Case Series

O&G OPEN ACCESS

Various Gestational Age Manifestations of Placenta Accreta Syndrome (PAS): A Case-Series Study at Tertiary Care Referral Centre in Northern India

Jyoti Baghel[1], Pooja Mishra[2], Ayushi Shukla[3], Ishita Mehra[4]*

Received Date: Month 00, 2025

Published Date: Month 08, 2025

Abstract:

Placenta accreta syndrome (PAS) is emerging as a common complication of post-caesarean pregnancy and carries a significant risk of potentially life-threatening maternal morbidity and mortality. Its incidence is increasing due to the worldwide rise in the caesarean section (CS) rate. Implementing routine screening for PAS in patients with a history of CS can aid in early detection. Utilizing advanced imaging techniques to assess placental implantation and invasion can diagnose its extent. Management is a multidisciplinary team-based approach including minimal invasive surgeons, the accreta team, and interventional radiologists, ensuring coordinated care and planning for potential complications.

Informed decision-making in patients with prior caesarean sections about the risks associated with PAS and the importance of early prenatal care, as well as the patient's wish for future fertility, also plays a major role.

Keywords: Placenta accreta syndrome, Caesarean section, Post-caesarean pregnancy, Placenta previa.

[1]Assistant Professor, Department of Obs & Gynae, SRMS IMS, Bhojipura, Bareilly, Uttar Pradesh, India.

[2]Assistant Professor, Department of Obs & Gynae, King George Medical College, Lucknow, Uttar Pradesh, India.

[3]Assistant Professor, Department of Obs & Gynae, SRMS IMS, Bhojipura, Bareilly, Uttar Pradesh, India.

[4]Junior Resident, Department of Obs & Gynae, Sri Ram Murti Smarak Institute of Medical Sciences, Bhojipura, Bareilly, Uttar Pradesh, India.

***Corresponding Author:** Ishita Mehra, Junior Resident, Department of Obs & Gynae, Sri Ram Murti Smarak Institute of Medical Sciences, Bhojipura, Bareilly, Uttar Pradesh, India, e-mail: ishitamehra.08198@gmail.com

How to Cite: Baghel J, Mishra P, Shukla A, Mehra I. Various Gestational Age Manifestations of Placenta Accreta Syndrome (PAS): A Case-Series Study at Tertiary Care Referral Centre in Northern India. J. Comprehensive Obs. & Gynec Care. 2025; 1(1): 1-5

ISSN: 3105-8507

Introduction

The rising rate of caesarean sections has led to an increase in complications such as caesarean scar pregnancy and placenta accreta spectrum, which can be attributed to poor scar integrity from previous surgeries. This case series study was done at Sri Ram Murti Smarak Institute of Medical Sciences, Bareilly, UP, a tertiary care referral and teaching hospital in northern India. It discusses the varied presentation and management of five cases of placenta accreta spectrum (PAS) at different periods of gestation, among which three were near-miss cases and two had mortality.

CASE 1

Mid-trimester Presentation of Placenta Accreta Syndrome (PAS) - A Rare Case Report

A 43-year-old elderly G3-P2-L2 with a previous one preterm caesarean section presented to OPD at 18^{+6} weeks of pregnancy with complaints of bleeding per vaginum for 1 day. The patient was referred in view of threatened abortion, for which she was immediately admitted for further management and workup.

On admission, the patient's general condition was guarded, with PR-104/min, BP-102/62 mmHg and CVS/CNS/RS-NAD. Abdominal examination revealed a previous Pfannenstiel scar present, uterus 16-18 weeks in size, EB+ relaxed. On local and detailed gynaecological examination, active bleeding was present through the os, and the os was open.

Investigations on admission revealed CBC, LFT, RFT, PT/APTT/INR to be within normal limits. Ultrasonography showed a single live foetus at 18^{+6} weeks POG with an anterior placenta in the lower segment.

A few hours after admission, there was profuse bleeding PV followed by spontaneous expulsion of abortus weighing 400 g, but the placenta did not separate, for which manual removal of placenta (MRP) was tried.

During MRP, the placental margin was not clearly demarcated, and the possibility of fibroid uteri was suspected. Patient had an immediate episode of torrential bleeding PV due to atonic postpartum haemorrhage and her general condition started deteriorating, developing into haemorrhagic shock, with PR-145/min, BP-60/40 mmHg and RR-24/min. As the patient was haemodynamically compromised, a decision of emergency laparotomy was sought along with urgent arrangement of blood and blood products.

