

Clinical case

Placenta Percreta Occurring in the Second Trimester. A Case Report.

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ABSTRACT

Placenta percreta is a rare complication of pregnancy and delivery and carries grievous consequences to the mother. It occurs mostly in the third trimester and presents with severe postpartum haemorrhage and placenta retention. Several types (accreta, increta, percreta) exist depending on the degree of myometrial involvement. It is rare in the second trimester of pregnancy. The presence of a uterine scar remains a major risk factor. We present a case of placenta percreta occurring in the second trimester.

Keywords: Placenta percreta; Placenta retention; Postabortum haemorrhage.

RÉSUMÉ

Placenta percreta constitue une complication rare de la grossesse et accouchement et a des conséquences graves pour la femme. Cette pathologie de troisième trimestre de la grossesse présente avec le saignement et la rétention du placenta. Plusieurs types existent (accreta, increta, percreta), et dépendent du niveau d'infiltration du myomètre. Cette pathologie est rare au deuxième trimestre et la cicatrice utérine constitue un facteur de risque majeur. Nous présentons donc un rare cas de placenta percreta au deuxième trimestre de grossesse.

Mots clés : Placenta percreta; rétention placentaire; hémorragie du post-abortum.

INTRODUCTION

Placenta accreta and its associated pathologies are specific abnormalities of human placentation. Their diagnosis and adequate management is important as they present a major threat to the patient's life and future fertility. Their diagnostic confirmation is histological, based on the absence or poor development of the basal layer of the endometrium. However, clinical diagnosis and treatment is usually the order of events and the various degrees of villus infiltration can be seen macroscopically, confirmed by histology and classified into accreta, increta, and percreta. The accreta type is most common and easier to manage. The increta and percreta varieties are less common, difficult to manage and associated with severe maternal morbidity and mortality as a result of postpartum haemorrhage [1]. We here present a rare presentation of placenta percreta occurring in the second trimester.

CASE REPORT

A 27 year old healthy G2P1000 housewife at 21 weeks 5 days of gestation consulted at our services on the 24/11/2009 for spontaneous drainage of liquor and abdominal pains of sudden onset 6 hours prior to her consultation. Her medical history was uneventful except a classical caesarean section she incurred in her first pregnancy for foetal distress associated to a cord round the neck. The post operative recovery was satisfactory. Results of routine laboratory test during this pregnancy were all normal. She is blood group 0 Rhesus positive and tested negative for HIV. An ultrasound demonstrated a moderate haematoma

around the implantation site and a hyper echoic zone in the uterine corpus suspected to be the uterine scar. A diagnosis of an inevitable abortion was made after bimanual vaginal examination.

Following admission, a repeat ultrasound revealed a singleton intrauterine gestation with active foetal heart beats without amniotic fluid. The placenta was corporeal, anterior, well inserted. A conservative approach with parenteral antibiotics, antispasmodics and intra-venous fluids was instituted. Six days later, the patient expelled a first degree macerated foetus, but the placenta was retained. Severe haemorrhage (>500cc) suddenly occurred necessitating manual attempt to deliver the placenta. In the process, perforation of the uterus was suspected and an emergency laparotomy carried out.

The operative findings were a haemoperitoneum of about 300cc, a circular infiltration of trophoblastic tissue on the anterior uterine wall extending through the three layers of the uterus (endometrium, myometrium, and serosa). This infiltration extended about 10cm below the fundus (which was macroscopically normal) down to the isthmus. The isthmic region was hypervascularised. There were bilateral utero-tubo-ovarian adhesions. The diagnosis of placenta percreta was macroscopically made.

A wedge resection of the trophoblastic tissue infiltrated zone of the uterus was carried out and haemostasis controlled. Histological examination of the excised specimen was not done. Bilateral tubal ligation was done. The patient was transfused 2 units of compatible blood during the surgery.

The post operative evolution on broad spectrum antibiotics was marked by fever on day two without associated signs of endometritis. The patient was put on quinine infusions. She developed vaginal bleeding with clots by day 6 post operative and was successfully controlled with oxytocin infusions and 4 tablets of misoprostol 200µg placed intrarectally. A control full blood count revealed a mild anaemia with haemoglobin concentration at 8.3g/dl. She was prescribed oral iron tablets. The response to treatment was satisfactory and she was discharged 9 days after surgery. She was counselled in relation to fertility especially adoption.

