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# Posterior placenta percreta: A rare case

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**Abstract**
**Background:** Placenta accreta spectrum affects about 3 in 1000 pregnancies but the posterior accreta spectrum is a rare phenomenon with scarce literature available regarding risk factors. It is associated with delayed diagnosis and surgical complications. It is seen with lower number of prior caesarean deliveries relative to anterior location.
**Case Report:** We hereby present a case of a 30-year-old Gravida 2 Para 1 Living 1 with previous 1 Caesarean section with 37-weeks 4 days gestation who was posted for repeat caesarean section in view of oligohydramnios with fetal growth restriction. Intra-operatively a posterior placenta precreta was diagnosed and a decision of hysterectomy was taken due to massive post-partum hemorrhage. The findings were confirmed on histopathological examination.
**Conclusion:** Posterior placenta percreta is a rare phenomenon which leads to delayed diagnosis, surgical complications and increased morbidity and mortality. The risk factors and diagnostic guidelines have still not been established due to lack of available data. An adequate sample size will need to be studied to evaluate the etiopathology and diagnostic and treatment modalities to improve the maternal outcomes.

**Keywords:** posterior placenta percreta, obstetric hysterectomy, posterior PAS, postpartum hemorrhage

## Introduction
Placenta accreta spectrum (PAS) comprise a varied group of anomalies characterized by atypical invasion of the trophoblastic villi into the myometrium due to the absence of Nitabuch layer. The incidence of PAS is about 3 in 1000 pregnancies and continues to rise [1]. PAS occurs when all or part of the placenta affixes abnormally to the uterine wall. Three grades of PAS according to the depth of infiltration are: Accreta: Invasion beyond the decidua basalis, up to the myometrium; Increta: Invasion into the myometrium; Percreta: Invasion up to the serosa.
Due to this abnormal attachment, PAS is associated with an increased risk of peripartum hemorrhage during placental delivery. Patient often require multiple blood transfusions and some may even need hysterectomy in case of uncontrolled bleeding. Maternal mortality due to PAS is as high as 6-7% [2, 3].
PAS is usually located on the anterior wall of the uterus commonly over the previous uterine scar. Posterior PAS is a rare phenomenon with scarce literature available regarding risk factors. It is associated with delayed diagnosis and surgical complications. It is seen with lower number of prior caesarean deliveries relative to anterior location, making it a diagnostic and therapeutic challenge [4].
USG and MRI are the preferred diagnostic modalities for detecting PAS [5, 6, 7]. However, this is pertinent to anterior PAS and its accuracy for posterior PAS has still to be established [5-10]. Similarly, there is still ambiguity on whether the risk factors for anterior PAS are the same as those for posterior invasion.

## Case report
A 30-year-old female, married for 7 years, Gravida 2 Para 1 Living 1 with Previous LSCS with 37.4 weeks gestation, registered at our institute, with known case of asymmetrical fetal growth restriction, came to the OPD with an ultrasonography suggestive of severe oligohydramnios with AFI of 2cm, cephalic presentation with an estimated fetal weight of 2.2kg and, posterior placenta. Obstetric Doppler scan done which showed normal umbilical artery indices with no brain sparring effect.
On examination her vital condition was stable with a pulse of 84 beats/min and with a blood pressure of 120/70 mm Hg.

Her per abdomen examination showed the uterus of 34 weeks size with cephalic presentation with a good fetal heart rate of 142 beats per minute with Pfannenstiel scar of previous caesarean section seen. On per speculum examination there was no leaking per vaginum demonstrable. Admission NST was done which was reactive.

The patient had undergone an LSCS 7 years ago in view of fetal distress. There was no history of uterine curettage in the past. She had no other significant past or current medical or surgical illnesses. She was posted for emergency LSCS in view of previous LSCS with fetal growth restriction with severe oligohydramnios, after taking the required consents. Patient was given spinal anesthesia. Pfannenstiel incision taken and abdomen was opened in layers. Dense adhesions were present between the rectus abdominis muscle and anterior surface of the uterus (upper segment). There was evidence of 5 to 6 cm uterine scar dehiscence with uterine edges not clearly visible with the amniotic sac intact. Sac was opened and 2kg Female child delivered. Injection oxytocin 20 Units in 1 pint Ringer Lactate IV started but placenta did not get separated even after 20 minutes. Placenta was found to be morbidity adherent to posterior surface of uterus, reaching up to the lower uterine segment and causing a bulge of 5*5cm on the posterio-lateral surface with plenty of vascularity and hemorrhagic areas suggestive of placenta percreta.

