

Placenta Accreta Spectrum: A Diverse Clinical Experience

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Abstract

Introduction:

Placenta Accreta Spectrum is a well-established life threatening complication during pregnancy. It is commonly seen due to an iatrogenic etiopathogenesis resulting from a previous surgery of the uterus.

The presentation of these cases has been intriguing. A holistic approach by the obstetrician and radiologist is important in identifying such cases early to reduce the morbidity and mortality. This series highlights the experience of the cases of MAP that we managed at our institution.

Aim and objectives: to study the diverse clinical course of placenta accrete spectrum which will help in early diagnosis using various diagnostic modalities and deciding the management of adherent placenta. This series highlights the challenges faced in the diagnosis, evaluation and management antepartum, intrapartum period as well as postpartum period.

Materials and methods: A Hospital based observational case series conducted in the Department of Obstetrics and Gynecology of Bharati Hospital, Pune of patients who had morbidly adherent placenta

Result: Previous LSCS and curettage were associated with higher incidence of adherent placenta. all the cases were associated with prematurity.

Conclusion: Placenta accreta spectrum is associated with high fetomaternal morbidity and mortality which is preventable. Incidence of MAP is increasing, previous caesarean section and placenta previa are important risk factors, so there is a need to keep the primary caesarean section rates low. Early preoperative diagnosis in the suspected women and careful planning of delivery involving multidisciplinary team is the key to save the woman's life.

Key words: Morbidly Adherent Placenta; Placenta Accreta Spectrum; Prematurity.

Placenta Accreta Spectrum or Morbidly adherent placenta (MAP) is a well-established life threatening complication during pregnancy. It usually occurs when there is a defect in the decidua basalis leading to an abnormal trophoblastic invasion of a part or complete placenta into the myometrium. The incidence of placenta accreta has increased dramatically over the last three decades with the increase in caesarean delivery rate. At present, the incidence of placenta accreta is 1 per 725 deliveries.

An increasing incidence of MAP has been experienced in our institution and described in our case series wherein we found four cases presenting with various clinical pictures. The presentation of these cases has been intriguing, sometimes predicted and sometimes came as a surprise in the third stage of labour. A holistic approach by the obstetrician and radiologist is important in identifying such cases early to reduce the morbidity and mortality. It was observed that all the cases were associated with prematurity hence preterm presentation may imply a possibility of a placental abnormality. Management of MAP may vary from a conservative approach which is by leaving the placenta in situ or an extirpative approach which consists of an obstetric hysterectomy which was adopted in two of our cases. This series highlights the experience of the cases of MAP that we managed at our institution.

There are three grades of MAP according to the depth of invasion.

Accreta: chorionic villi attach to the myometrium

Increta: chorionic villi invade into the myometrium

Percreta: chorionic villi invade through the myometrium.

Case Discussion

Case 1

37 year old, G2P1L1 with 33 weeks 1 day pregnancy with previous one caesarean delivery presented to the obstetric emergency with complains of greenish mucoid discharge per vaginumsince 1 hour. On examination her vitals were stable. On per abdomen examination- fundal height was corresponding to 32 weeks, uterus was relaxed, fetal heart sounds were regular at 136 beats per minute, oblique lie and there was no scar tenderness. On per speculum examination meconium was present and non-stress test was equivocal. Her ultrasound was suggestive of a single live intrauterine pregnancy corresponding to 32 weeks with amniotic fluid index of 9 with a complete placenta previa with no evidence of accrete. Hence, the patient was taken up for emergency caesarean delivery with adequate blood and blood products reserved. Intraoperatively the placenta was adherent to lower uterine segment and there was excessive bleeding from the placental bed post placental removal which was not controlled by uterotonics hence decision for caesarean hysterectomy was taken on table. Intraoperatively she had a blood loss of about 3-3.5 litre for which Massive Transfusion Protocol (MTP) was initiated and she was transfused with 4 units of PCV, 6 units of RDP and 4 units of FFP. She delivered baby of 1.19kg and baby was shifted to neonatal intensive care unit in view of respiratory distress and low birth weight. Post operatively patient was shifted to Intensive Care Unit and was transfused with 2 units PCV. Patient was discharged on 10th post-operative day.

