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Case Series

Early diagnosis, a step towards reducing mortality in placenta accreta spectrum: a case series

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ABSTRACT

The worldwide incidence of placenta accrete spectrum (PAS) is increasing day by day, mostly due to the increasing trends in caesarean section (CS) rates. PAS is accountable for high maternal morbidity and mortality as it is associated with extensive haemorrhage, which often requires hysterectomy, multiple blood and blood product transfusions, ureteric and bladder injuries and prolonged ICU stay. The aim of this case series is to highlight the importance of early diagnosis and high degree of suspicion of PAS for a planned management in decreasing maternal morbidity and mortality. Antenatal patients who were associated with PAS and managed in obstetrics and gynaecology department, Kalinga institute of medical sciences, Bhubaneswar during the time period of 2 years were critically reviewed and are being presented as case series. High degree of suspicion, pre operative radiological diagnosis, well preparedness and multidisciplinary approach help us in reducing the maternal mortality and morbidity significantly. Conservative management of PAS can preserve future fertility but should only be done in hospitals with 24 hour emergency care and enough expertise as it carries high chances of maternal complications.

Keywords: Morbidly adherent placenta, PAS, Placenta previa, Previous LSCS

INTRODUCTION

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.[1] Disorders of placenta accreta spectrum 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.[2] History of CS is an important risk factor associated with PAS. The delivery rate by CS has been on rise with the estimate of 28.5% by 2030 suggesting a hike in PAS cases as well.[3] Ultrasound is the commonly used diagnostic modality but depth of penetration is better assessed with MRI.[4] Extensive hemorrhage, which often requires hysterectomy, multiple blood and blood product transfusions, ureteric and bladder injuries, sepsis and prolonged ICU stay are responsible for high maternal morbidity and mortality.[5] Hysterectomy has been the main stay of treatment for PAS but nowadays conservative management has emerged into practice.

The aim of this case series is to highlight the importance of early diagnosis, high degree of suspicion, well preparedness and multi-disciplinary approach in PAS cases in decreasing maternal morbidity and mortality. This study also aims to focus attention on the role of conservative management in cases of PAS where there is no active bleeding.

This study was conducted in obstetrics and gynaecology department of Kalinga institute of medical sciences, Bhubaneswar from February 2021 to February 2023. Among the antenatal patients admitted during this period,

5 patients were found to be associated with placenta accreta spectrum. Out of them 3 had undergone caesarean hysterectomy and conservative management was done in 2 cases.

CASE SERIES

Case 1

A 32-year-old lady, G5P2L2A2 at 28 weeks of gestational age (GA) with previous CS with central placenta previa came with complaints of bleeding per vaginum. Her obstetric history revealed two spontaneous first trimester abortions, third was a normal vaginal delivery and fourth was a term CS done for breech. USG and MRI confirmed the diagnosis of placenta per Creta involving the bladder serosa. Patient was managed conservatively till 31 weeks when she had 2nd episode of bleeding and was planned for elective LSCS. Cystoscopy and DJ stenting done prior to surgery showed increased vascularity in bladder mucosa. Vertical midline incision given. Placental invasions seen on the lower uterine segment and adnexa. Baby delivered by classical CS. Uncontrolled PPH and failure to deliver placenta prompted decision for hysterectomy and during the same left ureter was injured which was repaired by ureteric re-implantation into bladder by urologist. Blood loss was approximately 2 litres and 4 units PRBC, 4units FFPs were given in intra and immediate post operative period. The hysterectomy specimen (Figure 1) was sent for histopathological examination (HPE) which confirmed placenta per Creta. She had an uneventful post operative recovery and catheter was removed after 21 days.

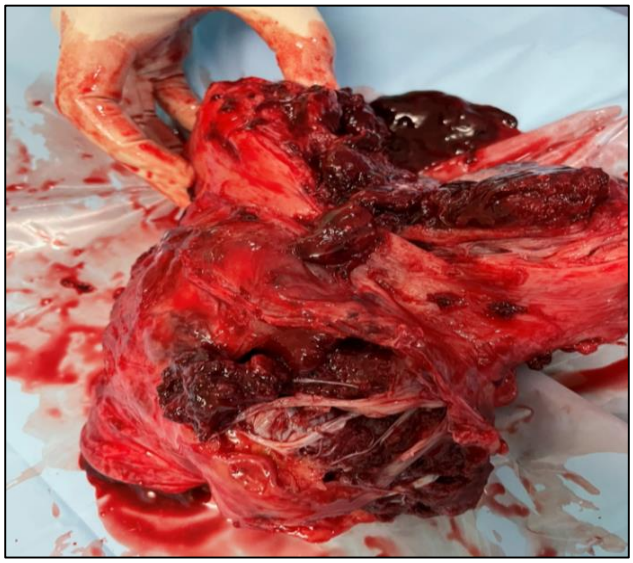

Figure 1: Hysterectomy specimen of placenta percreta with placental invasion upto serosa of the uterus.