Under general anaesthesia, a midline infra-umbilical vertical incision was given, and it was noticed that there was a bulge at the previous scar site, which was distended, thinned out and the rest of the uterine musculature was contracted and deviated to the opposite side, giving a false impression of fibroid (on PV). Hysterotomy was done and it was found that bits of placenta were adherent to the scar and engulfing the ureter on the left side. Intra-operatively decision of peripartum hysterectomy was taken and done rapidly with the usual steps to stop uterine bleeding, which was not responding to all oxytocics given. On further exploration, left-sided ureteric injury was identified, involving the bladder base. Uro-surgeon was called, and the left ureter was implanted in the bladder by using 3-0 Vicryl suture and an anti-reflux mechanism created using submucosal flap, followed by left-sided D-J stenting. Bladder repair done in two layers, haemostasis secured and intraperitoneal drain placed. The patient was stabilized and post-operatively shifted to the intensive care unit (ICU).

Immediate post-operative investigations revealed haemoglobin- 4.9 gm/ dl, total platelet count-70,000/mL and a total leukocyte count (TLC)-11800/dl, blood urea levels-40 mg/dl, creatinine levels-1.1 mg/dl, serum sodium levels-137 mmol/l, Serum K+levels-3.7 mmol/l. Coagulation profile showed prothrombin time of 20.3sec, INR 1.5 sec, APTT 29.9 sec. ABG analysis showed pH-7.18, serum lactate-6.9, haemoglobin-5.1 g/dl, suggestive of severe acidosis with severe anemia.

The patient was put on mechanical ventilation and inotropic support was started. 7 PRBC, 6 FFP & 4 cryoprecipitate transfused in total. Patient's general condition improved, and inotropes were weaned off gradually and was extubated on POD-2. Patient's condition improved and shifted to high dependency unit (HDU) on POD-3. The patient was shifted to the ward on POD-5. Dressing and wound care were done along with removal of the intraperitoneal drain on POD-10 and was discharged on POD-11 with D-J stent and Foley *in-situ*. The patient was on regular follow-up. D-J stent was removed on POD-16 and the Foley's catheter was removed on POD-21. Patient is symptomatically better, carrying out her day-to-day activities as in pre-pregnancy state.

CASE-2

30-yr-old G4-P1-L1-A2 at 20^{+2} wks POG with prev1 LSCS and diagnosed fetal anomaly was admitted for termination of pregnancy after counselling about risks and benefits of medical vs surgical management. Medical termination of pregnancy was started with the tablet Mifepristone, followed by Prostaglandins. But when the patient developed symptoms of suspected scar dehiscence, she was taken for emergency laparotomy under G/A. Intra-op placenta was seen perforating through the anterior wall of the uterus and running over the bladder base. Fetus-in-sac delivered, and an informed decision of laparotomy taken i/v/o morbidly adherent placenta and papery thinned out lower uterine segment. Abdominal drain given, intra-op vasopressors started, and patient shifted to ICU. 3 PRBC, 2 RDP and 2 FFP transfused intraoperatively i/v/o hemodynamic deterioration. Despite multiple transfusions, vasopressors and supports post-operatively when her general condition did not improve. With a minimal amount in the abdominal drain but USG suggestive of hemoperitoneum, the decision to re-exploration was taken on POD-0. Intra-op no active bleeding seen, bilateral internal iliac artery ligation and pressure packing done with packs in situ for (?)suspected DIC. Despite multiple transfusions and vasopressor support patient's condition deteriorated and went into MODS with DIC. CRRT was started but stopped due to a fall in BP. The patient had cardiac arrest, for which CPR was started, and multiple cycles of CPR were given, but she could not be revived.