Case 2

30 years G4P1L1A2 with 34 weeks 4 days pregnancy with previous one caesarean delivery and previous 2 curettage followed up in OPD with no complains at present. On examination her vitals were stable. On per abdomen examination her fundal height was corresponding to 34 weeks, fetal heart sounds were regular at 140 beats per minute, cephalic presentation and there was no scar tenderness. Her ultrasound was suggestive of a single live intrauterine pregnancy corresponding to 33 weeks 3 days with amniotic fluid index of 1 (severe

oligohydramnios) with the placenta low lying, covering the internal os completely. The retro-placental space appeared to be preserved only for a length of approximated 2 cm around the previous LSCS scar where it was not well appreciated. Doppler suggested at least two twigs of vessels seen traversing the myometrium wall and reaching the bladder serosa suggestive of a placenta accreta/increta. Patient was planned for an elective caesarean delivery with adequate blood reserved, pre-operative non-pneumatic anti-shock garment (NASG) was applied and a multidisciplinary involvement of various specialists including a neonatologist, anesthesiologist, urologist and intensive care unit physician was adopted. Intraoperatively uterus was fully encompassed with placenta extending to both anterior and posterior segments upto the bladder serosa anteriorly. Sharp dissection of bladder wall was done by the urologist.

There was uncontrolled bleeding from the placental bed and hence caesarean hysterectomy was performed. Intraoperatively blood loss was around 2.5 litres and hence 2 units of PCV and 2 units of FFP were transfused during surgery. She delivered baby of 2.25 kg and the baby was shifted to neonatal intensive care unit in view of low birth weight. Post operatively patient was shifted to Intensive Care Unit and was transfused with 2 units PCV. Patient was discharged on 10th post-operative day.

case 3

36 years G3P1L1A1 with 35 weeks 6 days pregnancy with previous one caesarean delivery & 1 curettage followed up in OPD with no complains at present. On examination her vitals were stable. On per abdomen examination her fundal height was corresponding to 34 weeks, uterus was relaxed, fetal heart sounds were regular at 140 beats per minute, cephalic presentation and there was no scar tenderness. Her ultrasound was suggestive of a single live intrauterine pregnancy corresponding to 34 weeks 3 days with placenta previa grade IV which was adherent to the myometrium. Her MRI pelvis was suggestive of single live intrauterine pregnancy of 33-34 weeks, placenta previa with findings suggestive of placenta accreta in the lower uterine segment (at the previous scar site). Focal invasion of the myometrium upto the serosal surface for a distance of 7 mm suggestive of placenta increta. Patient was planned for elective caesarean delivery with adequate blood reserved. Intraoperatively placenta was low lying covering

os completely and adherent minimally. Placenta was delivered uneventfully. She delivered a baby of 2.015 kg, the baby was shifted to neonatal intensive care unit in view of low birth weight. Post operatively she did not need intensive monitoring or any blood transfusions. Patient was discharged on postoperative day 7.

case 4

24 years primigravida 26 weeks 6 days pregnancy with severe pre-eclampsia on antihypertensives presented to emergency room referred from a private clinic with raised BP readings. On examination her vitals were BP-160/110 mmHg, deep tendon reflexes were brisk and urine albumin was 3+. On per abdomen examination her fundal height was corresponding to 24 weeks, uterus was relaxed, fetal heart sounds were regular at 140 beats per minute and multiple fetal parts were palpable. Her ultrasound was suggestive of a single live intrauterine pregnancy corresponding to 26-27 weeks 3 days with amniotic fluid index of 7 and fundal placenta. Her doppler was suggestive of utero-placental and feto-placental insufficiency. Termination of pregnancy was planned by induction of labour was done with tablet misoprostol (PGE1) 200 mcg per vaginum in view of severe uncontrolled pre-eclampsia with proteinuria. Baby 1kg delivered vaginally and showed no signs of life (still birth). In the third stage of labour placenta did not separate even after 20 min and hence manual removal of placenta tried under ultrasound guidance.

