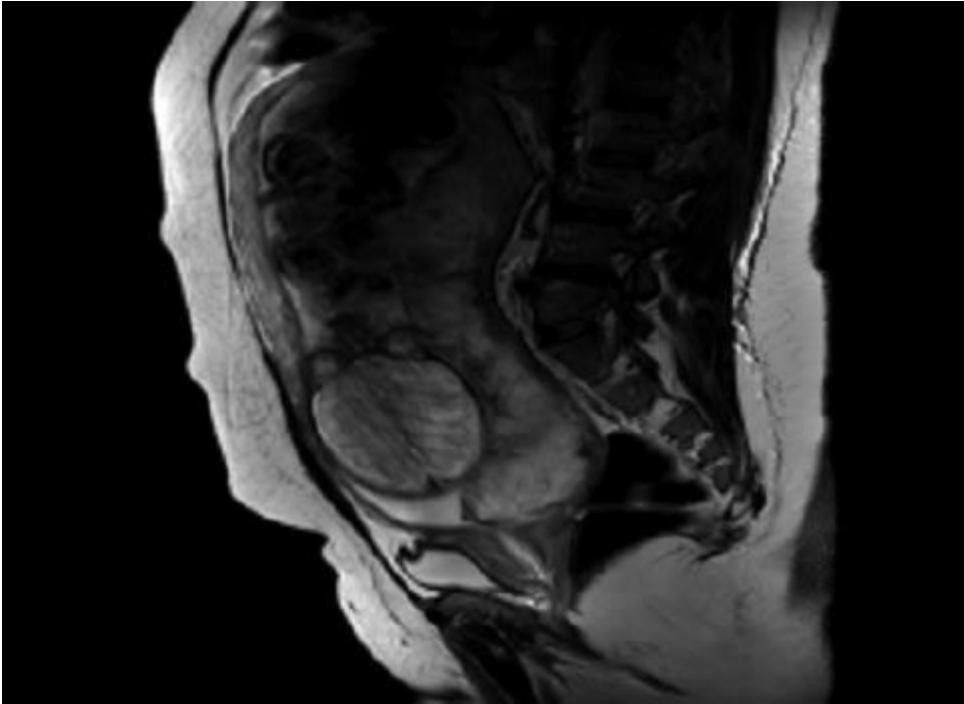


Figure 2: sagittal t2 weighted imaging showing a lower uterine bulge modifying the normal shape of the pear in the pregnant uterus and an inhomogeneous placenta with a marked thinning of the myometrium