CASE-3

36-yr-old G3-P2-L2 with previous 2 LSCS was referred in view of severe anaemia with ascites at 26 weeks of pregnancy. O/E her vitals were stable except that Rh negative with Hb- 7 g/dl, urgent USG done which was suggestive of ascites with a single live intrauterine pregnancy and low-lying placenta, accreta could not be rule out due to adiposity. Strict vitals monitoring was done, ascitic tap revealed hemoperitoneum and the patient was taken for laparoscopy. Intra-op findings - gross hemo-peritoneum, with dense adhesions and placenta seen perforating through the uterus and actively oozing. Decision for emergency laparotomy taken, around 2 litres hemoperitoneum drained, peripartum

hysterectomy done, intra-op patient was put on high vasopressor support, along with 3-PRBC, 4-FFP, & 4 RDP transfused. After a few hours of post op, the patient had ventricular tachycardia, DC shock was given CPR continued, but after 5 cycles of CPR patient could not be revived.

CASE-4

Diagnosis- G2-P1-L0 at 28^{+2} weeks pregnancy with previous 1 LSCS with? PAS with placenta previa with succenturiate lobed placenta with APH

Procedure – emergency extreme PTLSCS with bilateral uterine artery ligation

Case Presentation

22-year-old G2-P1-L0 presented to the casualty at 7 months of pregnancy with complaints of bleeding per vaginum for one day. The patient was immediately admitted in view of placenta previa with life-threatening haemorrhage

On admission, the patient's general condition was fair, her pulse was 86/min, BP was 100/60 mmHg and CVS/CNS/RESP-NAD. Abdominal examination revealed a previous midline infraumbilical scar+, uterus 28 weeks in size, relaxed, FHS+ regular and no scar tenderness. On local and detailed gynaecological examination os was open with fresh bleeding present.

On admission, investigations revealed haemoglobin-9.2 g/ dl, a total leukocyte count (TLC)-13200/dl, serum platelets 1.64 lac/cmm, RFT & LFT-WNL, Coagulation profile showed prothrombin time of 17 seconds, INR 1.2s. Ultrasonography revealed a single live intra-uterine fetus (SLIUF), at 27+5 weeks POG, weighing 1.1 kg with grade 2 placenta previa with (?) placenta accreta spectrum.

Patient was managed conservatively, given medical t/t and steroid coverage along with 1-unit PRBC transfusion. At 29^{+5} weeks of gestation, she had an episode of torrential bleeding. Decision for emergency extreme preterm LSCS was taken in view of life-threatening antepartum haemorrhage. Under all aseptic precautions and spinal anaesthesia abdomen was opened in layers via a paramedian vertical incision. Dense adhesions present between the anterior abdominal wall and uterus, sharp dissection done, a large leash of vessels seen on the anterior wall of the uterus. Bladder pulled up, lower uterine segment not formed, so high transverse incision given on anterior wall of uterus 2 cm above the bladder, liquor blood-stained, baby delivered as breech, placenta focally adherent, partially separated in piece-meal, placental bed bleeding seen, haemostatic sutures taken at bed. Bilateral uterine artery ligated, and intrauterine packing done using roller gauze soaked in normal saline & betadine. Haemostasis ensured. The abdomen was closed in layers and the patient was shifted to the ICU for post-operative care. Intraoperatively, one unit of blood was transfused.

Post-operatively patient developed hypotension, so she was shifted to the ICU for close monitoring, where 2 PRBC and 4 FFP transfused, and she was started on Noradrenaline, along with uterotonics & antibiotics. On POD-1, intrauterine packing was removed, under the cover of uterotonics, and lochia were normal. Patient transferred to HDU the next day and closely monitored for vitals & bleeding PV.

Patient got symptomatically better and shifted to the gynae ward on POD-3, and was discharged the day after.

CASE 5

Diagnosis - G4-P1-L1-A2 with previous 1 LSCS with central placenta previa grade IV with placenta accreta syndrome at 33 weeks of pregnancy

Procedure - Bilateral uterine artery embolization + elective PT LSCS + subtotal peripartum hysterectomy done

Case Presentation

A 33-year-old G4-P1-L1-A2 with previous one preterm LSCS presented to the casualty at 33^{+3} weeks of gestation with complaints of pain lower abdomen for one day. The patient was referred as a diagnosed case of placenta accreta spectrum disorder and admitted in view of threatened preterm labor. On admission, the patient's general condition was fair, her pulse was 90/min, BP was 120/70 mmHg and CVS/CNS/RESP-NAD. Abdominal examination revealed a previous Pfannenstiel scar present, uterus 32 weeks in size, irritable, long lie cephalic FHS+/regular, no scar tenderness. On local and detailed gynaecological examination os was closed with no discharge p/v or bleeding p/v.