Bits of placenta and its membrane were removed but whole placenta was seen at the fundus and despite all efforts the placenta could not be separated. Hence the decision for leaving the placenta in-situ was taken. MRI was done post delivery which was suggestive of placenta occupying the right lateral wall of the uterus in the fundic region and invading the myometrium and reaching upto the serosa. The invasion in the myometrium measures about 5.5 mm. The patient was monitored in the high dependency unit of obstetric ward in view of severe pre-eclampsia and was discharged on 10th post natal day. On her follow up visit on the 20th post-natal day her pelvic ultrasound was done which was suggestive of no retained product of conception or placental tissue. Hence autolysis of placenta was confirmed.

Discussion

A maternal age over 35 years, multiparity are risk factors associated with accrete syndrome¹ in the current series the mean age of women was

32 years, two women were above the age of 35 years. Accreta is strongly associated with previous caesarian delivery and placenta previa and more likely a combination of both.^{2,3} In this series three women were multigravida all of them had a history of previous caesarian delivery out of which two had a history of curettage also while one was a primigravida. Three cases had placenta previa and a history of previous caesarian delivery. In a case of placenta previa with one or more previous caesarian deliveries, the risk of MAP is significantly increased. For women with placenta previa, the risk of placenta accreta is 3%, 11%, 40%, 61%, and 67%, for the first, second, third, fourth, and fifth or more caesarian, respectively.

Primary diagnostic modality for antenatal diagnosis is ultrasonography. MRI is the gold standard imaging modality for placenta accreta and defines the topography and area of placental invasion and also helps in appropriate planning of surgery.^{3,5} Two cases were antenatally diagnosed as MAP on USG out of which one underwent MRI for determining placental invasion. One case had placenta previa on USG but no sign of adherent placenta. Antenatal diagnosis of MAP was made in two cases. MAP can be encountered at the time of caesarian delivery or vaginal delivery and attempts to remove the placenta can fail. One patient had placenta previa antenatally and adherence was encountered at the time of caesarian delivery. One patient had a fundal placenta in which adherence was encountered during the third stage

Management for MAP include a conservative strategy which involves leaving the placenta in situ and an extirpative approach which includes immediate cesarean hysterectomy, avoiding placental removal. Successful conservative management of accrete involves leaving the placenta in situ and in follow up ultrasound shrinkage of placenta with decreased vascularity and tissue was passed with some fresh vaginal bleeding⁷. Recent studies have confirmed that conservative management leads to less blood transfusion and lesser hysterectomy rate.^{4,6} Conservative approach was adopted in one case and placenta was left in situ she did not require blood transfusions in that case.

Most of the patients with placenta accreta will require caesarian hysterectomy when placental removal is attempted because of massive haemorrhage.⁵ Women undergoing caesarian hysterectomy will have an intra-operative blood loss of 2-5 litre^{3,4}. Two females underwent caesarian hysterectomy and had bleeding of 3.5 L and 2.5 L

and were given 4 PCV, 6 RDPS 4 FFP and 2PCV, 2 FFP respectively. Require intensive hemodynamic monitoring in the early postoperative period provided in ICU. Two females requiring caesarian hysterectomy required ICU monitoring were transfused 2 units of PCV post-operatively each. In one case placenta was left in situ and required HDU monitoring in view of pre-eclampsia. At risk of haemorrhage, sepsis and anaemia hence extended antibiotics were administered in all cases to prevent puerperal sepsis. MAP is associated with fetal morbidity due to prematurity. All the cases were associated with preterm birth and three babies required NICU admission/v/o LB W & prematurity while one was still born. MAP is associated with fetal morbidity due to prematurity. Placental pathology should always be considered in a case of preterm delivery.

Two cases were planned for elective delivery and involved a holistic approach using a check list to reduce the morbidity and mortality associated with MAP. A multidisciplinary team was involved. Antenatal steroids were administered. A pre-operative mapping, extensive patient counselling, availability of blood and products, non-pneumatic anti-shock garment was made available

Conclusion

Placenta accreta spectrum is associated with high feto-maternal morbidity and mortality which is preventable. There has to be a high index of suspicion and a meticulous approach to find out the placental pathophysiology during clinical evaluation through history and investigations especially in high risk women. Incidence of MAP is increasing, previous caesarean section and placenta previa are important risk factors, so there is a need to keep the primary caesarean section rates low. Placental pathology may be associated with

prematurity. Early preoperative diagnosis in the suspected women and careful planning of delivery involving multidisciplinary team is the key to save the woman's life.

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