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Case Series

Placenta accreta syndrome: an obstetrician's nightmare

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ABSTRACT

Placenta accreta syndrome (PAS) poses significant clinical challenges during pregnancy and delivery, often resulting in severe maternal morbidity and mortality. This case series aims to present the varied presentations, management strategies, and clinical, and maternal outcomes associated with five patients diagnosed with PAS at our tertiary care center. A prospective analysis was conducted on five patients diagnosed with PAS who presented during the six months of study period. Demographics, clinical presentations, imaging findings, surgical interventions, and outcomes were systematically documented and analyzed. The case series included women aged 28 to 34 years, each with a history of caesarean deliveries. Common presentations included vaginal bleeding associated with placenta previa and varying degrees of placental invasion, namely accreta and percreta. All patients underwent planned caesarean deliveries, revealing severe placental adherence to surrounding structures, necessitating aggressive management. Significant postpartum hemorrhage occurred in all cases, with blood transfusions ranging from 3 to 6 units. Two patients required caesarean hysterectomy due to uncontrolled bleeding. All patients were admitted to the intensive care unit (ICU), with two cases resulting in mortality. Notable complications included post op infection, sepsis and bladder adhesion in individual cases, resulting in prolonged hospital stay for two patients. Histopathological confirmation supported the clinical diagnosis in all cases. PAS presents critical challenges in obstetric management, as demonstrated by the substantial morbidity and the requirement of multidisciplinary interventions in our case series. These findings underscore the importance of early diagnosis, thorough preoperative planning, and a collaborative approach to improve maternal outcomes in patients with PAS. Enhanced awareness and preparedness among healthcare providers are crucial to mitigate risks associated with this life-threatening condition. Further studies are warranted to refine management protocols and optimize patient outcomes in PAS.

Keywords: Placenta accreta syndrome, Postpartum hemorrhage, Caesarean hysterectomy, Blood transfusion, Imaging evaluation

INTRODUCTION

Placenta accreta spectrum (PAS), formerly known as abnormally invasive placenta (AIP), encompasses a range of conditions characterized by an abnormal implantation of the placenta into the uterine wall, which may involve the myometrium and, in severe cases, adjacent structures. This clinical condition represents a significant obstetric challenge, as it is characterized by the placenta's inability to detach spontaneously following delivery and its resistance to manual separation, frequently leading to massive hemorrhage. The consequences of this abnormal placentation can be dire, posing serious risks to maternal health and increasing the likelihood of severe morbidity and mortality during and after childbirth.

The prevalence of PAS has been rising, in part due to increasing rates of caesarean deliveries and subsequent pregnancies, which create a higher likelihood of uterine scarring and alterations to normal placentation. As a result, the incidence of conditions within the PAS spectrum—including placenta accreta, placenta increta, and placenta

percreta—has become more prevalent in contemporary obstetric practice. The challenges associated with managing PAS necessitate careful monitoring throughout pregnancy, as well as a multidisciplinary approach during delivery to mitigate risks such as severe hemorrhage, the need for hysterectomy, and other complications that can threaten maternal life.[1,2]

Given the critical nature of PAS and its implications for maternal health, understanding its risk factors, clinical presentation, and management strategies is essential for healthcare providers. This case series aims to highlight important clinical narratives surrounding PAS, shedding light on the diversity of experiences and management outcomes, thereby contributing to a greater understanding of this complex condition and its implications in contemporary obstetric care.

CASE SERIES

Case 1

Patient was 30-years-old, G3P2L2 35 weeks + 5 days with previous 2 lower segment caesarean section (LSCS) placenta previa and accreta, c/o PV bleed, taken for emergency (em) LSCS, adhesion noted to bladder base, placenta percreta noted, torrential bleeding present after extraction of baby, blood transfusion and hysterectomy done, adhered placenta bladder base left insitu, patient was intubated and on inotropes, and collapsed on day 3.

Case 2

Patient was 29-years-old, G3P1L1A1 37 weeks + 1 day with previous 1 LSCS with placenta previa, c/o PV bleed, em LSCS taken, placenta percreta noted and torrential bleeding present after extraction of baby, placenta kept insitu, multiple blood transfusion done, was started on methotrexate and serial ultrasonography (USG) done and was discharged.

Case 3

A 32-year-old G3P2L2 with 36 weeks + 3 days with previous 2 LSCS came for regular ANC check, antenatally diagnosed as acreta, by USG and magnetic resonance imaging (MRI) taken for elective LSCS, intractable bleeding noted after extraction and stopped, placenta left insitu and methotrexate and serial USG done and patient was discharged.