After admission, a detailed history was taken and the patient agreed to having an episode of acute haemorrhage in a previous pregnancy for which she was taken up for emergency PTLSCS in view of life-threatening haemorrhage due to antepartum haemorrhage, most likely due to placenta previa (papers NA). The patient also gave a history of multiple episodes of warning haemorrhages in the first and second trimesters of the current pregnancy, which were managed medically. IV access was established, and the patient was given steroid coverage for the baby along with anxiolytics.

She was planned for MRI pelvis and elective LSCS after arrangement of blood and blood products. 2 units of PRBC were transfused under aseptic precautions preoperatively. The patient was managed conservatively for 2 days. Preoperative investigations: CBC, LFT, RFT, Coagulation profile – WNL. USG Obs revealed a single live fetus at 34 weeks of gestation with transverse lie with grade-IV placenta previa with placenta accreta syndrome. 3 Tesla MRI pelvis report was suggestive of grade-III placenta previa with placenta accreta and possibility of placenta percreta in the anterior para-midline and left posterolateral. The patient was planned for bilateral uterine artery embolization and counselled for the need of hysterectomy and feto-maternal prognosis.

The patient was taken up for surgical management at 33^{+6} weeks of gestation. Interventional radiologist consulted for prophylactic bilateral internal iliac artery balloon inflation pre-op, followed by gel foam embolization immediately post-delivery. Elective preterm LSCS done under all aseptic precautions and general anesthesia - abdomen opened via midline vertical incision. Transverse incision given on the upper segment of the uterus and the baby delivered as breech extraction, i.e., classical caesarean section done, baby handed over to the pediatrician after cord clamping and cutting. The placenta was left within the uterus and was found to be adherent and invading serosa at places, and was also found to be invading the bladder. Figure 1 displays the intra-operative finding of placenta accreta syndrome (PAS), and Figure 2 shows the specimen of uterus with morbidly-adherent placenta. Uro-surgeon called intraoperatively, and bladder dissected sharply and proceeded with peripartum subtotal hysterectomy in usual steps. Haemostasis secured, drain placed in situ, and abdomen closed in layers. 3-units PRBC, 4-units FFP, 2-units platelets transfused intraoperatively, 2-units PRBC transfused post-operatively. Patient shifted to ICU on PRVC MODE of mechanical ventilation and Noradrenalin infusion at 5 ml/hr for post-operative monitoring. On POD-1 patient became conscious and responsive, shifted from mechanical ventilation to CPAP mode. Patient shifted to HDU on POD-2 and vitals monitored.

Patient got symptomatically better, shifted to the gynae ward on POD-3, & discharged on POD-5.

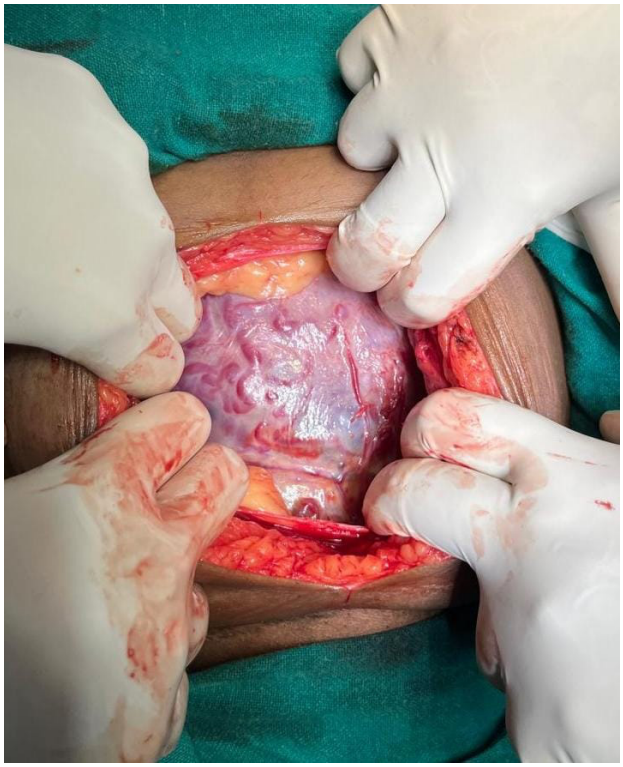

Figure 1: Intra-op finding of placenta percreta (PAS)

