Placenta Percreta with Bladder Invasion - A Challenges of An Obstetrician: A Case Report

Shahana Begum[1*] Shafaat Shariqa Khandaker[2]

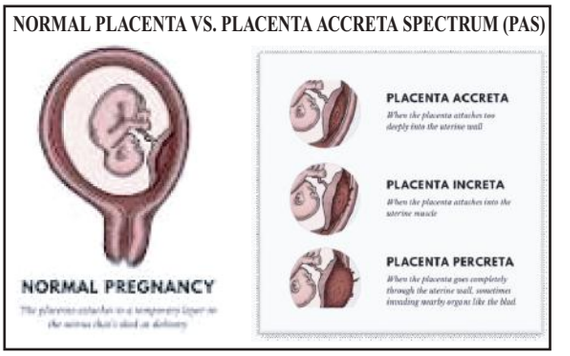
Abstract

A 32 years lady, 3rd gravida,para 2, was referred into Chittagong Medical College Hospital on 16 October 2022 at her 38 weeks of pregnancy with antepartum haemorrhage due to central placenta praevia with previous history of two caesarean section. On admission patient present with profuse per vaginal bleeding. Decision was taken for caesarean hysterectomy due to Placenta Accreta Spectrum (PAS). During operation it was shown that whole placenta with amniotic membrane was protruded out through the disrupted scar with extensive vascularity along the anterior portion of the lower uterine segment and appear to extend upto and around the bladder. baby was delivered by breech extraction by the side of the placenta after opening of membrane, after delivery of the baby bilateral uterine artery was ligated then caesarean hysterectomy was done with successive clamping. Bladder was injured during mobilization and repaired. Peroperative blood loss wasaverage, replaced 4-unit PCV and plasma expander. operation time was 1 hour. After completion of operation recovery was smooth from general anaesthesia, Postoperatively patient was managed with broad spectrum antibiotics for seven days and bladder drainage with foleys catheter for 14 days. Her postoperative period was uneventful, and the patient was discharged with baby from hospital at 25th postoperative day.

Key words: Bladdder invasion; Endometrial damage; Placenta Accreta Spectrum (PAS).

Introduction

A prior caesarean section is an important risk factor that leads to endometrial damage and abnormal implantation of placenta-[1] It has been proposed that the terminology placenta accreta spectrum, among them Placenta percreta is the most severe and least common form of the spectrum of abnormal placental villous adherence, where there is a transmural extension of placental tissue across the myometrium with a serosal breach.[2] It carries severe maternal and foetal risk even mortality also.



Placenta percreta might be complicated by attachment of the placenta to surrounding of structure and organs such as urinary bladder and rectum. To manage such a case requires multidisciplinary approach because of risk of massive haemorrhage, bladder damage and the develpement of disseminated intravascular coagulation. It is a potentially fatal condition, and the mortality rate is correlated to the extent of involvement of the surrounding structures. Mortality rate has been estimated to be as high as 9.5 and 24% for mother and child respectively when placenta percreta is complicated with bladder invasion.[3] Herein if a case of placenta praevia percreta with bladder invasion is diagnosed with doppler ultrasonography and MRI, that will highlight the catastrophic nature of the clinical entity, which if managed appropriately is associated with a better outcome .

Case Report

A 32 year lady, 3rdgravida, para 2. was reffered from Feni to Chittagong Medical College Hospital (CMCH) on 16.10.2022 at her 38 weeks of pregnancy with antepartum haemorrhage due to central placenta praevia with previous history of two caesarean section.

It was her planned pregnancy, she was a regularly

1. Associate Professor (cc) of Obstetrics & Gynaecology Chittagong Medical College, Chattogram.
2. Assistant Registrar of Obstetrics & Gynaecology Chittagong Medical College Hospital, Chattogram.

***Correspondence:** **Dr. Shahana Begum**
Cell : 01714 28 87 94
E-mail: drshahanashelly@ gmail.com

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menstruating women with average flow and duration, her LMP was 23 January 2022 accordingly EDD will on 30 october 2022.