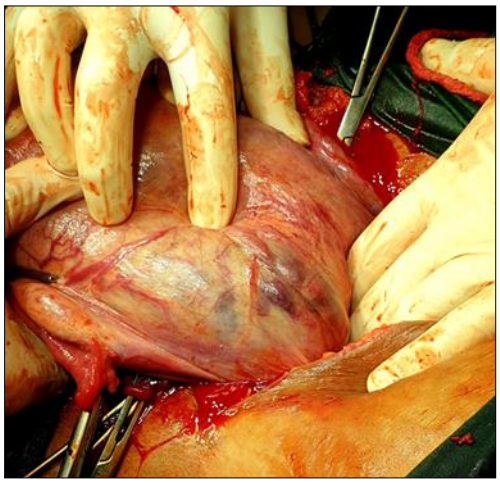

**Fig 1:** Bulge on posterior-lateral surface of the uterus with extensive vascularity

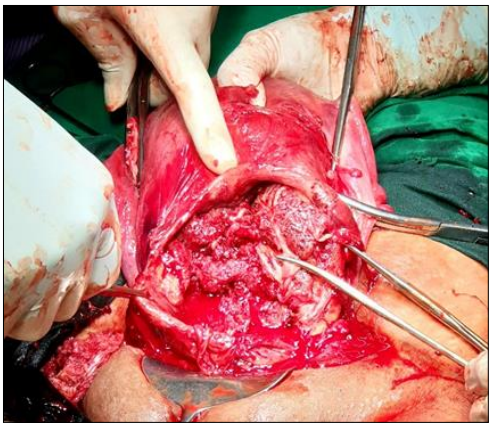

**Fig 2:** Morbidly adherent posterior placenta.

Bilateral fallopian tubes and ovaries were normal. Placenta was partly separated which resulted in a bout of bleeding from the placental bed. Decision to do obstetric hysterectomy was taken. Intra operatively approximate blood loss was approximately 2 liters. 2-pints of Packed Cells and 4 Fresh Frozen Plasma were transfused intraoperatively. Patient was shifted to the ICU for over-night monitoring. Post-operative day 2 hemoglobin was 6.2gm/dl after which 3rd pint of packed cells was transfused. Post-operative stay was uneventful. Patient was discharged on post-operative day 8. Histopathology report showed adherent placenta with trophoblastic infiltration up to perimetrium suggestive of placenta percreta.

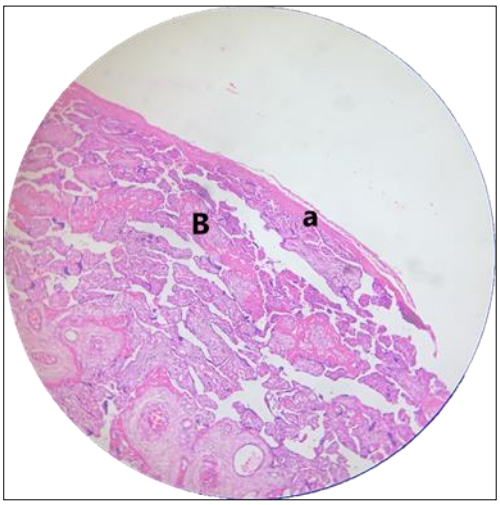


**Fig 3:** Histopathology report showing placenta percreta (a: serosal layer; B : Trophoblastic villi reaching serosa)

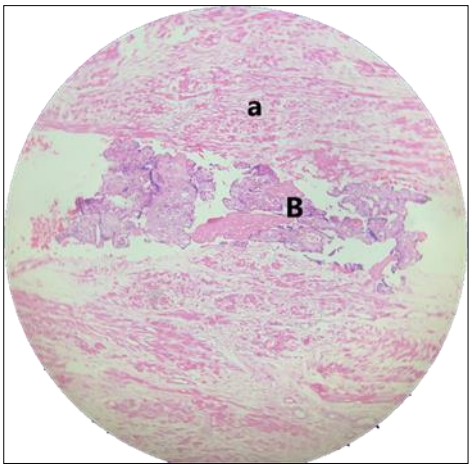


**Fig 4:** Histopathology report showing trophoblastic villi (B) penetrating myometrium (a)

## Discussion

Placenta Accreta Spectrum is a rare occurrence in obstetrics but is a potentially life-threatening emergency. The incidence of PAS has been increasing over the years. Most of the current literature and cases are related to anterior placenta accreta; there is not much information available for posterior placenta accreta spectrum specially placenta percreta, owing to its rarity. A recent systemic review and meta-analysis showed that placenta previa and prior uterine surgery are the most commonly reported risk factors for posterior PAS and the incidence of posterior placenta percreta was less than 9% of the posterior PAS in the study data [11].

Unfortunately, the usual imaging modality used for diagnosing anterior PAS, namely USG, does not have the same accuracy for diagnosing posterior PAS. Therefore, the condition is often missed during routine antenatal follow up and diagnosed

intraoperatively, as was encountered in our case report. This leads to inadequate pre-operative patient preparation which increases the risk of maternal morbidity and mortality.

The management of PAS can either be uterus sparing conservative surgery, or a non-conservative surgery (i.e., hysterectomy).

In conservative management, the placenta is left in situ and is allowed to undergo autolysis. This is generally accompanied with systemic pelvic devascularization to reduce the risk of post-partum bleeding [12, 13]. Methotrexate adjuvant therapy should be avoided since it has no proven benefit and has considerable side effects [14].

These patients however, often require a peripartum hysterectomy due to refractory secondary hemorrhage, severe sepsis due to endo-myometritis and placental infarction [12, 13]. Hence an obstetric total hysterectomy is preferred. There is limited evidence backing conservative surgery for placenta percreta [14].

Therefore, an elective caesarean hysterectomy with placenta in utero, is the gold standard for management of placenta percreta, specially in developing countries. It reduces the amount of perioperative blood transfusion and hence reduces maternal complications. Hence antenatal diagnosis assumes importance. A general surgeon may need to be involved, especially in cases of posterior PAS where bowel involvement can occur and resection may be needed.

**Abbreviations**

1. AFI : Amniotic Fluid Index
2. LSCS : Lower Segment Caesarean Section
3. MRI : Magnetic Resonance Imaging
4. NST : Non Stress Test
5. PAS : Placenta accreta spectrum
6. PCV: Packed Cell Volume
7. USG : Ultrasonography

**Conclusion**

Posterior placenta percreta is a rare phenomenon which leads to delayed diagnosis, surgical complications and increased morbidity and mortality. The risk factors and diagnostic guidelines have still not been established due to lack of available data. An adequate sample size will need to be studied to evaluate the etiopathology and diagnostic and treatment modalities to improve the maternal outcomes.

**Financial and conflict of interests' declaration**

No personal or institutional financial support was obtained for this case report. All authors declare no conflict of interests.

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