Case 2

A 36-year-old lady, G4P1L1A2 at 36 weeks 6 days of GA with central placenta previa with previous CS with asymptomatic COVID-19 infection came with profuse bleeding per vaginum for 1 hour. Her 1ST pregnancy was elective LSCS (post-dated). The 2nd and 3rd pregnancies were spontaneous abortions at 4 months followed by Suction and evacuation. Patient was admitted to Covid hospital and was planned for emergency LSCS after counselling regarding the possible consequences. A high transverse incision was given above the highly dilated tortuous blood vessels. A term female baby was delivered by breech extraction. Placenta did not separate spontaneously and was found to be adherent to myometrium but could be removed manually. Severe PPH occurred that was initially managed medically and 2 units of PRBC given. Noradrenaline infusion started. Hemostatic sutures were given over placental bed. Bilateral uterine and ovarian arteries were ligated. Uterus was contracted and hemostasis achieved. Abdomen was closed and while vaginal toileting, profuse fresh bleeding was observed and decision for hysterectomy was taken. Total hysterectomy was done but oozing occurred from all sites including stumps probably due to consumption coagulopathy. Pack was given over these sites and simultaneously 8 FFP and 4 RDP were transfused. Then bleeding from above sites was controlled and Abdomen was closed after giving intra-abdominal drain. A total of 10 PRBC with 8 FFP and 8 RDP were given intra and post operatively to combat the blood loss. She was then shifted to ICU and was extubated the following day. Remaining post op period was uneventful and was discharged on pod-6. HPE study confirmed placenta increta. Fig 2 shows the surgeons in PPE kits in COVID hospital.

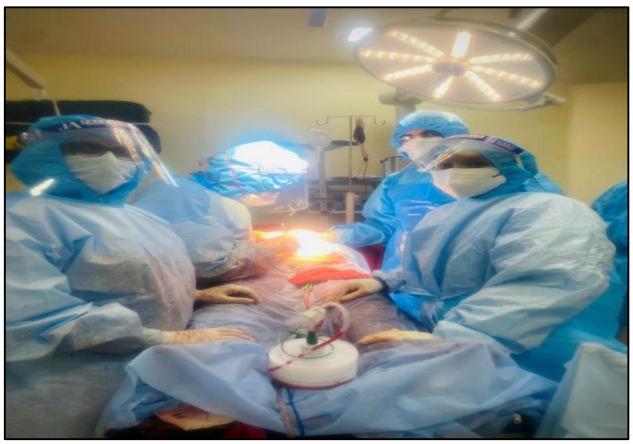

Figure 2: Operative team during COVID pandemic.

Case 3

A 33-year-old, P2L1A1 was referred from a local hospital for retained placenta after spontaneous abortion of a 22 weeks foetus with bleeding per vaginum for further management. Her obstetric history included vaginal delivery of a term fresh stillborn followed by LSCS 6 years back. Patient was severely anemic with tachycardia and low BP at the time of admission. Initial resuscitation was done and patient taken up for manual removal of placenta under anesthesia. Suction and evacuation tried and placenta could not be removed completely. Profuse

bleeding occurred and part of placenta was found to be adherent to the anterior uterine wall. Patient deteriorated and went into shock, had to be intubated and was started with blood transfusions and crystalloids. As bleeding could not be controlled, patient was planned for abdominal hysterectomy after taking consent. Uterus was 20 weeks size with prominent blood vessels in the lower part and Placenta was seen infiltrating the serosa of the uterus. Placental tissue was seen to be in close proximity to the posterior wall of bladder (Figure 3) but could be separated. Hysterectomy done and oozing from the posterior wall of the bladder was managed with Electrocautery and Abgel. Cystoscopy showed hyperaemia of posterior wall of bladder. Six PRBC, 6 FFP and 4 RDP were transfused in the intra and immediate post operative period. Patient was managed in ICU for 3 days and was shifted back to ward and discharged on POD-8 in hemodynamically stable condition after suture removal. HPE study confirmed placenta percreta.

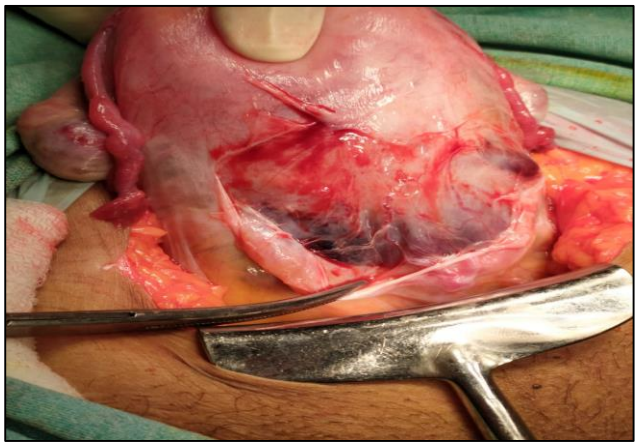

Figure 3: Placental tissue infiltration till serosa of the uterus and was seen to be in close proximity to the posterior wall of bladder.

