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Case Report

Placenta percreta in primigravida, an unsuspected situation

Bhuvaneshwari Rajkumar^{1*}, Nisha Kumar¹, Sowmya Srinivasan²

¹Department of Obstetrics & Gynecology, Sri Manakula Vinayagar Medical College and Hospital, Kalitheerthalkuppam - 605107, Puducherry, India

²Department of Pathology, Sri Manakula Vinayagar Medical College and Hospital, Kalitheerthalkuppam - 605107, Puducherry, India

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*Correspondence:

Dr. Bhuvaneshwari Rajkumar,

E-mail: zoomtobhuvan@gmail.com

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ABSTRACT

Placenta percreta, the most severe form of placenta accreta, is a rare pregnancy disorder in which the placenta penetrates the uterine myometrium and serosa and can invade the surrounding organs. It is a potentially life-threatening condition with risk of severe maternal morbidity and mortality. Although recognized obstetric risk factors allow the identification of most cases during the prenatal period, diagnosis is occasionally made at the time of delivery. Both sonography and MRI have fairly good sensitivity for prenatal diagnosis of placenta accreta. Prenatal diagnosis allows management of these patients in specialized tertiary centers, where a multidisciplinary approach will improve the outcome. Even in undiagnosed cases discovered at the time of delivery involving a team of anesthesiologist, obstetrician, urologist, neonatologist, and blood bank officer is needed for successful management of these patients. In this report we present the case of a primigravida with no known risk factors who was diagnosed to have placenta percreta at the time of caesarean delivery.

Keywords: Placenta percreta, Retained placenta, Caesarean hysterectomy, Emergency hysterectomy, Third stage hemorrhage

INTRODUCTION

Adherent placenta accounts for 7-10% of maternal mortality cases worldwide.¹ Placenta accreta occurs when the chorionic villi invade the myometrium abnormally. It is classified according to degree of invasion into the myometrium as placenta accrete vera, placenta increta and placenta percreta, with placenta percreta being the most severe but least common one.² Women who are considered at risk of adherent placenta are those with placenta previa, 2 or more caesarean deliveries,⁴ advancing maternal age (≥ 35 yrs), second-trimester serum levels of AFP and free β -hCG greater than 2.5 multiples of median,³ previous uterine surgery, previous uterine curettage, multiparity and high gravidity.⁵ Here, we present the case of 30 yrs old primi gravid with no known risk factors diagnosed intraoperatively to have placenta percreta.

CASE REPORT

A 30 year old booked primigravida was admitted to labour room with preterm premature rupture of membranes at 35 weeks + 2 days of gestation. Her antenatal period was uneventful prior to admission. Her past medical and surgical history was not significant. At the time of admission her hemoglobin was 11.2gms/dl, hematocrit 33% and coagulation profile was normal. Prenatal ultrasound was taken and amniotic fluid index was found to be 3. Labor was induced in view of oligohydramnios. Patient was taken up for emergency caesarean section under spinal anaesthesia in view of failed induction. A preterm male baby of 2.2 kg was delivered. The placenta however, could not be removed with gentle traction. Manual removal of placenta was attempted. After partial placental removal, plane of separation could not be identified between uterine wall

and placenta. Uterus was exteriorized. The fundal portion and left cornu of the uterus appeared to be bulging; spongy and hemorrhagic (Figure 1). A diagnosis of partial placenta percreta was made. In view of excessive bleeding from the placenta separation site, emergency caesarean hysterectomy was proceeded with. Total blood loss was estimated to be 2000 ml. 2 units of cross matched blood was transfused intra operatively. Operated specimen was sent for histopathological examination. Postoperatively the patient was admitted to surgical intensive care unit for 24 hrs and transferred to ward later. Histopathological examination showed chorionic villi within myometrium and transmural trophoblastic infiltration sparing a thin rim of serosa (Figure 2). Postoperative period was uneventful and patient was discharged with a healthy baby, after suture removal.



Figure 1: Fundal portion and left cornu of the uterus infiltrated with placental tissue up to the serosal surface and appears bulging, spongy and hemorrhagic.

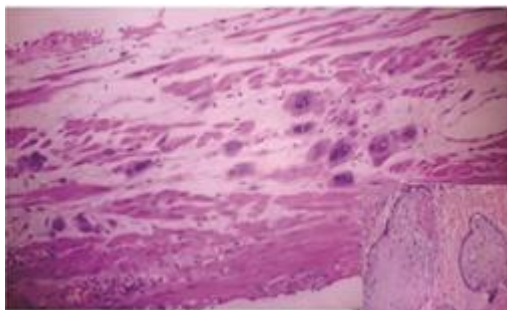


Figure 1: Microscopic appearance showing transmural trophoblastic infiltration; arrow- serosa; Inset: chorionic villi within myometrium, H & E; 40x.

