Case Reports

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Hemoperitoneum in Pregnancy Unfolding into Placenta Accreta Spectrum: A Case Report

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Abstract

Hemoperitoneum in pregnancy especially in second and third trimester is a dangerous complication which can be life threatening. It can be due to obstetrical or non obstetrical causes which is difficult to diagnose clinically pre operatively. Obstetrical causes includes placenta percreta perforating the uterus and scar rupture. Placenta accreta spectrum(PAS) should be highly suspected in placenta previa cases with history of Prior caesarean deliveries, prior uterine surgeries or curettage even if USG findings are not suggestive of it. Early diagnosis, well preparedness and multidisciplinary approach can help in reducing maternal and fetal morbility and mortality in such cases.

Keywords: Hemoperitoneum in pregnancy, Placenta accreta spectrum, PAS, Scar rupture.

INTRODUCTION

Disorders of Placenta Accreta Spectrum(PAS) are one of the emerging obstetrical complications whose incidence has increased significantly from 0.12 to 0.31% over last three decades with approximately 7.0% mortality rate.[1] Placenta Accreta Spectrum (PAS), previously called as morbidly adherent placenta refers to the range of pathologic adherence of the placenta including placenta increta, placenta percreta and placenta accreta.[2] Placenta percreta is the most extreme form of placental penetration and may result in rupture of the uterine wall leading to hemoperitoneum. History of Prior caesarean deliveries, advanced maternal age, multiparity, prior uterine surgeries or curettage, and Asherman syndrome are the major risk factors.[3] Ultrasound is the commonly used diagnostic modality.[4] According to ACOG, although USG is an important modality for diagnosis, absence of USG findings doesn't preclude the diagnosis and clinical risk factors remain equally important.

The aim of this case report is to highlight the importance of prompt diagnosis and decision making, high degree of suspicion, well preparedness and multi disciplinary approach in PAS case in

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decreasing maternal morbidity and mortality.

CASE REPORT

A 35 year old G8P2L2A5 at 31weeks 6 days of gestational age with previous 2 Lower segment caesarean section (LSCS) with Monochorionic Diamniotic (MCDA) twins with placenta previa with Rh negative pregnancy came with complaints of diffuse pain abdomen and mild spotting per vaginum. She denied any history of abdominal trauma, leaking per vaginum. Her antenatal period otherwise was uneventful. She had history of 2 abortions 11 years back, both in first trimester for which suction evacuation was done. Later she delivered a baby by LSCS i/v/o breech presentation 8 years ago. One year after the first delivery she delivered another baby by LSCS in view of short interpregnancy interval. Post LSCS she further had history of 3 first trimester abortions. All abortions were followed by suction and evacuation. Patient was not given anti-D in previous pregnancies. ICT was negative in present pregnancy and Anti D was given at 28 weeks. There was history of lap ovarian cystectomy 12 yrs back. There was no other significant medical history or family history. On physical examination, patient was having pallor. She was afebrile with heart rate of 116bpm, her blood pressure was 136/80mmHg, respiratory rate was 16/min. Central nervous system, cardiovascular and respiratory examination were unremarkable. On abdominal examination uterus was overdistended, there were no contractions but tenderness was present all over the abdomen but more at the scar site and epigastric region. Fetal heart sounds was regular. Local examination showed mild altered colored vaginal bleeding. Patient underwent regular USG checkups during her antenatal period with last USG around 10 days back in which it showed placenta previa with no evidence of placenta accreta.

All emergency investigations were sent for the patient, adequate blood and blood products were arranged and patient was planned for emergency LSCS keeping the differential diagnosis of scar rupture and abruption placenta. Availability of surgeon, urologist and ICU availability was assured simultaneously keeping in mind the high suspicion of PAS.

Patient was taken for surgery by senior obstetrician and a vertical midline incision was given. A large clot was seen blanketing the upper part anterior surface of uterus (fig. 1).

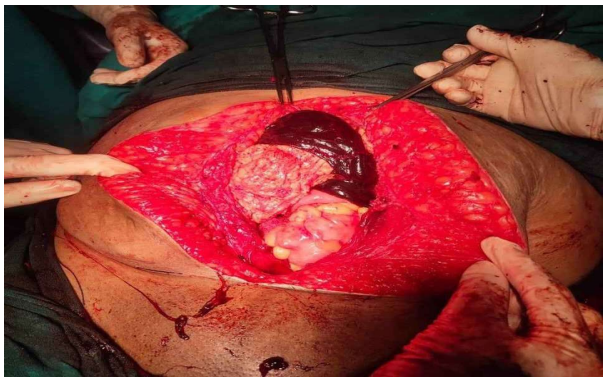

Fig. 1: Hemoperitoneum seen on opening the abdomen

Placenta was seen bulging from the lower uterine segment with small rent of around 0.5cm from which bleeding was present. Classical incision was given (fig. 2) and both the live babies were delivered by breech extraction.

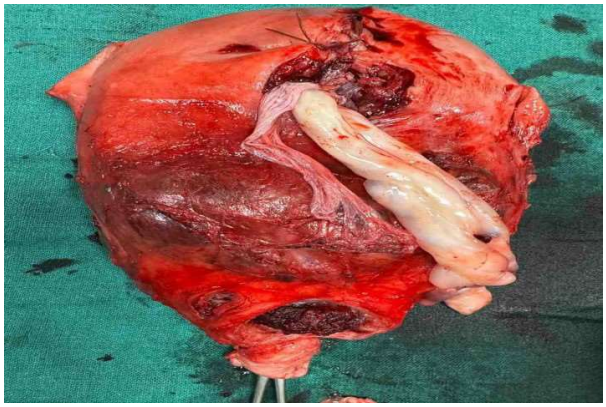

Fig. 2: Hysterectomised specimen showing classical ceasarena scar with bulgimg placenta

Placenta didn't get separated spontaneously and prompt decision of caesarean hysterectomy taken. Bladder was adherent to lower uterine segment and was separated by sharp dissection. Total hysterectomy was done. Uterus along with adherent DCDA placenta removed. (fig. 3) Surgeons were called to rule out any other cause of hemoperitoneum.