At 12 weeks she had complaints of slight per vaginal bleedings, and accordingly ultrasonography reveals a single viable pregnancy of 13 weeks as well as confirmation of dating of the pregnancy.

Throughout the pregnancy she had occasional small amount, painless per vaginal bleeding, and at 20 weeks anomalies scan reveals no congenital anomalies was found and low-lying placenta.

At 28 weeks of pregnancy, she again developed per vaginal bleeding and admitted into private clinic at Feni,at that time she was diagnosed as a case of central placenta praevia by ultrasonography.

After 8 days she was discharged from clinic with advice to get admitted into hospital at 36 weeks of pregnancy, she didn't. At 38 weeks again she developed profuse per vaginal bleeding, went to that clinic and ultrasonography was done which reveals placenta centrally placed with invading uterine scar, then she was reffered into CMCH.

On admission with proper history taken, meticulous clinical examination she was diagnosed as a case of 3rd gravida 38 weeks of pregnancy with central placenta praevia with previous history of two caesarean section with high suspicious of placenta accreta and decision was taken for emergency caesarean hysterectomy. Patient was prepared with prophylactic antibiotics and Tranexamic acid 1 gm was given.

During operation it was found that scar was disrupted andwhole placenta with amniotic membrane was protruded out through the dehiscence border with extensive vascularity along the anterior portion of the lower uterine segment and appear to extend upto and around the bladder.

Gentle pushing the placenta, amniotic membrane was opened then baby was delivered by breech extraction. Bladder was injured during mobilization and repaired immediately. After delivery of the baby bilateral uterine artery was ligated then total abdominal hysterectomy (Caesarean hysterectomy) and preservation of both ovaries was done step by step with successive clamping. During the operation blood loss was average. There were not such difficulties was happened. Replaced 4 unit of PCV and plasma expander.

The operation time was 1 hour after then dye test was done and ensured bladder was secured. A drain was kept in situ.After operation she was recovered smoothly from general anaesthesia.

Resected Uterus with Placenta Percreta

Postoperatively she was managed with broad spectrum antibiotic, analgesics and antiulcerent drugs and bladder drainage with continuous catheterization for 21 days. Herpostoperative period was uneventful.

Patient recovered well and discharged with baby from hospital at 25th postoperative day.

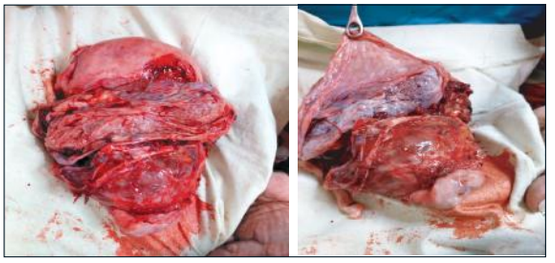

Image 1 Peroperative findings

Discussion

The incidence of placenta percreta has risen substantially due to the increased rate of cesarean sections.[4] A 50-fold rise has been reported during the past 50 years, to a currently estimated 1 in 1000 pregnancies. The incidence of concomitant bladder invasionis much lower, occurring in approximately 1 in 10,000 births.[5] According to ACOG committee opinion, the incidence rate of PP varies between 1/210 to 1/2500 births.[6]

Major risk factors for placenta percreta include advanced maternal age, multiparity, placenta previa, and prior uterine scarring. Since the rate of cesarean section has been increasing, so has the incidence of placenta previa percreta. 30 have shown that the risk of placenta previa increases proportionately with the number of prior cesarean deliveries (0.26% in an unscarred uterus, and up to 10% in woman with history of at least four prior cesarean section).[7] Again, they have shown that the association of placenta previa and prior uterine scarring greatly increases the chance to develop a placenta accreta (5% risk in an unscarred uterus, to 67% risk in women with four prior cesarean

sections).[9] In another study authors found that, in the presence of a placenta previa, the risk of placenta accreta was 3, 11, 40, 61 and 67% for the first, second, third, fourth, and fifth or greaterrepeat cesarean deliveries, respectively.[8] Like most others reported in their studies, the patient in this case was a 32 year old multiparous lady with complete placenta previa percreta with history of one prior cesarean section.

