

Placenta Accreta

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Abstract

The human placenta is critical throughout intrauterine development; it has a direct impact on the efficacy of fetal development, such as diabetes mellitus and obesity.¹ Placental growth, differentiation and adaptation are influenced by maternal factors, such as stress, oxygen availability and maternal genetics. Placenta accreta is one of the catastrophic obstetric complications which leads to peripartum hysterectomy and common cause of severe maternal morbidity.¹ This case report concerns a woman diagnosed with placenta previa with placenta accreta. She had been married for four years and had conceived three times, giving birth to two live babies and had one spontaneous abortion. She was presently admitted to the hospital with complaints of fever and chills from past one week with non-productive cough, vomiting from past one week with pain in abdomen and inability to pass urine. She had also history of IUD baby due to unmanageable labour pain at the time of delivery which was delivered by an unpractised and unlicensed nurse in the absence of obstetrician. Her last pregnancy was complicated by Placenta Previa and she had undergone for emergency caesarean section. Her chickenguniya test was found positive as she complained of fever with chills. Ultrasonography with NCCT correlation showed placenta previa with placenta accreta and uterine collection, calcified hematoma and calcified placental tissue along with bilateral enlarged kidneys with mild CMD attenuation. As a part of management, hysterectomy was performed.

Keywords: Placenta Accreta; NCCT=Non-contrast computerized tomography; CMD = Corticomedullary differentiation.

Introduction

The human placenta is critical throughout intrauterine development; it has a direct impact on the efficacy of fetal development, such as diabetes mellitus and obesity.¹ Placental growth, differentiation and adaptation are influenced by maternal factors, such as stress, oxygen availability

and maternal genetics.¹ Problems with placenta development can have major consequences upon fetal development, ranging from low birth weight to mental or physical growth retardation through to fetal death. Placenta accreta is an extremely rare form in which the placenta is directly anchored to the myometrium partially or completely without any intervening decidua. Placenta accreta is a life

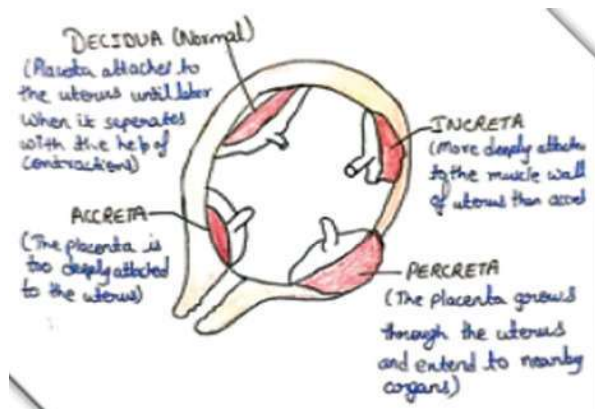
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threatening condition occurring when the entire placenta, or part of it, attaches to the myometrium of the uterine wall. Placenta with subtypes described as accreta (adheres to the myometrium), increta (invades deep to the myometrium) and percreta (the invasion reaches to the uterine serosa and beyond).²

Placenta accreta is one of the most serious complications of placenta previa and is frequently associated with severe obstetric hemorrhage, usually necessitating hysterectomy if medical therapies have failed.³ As a result of the invasion of the placenta into the myometrium, there is a greater risk of heavy bleeding and haemorrhage and thus the need for blood transfusions and often, a caesarean hysterectomy to control the significant blood loss. A positive correlation can be seen between the incidence of placenta accreta and the rising rate of caesarean section. Damage to the uterus created by surgery leaves patients susceptible to the acquisition of future placenta accreta. The occurrence of placenta previa, uterine scarring and increased maternal age are risk factors in contributing to the incidence of placenta accreta and this ultimately poses a significant burden on health resources. A multidisciplinary approach is necessary in managing this hard-hitting complication.⁴

Classification of Placenta Accreta



Epidemiology

The prevalence of placenta accrete is estimated to be 1.7 per 10,000 maternities overall 1 in 550 deliveries with both a previous caesarean delivery and placenta praevia.³

Case Report

A 25-year-old woman (gravida 3 para 2) non-booked case from a low socio-economic background

at 37 weeks of gestation was presented at the Gynaecology Department of a hospital in India, with complaints of fever and chills from past one week with non-productive cough, vomiting from past one week with pain in abdomen and inability to pass urine. Her obstetric history included three conceptions, two live births and one miscarriage. She weighed 55 kg and had been married for four years. She was married in 21 years of age with no history of consanguineous marriage of parents and there was no family history of any abnormal pregnancies. Her age at menarche was 14 years and her menstrual history was uneventful.