DISCUSSIONS

The incidence of abnormal placentation is relatively low, and demographic data about it is limited to small series and case reports [1]. The average incidence is estimated at 1 in 7000 deliveries [2]. Placenta percreta represents 5 to 7% of all abnormal placentation [3, 4]. Even though rare and difficult to diagnose, it remains very important because of its possible fatal outcome with a reported maternal mortality rate of 2 to 7% [5, 6]. The diagnosis is even more difficult when this occurs in the second trimester as was the case in our patient. However, the presence of a previous classical scar and her age were risk factors for the disease. The retention of the placenta after expulsion of the foetus and accompanying bleeding were in favour of either placenta accreta or uterine rupture, all rare in the second trimester.

Though the cause of placenta percreta as reported by Morken et al, [7] is unknown, several risk factors have been associated with this condition notably, placenta praevia, a previous caesarean section, multiple pregnancies, a history of dilatation and curettage, high parity and increasing maternal age. The patient therefore had some risk factors as noted above and the placenta was found adherent to the previous scar, a finding that was not evident in the first and the second ultrasounds. A previous scar is a major risk factor as the deciduas basalis in this zone is expected to be poorly vascularised and presents as a zone of weakness for subsequent placental villi penetration.

The diagnosis of abnormal placentation is histological, and reveals the absence or poor development of the deciduas basalis associated with varying extents of trophoblastic villus invasion of the myometrium. However, the sole use of histology to diagnose these conditions remains debatable [1]. A high degree of clinical suspicion is paramount to better and quick diagnosis of the condition. Irving and Hertig [8] defined placenta accreta as an undue adherence of the placenta, a purely clinical definition which is still appropriate in resource limited countries

like ours where access to histology is not always available. It carries the risk of false positives and over estimation of the true incidence of the condition. In our case the full penetration of the trophoblastic villi across all the uterine layers rendered the diagnosis clinically obvious.

Clinical presentation is variable with post partum haemorrhage and placenta retention dominating [9]. However, it is usually seen in the third trimester. The presentation here is rare since it occurred in the second trimester rendering clinical suspicion difficult as was evident in the case. Other reports indicate that placenta percreta can present as an acute abdomen [7] or even painless haematuria following bladder invasion [10].

Several diagnostic modalities may facilitate the antepartum diagnosis of abnormal placentation. These include transvaginal and trans-abdominal ultrasound with colour imaging, and magnetic resonance imaging (MRI). Finberg *et al* [11] reported a sensitivity of 94% and a specificity of 79% for prenatal ultrasound in diagnosing the morbid placenta adhesion. Two ultrasounds were done in our patient, one in the first trimester that revealed a hyper echoic zone on the uterine corpus suggestive of the previous scar. The early gestational age at which this ultrasound was done meant that myometrial trophoblastic invasion might not have been sufficiently advanced to be clinically obvious. Nevertheless the diagnosis was missed in the second ultrasound when the condition was already established. This was probably due to the inexperience of the ultrasonographer, a factor which greatly prejudices the antepartum diagnosis.

Non specific biochemical markers have been associated with abnormal placentation such as maternal serum kinase and maternal alpha foeto-proteins which were not done in the absence of a presumptive diagnosis [6, 12].

The management of placenta percreta follows one of two options, radical surgery (hysterectomy) or conservative management with repair of the rent. [7] Traditionally, abdominal hysterectomy is the treatment of choice for placenta percreta and indicated in cases of severe haemorrhage. [7].

Though the conservative approach is believed to carry a higher risk of maternal death it preserves fertility and provides some psychological support to the woman [6]. It involves either of the following procedures: leaving the placenta in place with packing; a piecemeal blunt dissection with packing; uterine curettage with packing; closing of the uterine defect; localised excision and uterine repair; uterine packing with uterine or even hypogastric artery ligation; bilateral uterine artery embolisation; and pelvic artery ligation [6, 13, 14].

Our patient had the conservative approach, consisting of a wedged resection of the zone of implantation, repair and then bilateral tubal ligation. The rationale for uterine repair was for quick control of haemostasis and the young age of the woman who thought having regular menses was still important.

The major complication of placenta percreta is severe bleeding. This can be associated with hypovolemic shock and subsequent death. Post operative infection as was the case in our patient remains pertinent and life threatening. O'Brien *et al* [6] reported a 28% post-operative infection rate. Other complications include uterine rupture, coagulation problems, invasion of adjacent organs, uterine inversion following manual placental removal, formation of fistulae, and of course the loss of reproductive functions.

The follow up of patients managed for placenta percreta involves strict surveillance and prompt management of complications. If it is suspected that part of the placenta is left in place, the patient would require follow up to ensure placental tissue resolution. This would involve regular clinical and ultrasound assessment and β hCG assay. For patients

in whom fertility is lost, medically assisted procreation and the use of a surrogate mother may be employed; otherwise, adoption can be a suitable alternative. Yet in less developed settings like ours where medically assisted procreation is still in its elementary stages, these options are far more theoretical than practical. Hence loss of fertility remains a regrettable consequence.