Placenta percreta during pregnancy, may be asymptomatic, or may present with mild to severe antepartum hemorrhage or lower abdominal pain or gross hematuria when bladder is invaded.[10] The patient, in this case of placenta previa percreta with bladder involvement, presented with profuse haemorrhage which might be due to erosion of placental vessels. She also had mild per vaginal bleeding and repeated urinary tract infection in her early pregnancy. The diagnosis of placenta percreta might be made during prenatal screening ultrasound. However, bladder involvement is usually not identified until the time of delivery. Symptoms such as gross hematuria, which might be expected, occur in only approximately in 25% of cases.[11] Hence, a high index of suspicion is needed in any pregnant patient presenting with gross hematuria. In this case, sonography done at her 28 weeks of gestation revealed plecenta previa type IV, with most likely invasion of bladder wall as evidenced by mildly thick posterior wall and increase vascularity. This finding wasneeded to confirm by MRI. Canonico et al and others also found role of sonography, MRI and cystoscopy in diagnosing and confirmation of placenta percreta with bladder invasion.[12] Diagnosis of placenta accreta during antepartum clearly aids in the approach and management of the disorder. It also helps to anticipate and recognize complications earlier.[13] Herein, following diagnosis of placenta previa percreta antenatally, hysterectomy was planned by keeping placenta in situ, as seen in other cases.8 The most influential variable on maternal outcome is not attempting to remove the placenta. A retrospective study by Yap et al showed that placental removal before hysterectomy resulted in increased maternal morbidity.[14] A recent review also advised against attempts at placental removal before hysterictomy.[15] On opening the abdomen, urinary bladder was found hugely distended which might be due to accumulated blood clot and urinary retention. Avoiding the large vascular channels visible at the level of the lower uterine segment, a transverse incision was made in the upper segment to deliver the baby. Subsequently, total abdominal hysterictomy was done with quick successive clamping by keeping placenta in situ. But, as the placenta become partially separated during the procedure, huge bleeding occurred and needed 4 units of whole blood transfusion during the procedure and 8 units following the procedure. The average blood loss at delivery in women with placenta accreta is 3,000-5,000 mL.[14] Smith et al. described that their patient required resuscitation with 37 units of various blood products in total during the procedure of total abdominal hysterectomy and adhesiolysis.[16] Silvia et al. showed in their report, they needed 1050 mL of allogenic RBC and 1,400 mL of FFP following manual removal of placenta.[17] Major and minor complications of placeta accreta include: Massive hemorrhage, leading to disseminated intravascular coagulopathy; the need for hysterectomy, uterine wall rupture, uterine inversion secondary to attempted manual removal of placenta, retained product of conception, injury to the ureters, bladder, bowel, or neurovascular structures, fistula formation, adult respiratory distress syndrome, acute transfusion reaction; electrolyte imbalance and renal failure. In this case, the patient bleeded profusely during hysterectomy. In total, 4 units of PCV with plasma expander were required during ante, intra and postpartum period for its resuscitation. Sometime patient developed MI, electrolyte imbalance, fever and watery diarrhea during her postpartum period as a consequence of prolonged operative procedure, massive hemorrhage, huge blood transfusion and administration of several antibiotics, need ICU but subsequent recovery was uneventful.

Limitation

Long term follow up could not be done.

Conclusion

A high index of suspicion for placenta percreta with bladder invasion is required when evaluating pregnant women with a history of caesarean delivery and placenta praevia. ultrasonography of pregnancy profile and MRI of pelvic region may assist in establishing the

diagnosis preoperatively. With proper planning and multidisciplinary approach maternal morbidity and mortality can be reduced.

Recommendation

As placenta percreta has the propensity of severe haemorrhage and life threatening condition so counselling during antenatal period for caesarean hysterectomy is the only option to save life of the mother and baby and makes us challenging obstetrician.

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Contribution of authors

SB-Conception, design, drafting, citing references and final approval.

SSK-Citing references, critical revision, and final approval.

Disclosure

Both the authors declared no competing interest.

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