She had no significant past history of diabetes, hypertension, Rhesus incompatibility and Rubella infection. She had history of IUD baby due to unmanageable labour pain at the time of delivery which was delivered by an unpractised and unlicensed nurse in the absence of obstetrician at home. Her last pregnancy was complicated by placenta previa and she had undergone for emergency caesarean section A healthy neonate weighing 2,680g was delivered. In order to minimize uterine bleeding, a Satinsky atraumatic clamps were initially positioned around the uterine arteries. Spontaneous placental extraction failed, the placental tissue was manually removed, and the placental site was inspected by instrumental review.

All blood tests showed normal results except chickenguniya test found positive as on admission she was presented with symptoms of fever and chills. A Doppler Ultrasonography with NCCT was performed, which showed placenta previa with placenta accreta and uterine collection, calcified hematoma and calcified placental tissue along with bilateral enlarged kidneys with mild CMD (corticomedullary differentiation) attenuation. She was put on antibiotics and hysterectomy was planned.

Discussion

Placenta accreta is associated with major intra-operative blood loss and in some cases maternal-death. It is reported that the average blood loss in a patient with placenta accreta is between 2000 an 5000 ml and as a result patients often require blood transfusions.⁶ However, since the aetiology of this condition remains unknown, identification of potential placentaaccreta patients involves risk factor recognition. A high index of suspicion should be held with mothers who have significant risk factors despite having a normal ultrasound scan. As demonstrated by our case, it is possible

to have placenta accreta go undiagnosed leading to devastating maternal and fetal complications. First line imaging modalities include gray-scale ultrasound, color Doppler and MRI for the diagnosis of placenta accreta. Overall, gray scale ultrasonography is sufficient to diagnose placenta accreta, with a sensitivity of 77–87%, specificity of 96–98%, a positive predictive value of 65–93%, and a negative predictive value of 98. The use of power Doppler, color Doppler, or 3D imaging does not significantly improve the diagnostic sensitivity compared with that achieved by gray scale ultrasonography alone.

These lacunae may result in the placenta having a “moth-eaten” or “Swiss cheese” appearance.⁷ The value of diagnosing placenta accreta before delivery is to maximize planning and assemble a multidisciplinary team. Ideally when delivering, there should be a Consultant grade Obstetric surgeon and anesthetist. Including input from pelvic surgeon such as a gynecologic oncologist, maternal–fetal medicine specialist, neonatologist, urologist, vascular surgeon, and interventional radiologist to optimize the patient’s outcome. In order to minimise the morbidity and mortality related to placenta accreta, it is important that those with the condition are identified before delivery; this allows the obstetric department to create a management plan that helps them to cope effectively with various outcomes.⁸

There are many considerations for management depending on the severity of hemorrhage, including life saving hysterectomy. The RCOG considers Cell salvage, or autologous blood transfusion, to be appropriate in patients with estimated blood loss over 1500 mL.⁹ Ensuring sufficient blood for transfusion and early transfer to a tertiary care center must be consider. Postpartum hemorrhage and maternal and fetal demise are of such high risk in these patients that early diagnosis and planning is the key to improved outcomes.

Conclusion

Placenta accreta is a potentially life threatening condition for both mother and baby. The limited understanding of the nature of this condition means that those likely to develop it must be

identified through risk factor analysis. Currently, prompt diagnosis of placenta accreta, followed by the development of a delivery management plan that include several haemorrhage.⁴ Despite the early and accurate prenatal diagnosis, hysterectomy remains the most common surgical procedure in cases of PPH for placenta previa accreta. Nowadays, conservative interventions are recommended before radical procedure in order to minimize surgical complications and preserve fertility. The conservative options for PPH included uterotonic drugs, external compression with uterine sutures (B-Lynch, Hayman, Cho), intrauterine packing (Bakri balloon), and selective devascularisation by ligation or embolization of the uterine artery.¹

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