CONCLUSION:

Placenta percreta, though a rare entity, remains a very serious clinical problem due to its life and fertility threatening consequences. Its antepartum diagnosis can be suspected based on risk factors and the clinical presentation of the patient. Its management remains difficult, but total abdominal hysterectomy with loss of fertility remains the treatment of choice especially in our environment. However, conservative management may be used for minor forms of the disease (placenta accreta and increta). Such a decision must take into consideration the age of the woman, the extent of damage to the uterus, the gestational age and associated medical conditions such as diabetes, immuno-depression, cardiac and renal disorders.

REFERENCES

- [1] Armstrong, CA, Harding S, Dickinson JE. Clinical aspects and conservative management of placenta accreta. *The Obstetrician and Gynaecologist* 2004;6:132-137.
- [2] Veenstra MJ, Spinder T, Dekker GA, Van Geijn, HP. Post partum intra abdominal haemorrhage due to placenta Percreta. *European Journal of Obstetrics and Gynaecology and Reproductive Biology* 1995;62:253-246.
- [3] Breen JL, Neubecker R, Gregori CA, Franklin Jr JE. Placenta accreta, Increta and Percreta. A survey of 40 cases. *Obstetrics and Gynecology* 1977;49:43-47.
- [4] Pridjian G, Rich NF, Montag AG. Pregnancy haemoperitoneum and placenta Percreta in a patient with previous irradiation and ovarian failure. *American journal of Obstetrics and Gynecology* 1990 ;162:1205-1206.
- [5] Aboulafia Y, Lavie O, Granovsky-Grisaru S, Shen, O, Diamant YZ. Conservative surgical management of acute abdomen caused by placenta Percreta in second trimester. *American Journal of Obstetrics and Gynaecology* 1996;170:1388-1389.
- [6] O'Brien JM, Barton JR, Donaldson ES. The management of placenta Percreta: conservative and operative strategies. *American Journal of Obstetrics and Gynaecology* 1994;175:1632-1638.
- [7] Morken NH, Henriksen H. Placenta Percreta- Two cases and review of the literature. *European Journal of Obstetrics and Gynaecology and Reproductive Biology* 2001;100:112-115.
- [8] Irving FC, Hertig AT. A study of placenta accreta In Armstrong CA, Harding S, Dickinson JE. Clinical aspects and conservative management of placenta accreta. *The Obstetrician and Gynaecologist* 2004;6:132-137.
- [9] Cox SM, Carpenter RJ, Cotton DB. Placenta Percreta. Ultrasound diagnosis and conservative surgical management. *Obstetrics and Gynecology* 1995;71:454-456.
- [10] Price FO, Resnik E, Heller KA, Christopherson WA. Placenta previa accreta involving the urinary bladder: a report of two cases and review of the literature. *Obstetrics and Gynecology* 1991;78:508-511.
- [11] Finberg HJ, Williams JW. Placenta accreta. Prospective sonographic diagnosis in patients with placenta praevia prior to caesarean section. *Journal of Ultrasound Medicine* 1992 ;11:333-343.
- [12] Ophir E, Tendler R, Odeh M, Khouri S, Oetinger M. Creatinine Kinase as a biochemical marker in the diagnosis of placenta Increta and Percreta. *American Journal of Obstetrics and Gynaecology* 1999 ;180:1039-1040.
- [13] Harika G, Gabriel RJ, Napoleone C, Quereux C, Wahl P. Placenta Percreta with bladder invasion: surgical strategy to avoid massive blood loss. *European Journal of Obstetrics and Gynaecology and Reproductive Biology* 1994;57:129-131.
- [14] Lee LC, Lin HA, Wang CW, Cheng WF, Huang SC. Successful conservative management of placenta Percreta with rectal involvement in a primigravida. *Acta Obstetrica Gynecologica Scandinavica* 1995 ;79:839-841.
- [15] Harika G, Gabriel RJ, Napoleone C, Quereux C, Wahl P. Placenta Percreta with bladder invasion: surgical strategy to avoid massive blood loss. *European Journal of Obstetrics and Gynaecology and Reproductive Biology* 1994;57:129-131.
- [16] Lee LC, Lin HA, Wang CW, Cheng WF, Huang SC. Successful conservative management of placenta Percreta with rectal involvement in a primigravida. *Acta Obstetrica Gynecologica Scandinavica* 1995;79:839-841.