Case 4

A 30-year-old lady, G2P1L1 at 33 weeks 2 days period of gestation came with complaints of leaking per vaginum on and off since 5th month of pregnancy and pain abdomen since 1 day. Her obstetric history revealed one previous term LSCS done 2 years back in view of non-progress of labour. She was a known case of hypothyroidism on medication. Her latest USG (done outside) showed location of the placenta as anterior and not low lying. She was given steroid coverage and managed conservatively for 3 days later which she went into labor spontaneously and delivered a preterm male baby of weight 1.44 kg. Baby was taken to NICU in view of preterm delivery and low birth weight. Placenta could not be delivered after delivery and so manual removal of placenta (MROP) was planned under general anaesthesia. Placenta was found adherent fundo anteriorly and MROP could not be done. A few placental bits and membranes removed under ultrasound guidance. A clear demarcation between placenta and myometrium was not found suggestive of adherent placenta. No active bleeding was seen so placenta was left in situ. Three doses of injection methotrexate (50 MG) was given. Decreasing trend in HCG titre was noted and follow up USG after 8 weeks showed resorption of the major part of placenta with minimal endometrial collection as shown in the Figure 4.

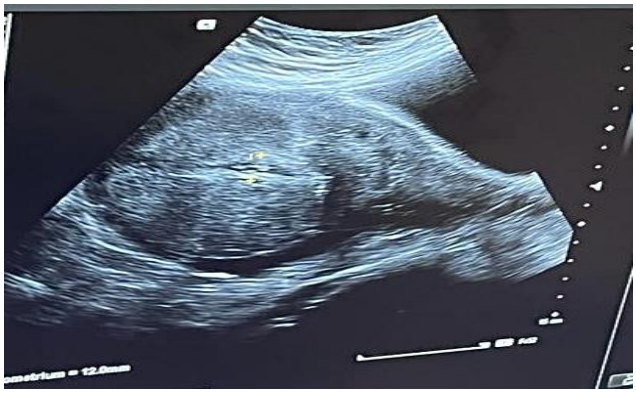

Figure 4: Follow up USG after 8 weeks post-partum showing minimal endometrial collection.

Case 5

A 31-year-old lady, G2A1 at 32 weeks 6 days of GA with history of spontaneous abortion followed by suction and evacuation at 5 months of GA 3 years back came in active phase of labour. Patient delivered a preterm male baby of weight 1.88 kg by vertex presentation. Baby cried immediately after birth. Placenta did not separate spontaneously within 30 minutes following which manual removal of placenta attempted under General Anaesthesia but could not be done raising the suspicion of morbidly adherent placenta. There was no active bleeding so the placenta was left in situ. MRI was done post operatively and findings were consistent with morbidly adherent placenta (Placenta increta). She received injection Methotrexate (50 mg) post-delivery. Patient was discharged in hemodynamically stable condition on PND-10. Decreasing trend in HCG titre is being noted. Post partum she has not had any episodes of bleeding or foul-smelling discharge till now and is on regular follow up.

DISCUSSION

PAS is a grave obstetrical complication which can lead to life threatening consequences. History of CS, placenta previa, ART (assisted reproductive technology) related pregnancy, smoking during pregnancy, and uterine anomalies are frequently associated with PAS.[6]

Strong suspicion especially in women with high risk factors should be specifically screened for PAS with USG including color Doppler by expert sonologist and if required MRI to assess the depth of invasion more accurately.[4] Radiographic diagnosis can help in reducing the morbidity and mortality by planning the delivery and

managing the case with a multidisciplinary approach at a tertiary care center.

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.[7]

In first case, timely diagnosis and pre operative DJ stenting with the presence of urologist intra operatively helped us identify the ureteric injury and repair it in same setting.

In second case, we were able to save patient from the near-death situation because of 24 hour availability of blood bank and skilled surgical and anesthetist team but with greater morbidity due to lack of preoperative diagnosis. Arranging for multiple blood transfusions and operating in PPEs during COVID pandemic was challenging.

In our third case, timely referral to the tertiary care center, immediate stabilization, prompt decision of hysterectomy and management of patient by multidisciplinary approach helped in saving the patient.

Although Hysterectomy has been the main stay of treatment for PAS but nowadays conservative management has emerged into practice to avoid a peripartum hysterectomy and its related-morbidity and consequences.

Timmermans et al. reviewed case series of placenta accreta managed by leaving the placenta in situ. Out of 26 women managed conservatively while leaving the placenta in situ without the use of additional therapies, 22 (85%) had a favourable outcome. Expectant management failed in 4 (15%) of patients who required hysterectomy due to severe haemorrhage or infection.[8]

In the last 2 cases inspite of placenta being adherent, it was left in situ without much handling to avoid hysterectomy and morbidity associated with it and also to increase the chances of future fertility as there was no active bleeding. No major immediate post operative complications were seen in both the cases.

The accepted approach to PAS is caesarean hysterectomy with placenta left in situ after delivery of the fetus. Conservative management should be considered only for carefully selected cases of PAS who are willing to come for regular follow up after detailed counselling about the risks, uncertain benefits and efficacy and should be considered investigational.[1]

CONCLUSION

Early diagnosis of PAS cases and timely referral to 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 can help in significantly reducing morbidity and mortality associated with it. 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 feasible as it carries a high risk of maternal complications.

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