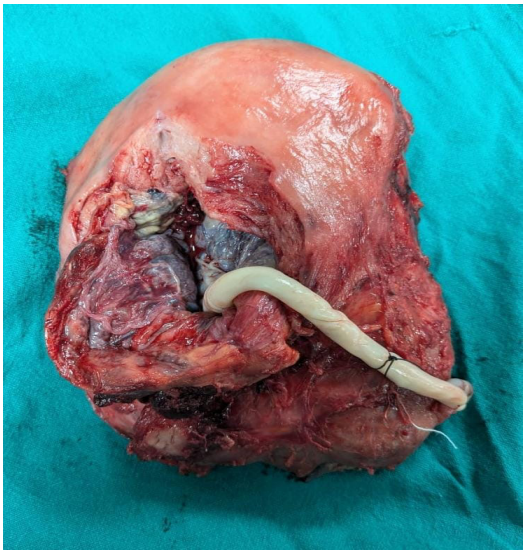

Figure 2: Specimen showing uterus with PAS

Discussion

Morbidly adherent placenta is defined as an abnormal adherence, either in whole or in part, of the placenta to the underlying uterine wall. Based on depth of adherence, the adherent placenta is classified as accreta (villi are attached to the myometrium), increta (villi invade the myometrium), and percreta (villi invade up to serosa or into adjacent organs).[1]

Placenta accreta is the leading cause of intrapartum haemorrhage & emergency hysterectomy.[2] From an etiological perspective, caesarean scar pregnancy (CSP) can be considered as a precursor of PAS,[3,4] which frequently occurs in women with a previous CS and

placenta previa.[5] Trophoblast cells tend to implant in more hypoxic locations, favouring their development and implantation in the CS scar.[5] Besides the change in tissue characteristics, a defective endometrial-myometrial interface prevents normal decidualization in the uterine scar area and allows abnormally deep placentation.[4,5]

The findings of this case series study prove significant risks associated with PAS, which is an important cause of maternal morbidity and mortality. It is equally important for the operating surgeon to consider the risks and benefits after the first caesarean section of the patient. At the same time, immediate, early and remote complications should be explained to the patient and attendants, including the possibility of developing CSP with PAS.

These cases highlight the critical need for heightened awareness and early diagnosis of PAS, especially in patients with a history of caesarean sections. Early and accurate imaging, such as high-resolution ultrasound and MRI, plays a crucial role in diagnosing these conditions before they lead to severe complications. Effective management often requires a multidisciplinary approach involving obstetricians, radiologists, and sometimes urologists or surgeons specializing in complex cases. The choice of management strategy—whether conservative or surgical—depends on various factors, including the gestational age, extent of placental invasion, and overall maternal condition.

References

1. Gundabattula SR. Morbidly adherent placenta. World clinics: Obstetrics & Gynecology: Postpartum haemorrhage. 2013 Sep 30;2(2):216-35.
2. Wu S, Kocherginsky M, Hibbard JU. Abnormal placentation: twenty-year analysis. American journal of obstetrics and gynecology. 2005 May 1;192(5):1458-61.
3. Harb HM, Knight M, Bottomley C, Overton C, Tobias A, Gallos ID, Shehmar M, Farquharson R, Horne A, Latthe P, Edi-Osagie E. Caesarean scar pregnancy in the UK: a national cohort study. BJOG: An International Journal of Obstetrics & Gynaecology. 2018 Dec;125(13):1663-70.
4. Jauniaux E, Zosmer N, De Braud LV, Ashoor G, Ross J, Jurkovic D. Development of the utero-placental circulation in cesarean scar pregnancies: a case-control study. American journal of obstetrics and gynecology. 2022 Mar 1;226(3):399-e1.
5. Jauniaux E, Burton GJ. Pathophysiology of placenta accreta spectrum disorders: a review of current findings. Clinical obstetrics and gynecology. 2018 Dec 1;61(4):743-54.
6. Perez-Delboy A, Wright JD. Surgical management of placenta accreta: to leave or remove the placenta?. BJOG: An International Journal of Obstetrics & Gynaecology. 2014 Jan;121(2):163-70.