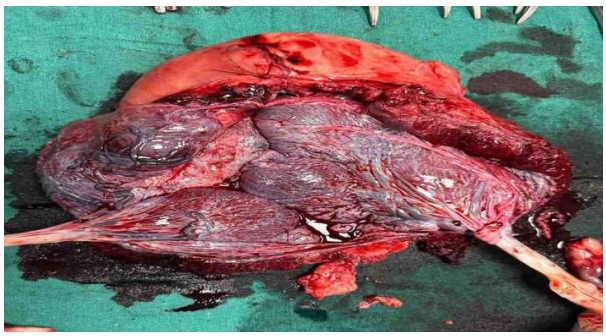

Fig. 3: Specimen showing Dichorionic Diamniotic placenta adherent to the uterus

A large clot of around 500cc was seen extending from left paracolic gutter and infra-splenic area to right para-colic gutter. It was drained and whole abdomen was examined. Hemostasis was achieved, drain was inserted and abdomen was closed. Total estimated blood loss was around 2.5 litres and 3 units PCV, 2units FFP and 2 PRP were transfused intraoperatively and patient was shifted to ICU for further management in intubated state with stable vitals. Total operative time was around 3 hours. After 2 days in ICU, patient was stable and shifted back to general ward with stable vitals. There was prolong stay in hospital as both babies were admitted in NICU. Post op operative period otherwise was uneventful and patient was discharged on post operative day 15 with stable condition. Her histopathological report revealed that placenta was adhering to and invading the myometrial fibres.

DISCUSSION

Placenta percreta is the most fatal variant of PAS which contributes to 5% of its cases with its incidence ranging from 0.04% to 0.9% of all deliveries.[5] The cause of placenta percreta is idiopathic but related with a past history of cesarean deliveries, placenta previa, uterine curettage, and surgeries.[6] Our patient was having placenta previa and had history of 2 LSCS and had undergone uterine curettage 5 times which was responsible for our high suspicion of PAS despite of USG showing no evidence.

Placenta percreta usually present as intractable haemorrhage which occurs following manual removal of placenta from underlying myometrium but it can also present as hemoperitoneum when the placenta has perforated the uterine wall after complete invasion of uterine myometrium. Initial presentation include hemorrhagic shock, acute abdominal pain or fetal demise. If the placenta has perforated the bladder wall hematuria can also be the presenting compliant.[7-9] There are few cases in literature where placenta percreta has presented with hemoperitoneum, we are reporting one of such cases. In our case the patient presented with abdominal pain.

The primary diagnostic modality in PAS is obstetric USG, however the depth of invasion can be better assessed with MRI.[4] Presence of multiple vascular lacunae within the placenta, turbulent lacunar blood flow, loss of the normal hypoechoic zone between the placenta and myometrium, decreased retroplacental myometrial thickness (less than 1 mm), abnormalities of the uterine serosa–bladder interface, and extension of placenta into myometrium, serosa, or bladder are suggestive of PAS.[10,11] Many studies have reported high sensitivity of USG for diagnosis of PAS. For example, a systematic review, including 23 studies and 3,707 pregnancies, reported an average sensitivity of 90.72% and specificity of 96.94%.[12] However these reports might have over estimated the accuracy of USG for diagnosis of PAS as in most of the studies patients had major risk factors like previa and previous cesarean delivery and there was considerable bias inherent in patient selection. Some USG findings which are linked with PAS can be present in normal placenta of pregnancy as well. In a study conducted on females with placenta previas without PAS showed considerably lower sensitivities and specificities [13]. According to ACOG, USG is an important diagnostic modality for diagnosis of PAS but absence of USG findings cannot rule out its diagnosis and clinical predictors should be given equal importance for diagnosis. In our case clinical predictors helped us suspecting PAS despite of no evidence of PAS on USG.

Management of PAS case should be done at a Tertiary care centers with availability of skilled team of obstetricians, pediatricians, anesthesiologist, urologist, blood bank facility capable of employing massive transfusion protocols and ICU set up. According to a study conducted by Eller and colleagues in Utah, PAS managed by multidisciplinary care had a significantly lower frequency of a composite early maternal morbidity outcome including prolonged admission to the intensive care unit, large-volume blood transfusion, coagulopathy, ureteral injury, or early reoperation compared to women managed by standard obstetric care.[14] Hemoperitoneum and uterine rupture secondary to placenta percreta requires immediate surgical management. Immediate caesarean section followed by hysterectomy yields lowest mortality. Although there are few reported cases of placenta percreta in which conservative management has been tried, studies have shown that there is increased morbidity and mortality in conservatively treated group.[15] In some cases of spontaneous uterine rupture secondary to placenta percreta, we can preserve the uterus by performing bilateral uterine vessel occlusion and wedge resection of the ruptured uterine wall.[16] Conservative management of placenta accreta spectrum can decrease morbidity and preserve future fertility but should only be done in hospitals with enough experience and for selected patients in whom regular follow up is possible as it carries a high risk of maternal complications.

CONCLUSION

Presence of placenta previa, previous history of uterine curettages and caesarean deliveries are one of the major risk factors for PAS. High clinical suspicion despite of negative ultrasonographic evidence, involvement of skilled obstetrician and multidisciplinary team can help in reducing morbidity and mortality in PAS.

Conflict of Interest: None

There is no funding involved

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