DISCUSSION

The incidence of placenta accreta has increased from one in 2500 in the 1970s and 1980s to one in 533 in 2000.⁴ Placenta percreta accounts for only 5% of adherent placenta while 75% to 80% are placenta accreta vera and 17% are placenta increta.² Over the last four decades, adherent placenta is becoming an increasingly common indication for peripartum hysterectomy, rising from 5.4% to 46.5%.⁶ The incidence is rising primarily because of the rise in caesarean delivery rates. Our case has been presented here because of the rare occurrence of placenta percreta in primi gravida without any known risk factors.

Review of literature has shown only 2 cases of primigravida with placenta accreta. A case of placenta increta in primipara has been reported by Arnadottir BT et al.⁷ that has ended in delivery of a healthy infant with successful conservative management with methotrexate. Kinoshita et al.⁸ from Japan, reported one case of spontaneous rupture of uterus due to placenta percreta in a primi gravid without a background of any risk factor, similar to the our case in its occurrence.

Diagnosis

Prenatal diagnosis seems to be a key factor in optimizing maternal outcome. Diagnosis can be achieved by ultrasound in the majority of the cases of adherent placenta.⁹ Ultrasound findings that may suggest a possibility of adherent placenta in first trimester are low lying gestational sac attached to the uterine scar and thinning of myometrium in the area of scar where the sac is attached.¹⁰ Women with such ultrasound findings in first trimester should be followed up for the potential presence of placenta accrete.¹¹ Findings which suggest placenta accreta by ultrasound later in pregnancy are loss of retroplacental hypoechoic clear zone, loss of interface between bladder wall and uterus, presence of placental lacunae (vascular spaces) and increased vascularity of the interface between the bladder wall and uterine serosa on colour doppler imaging.¹²

If the ultrasound findings are not considered definitive or the placenta is located on the posterior wall, magnetic resonance imaging can be performed. Controversy surrounds the use of gadolinium – based contrast enhancement though it improves the specificity of MRI diagnosis of placenta accreta, because of the possible fetal effects, as it crosses the placenta and readily enters the fetal circulation.¹³ The American college of Radiology guidance document for safe MRI practices¹⁴ recommends that intravenous gadolinium should be avoided during pregnancy unless it is absolutely essential. Although our patient underwent multiple antenatal ultrasonography examinations, adherent placenta was not diagnosed probably due to fundal location.

Obstetric management

Women with any type of adherent placenta should be treated in specialized tertiary care hospital.¹⁵ The recommended management of placenta percreta is planned caesarean hysterectomy at 34 - 35 weeks with intact placenta.¹³ A multidisciplinary approach by a team of experienced obstetricians, anesthesiologists, neonatologists and urologists, as well as a blood bank helps in achieving the best outcome.¹⁶

Conservative management of placenta percreta includes removing the cord and leaving the placenta in utero, potentially with partial placental resection to minimize the size. This approach should be considered only when the patient has a strong desire to retain her fertility and she is hemodynamically stable with normal coagulation

status and is willing to accept the risk involved in the conservative management.¹³ Complications that can occur with conservative management are severe postpartum hemorrhage, post-operative coagulopathy and antimicrobial resistant infection that may require relaparotomy and hysterectomy.⁹ The role of methotrexate in post-partum management adherent placenta is uncertain, though some cases have been reported.¹³ Preoperative placement of occlusion catheter with intraoperative balloon occlusion of the aorta, common iliac, hypogastric and uterine arteries has been found to control obstetric hemorrhage. Because of the extensive collateral blood supply to the uterus from branches of the obturator, lumbar, sacral, rectal, and femoral arteries, intravascular occlusion proximal to the uterine is preferred. But occlusion of larger vessels like the aorta and common iliac arteries may result in ischemia of the lower extremities. In such cases, monitoring of blood pressure and serial blood gas analysis in the lower extremities and occasional deflation of the balloon prevented distal ischemia.¹⁷ Balloon occlusion of the internal iliac arteries is most commonly followed¹⁸ even though some blood loss will occur due to extensive pelvic collaterals.¹⁷ Caesarean hysterectomy is probably the preferable treatment and conservative management should only be used in highly selected cases and in places where such facilities are available.

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