Case 4

A 28-year-old, G2P1L1 35 weeks + 5 days previous LSCS with placenta previa came with c/o PV bleed taken for Em LSCS, after extraction of baby, placenta separated partially, and bleeding was more, hysterectomy with multiple blood transfusion done, patient was intubated and collapsed on day 8.

Case 5

A 34-year-old G2P1L1 30 week 4 days previous 1 LSCS, with complete placenta previa a came with PV bleed and taken for em LSCS and found out placenta was invading the myometrium, placenta left insitu, started on injection methotrexate, patient developed fever and endometritis, started on higher antibiotics, with serial scans, eventually it resolved, patient became symptomatically better and discharged.

Figure 1: Surgical procedure of placenta percreta.

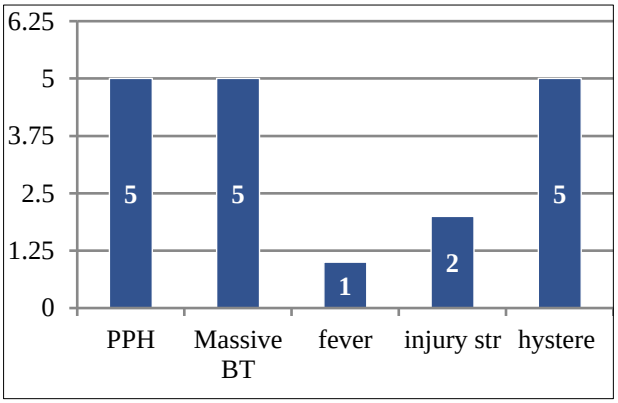

Figure 2: Distribution of cases as per the clinical presentation.

Figure 3: Color flow Doppler ultrasound on USG at early detection on second trimester.

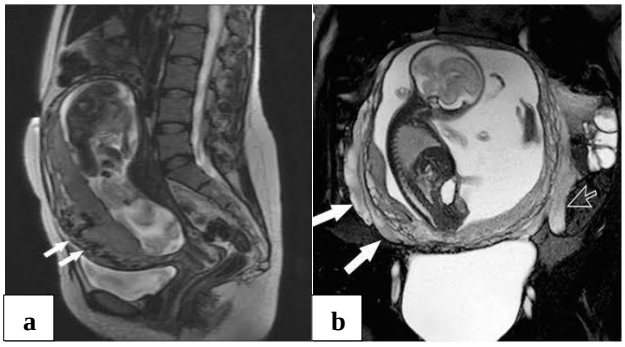

Figure 4 (a and b): MRI showing the depth of invasion and lateral extension of myometrial invasion.

DISCUSSION

This case series of five patients diagnosed with PAS sheds light on the significant clinical challenges posed by this obstetric complication, as well as the outcomes associated with its management. PAS has gained prominence as a critical area of concern in obstetric practice due to its potentially life-threatening nature, particularly in women with a history of caesarean deliveries.

Clinical presentation and demographics

The demographics of our cases reflect the growing incidence of PAS, particularly among women with multiple caesarean sections. All five patients had a background of previous caesarean deliveries, reinforcing findings from existing literature that identify prior caesarean sections as a strong risk factor for PAS.[1] Presenting symptoms typically included vaginal bleeding and ultrasound findings of placenta previa, consistent with prior reports regarding the clinical manifestations of PAS.[3]

Our series underscores the diverse presentations of PAS, emphasizing that both percreta and accreta can occur, as seen in our second patient who exhibited extensive placental invasion with concomitant complications. The varying degrees of invasiveness observed in our cases further highlight the unpredictable nature of PAS and the need for vigilant prenatal assessment and planning.

Surgical management and outcomes

The surgical management of PAS remains a complex endeavor, particularly given the high rates of postpartum hemorrhage (PPH) reported across all cases in our series. All patients experienced significant PPH, necessitating extensive blood transfusions, with some requiring up to six units.

This finding reflects the severity of placental adherence and is supported by previous studies that note a correlation between the degree of placental invasion and perioperative hemorrhage risk.[4]

In this context, the necessity for caesarean hysterectomy in two patients serves to underscore the critical need for timely surgical intervention in uncontrollable bleeding scenarios. Hysterectomy, although life-saving, often comes with significant consequences for the patient, including loss of fertility and extended recovery times.[5] Moreover, our series reports two mortality cases, thus exemplifying the life-threatening ramifications of untreated or mismanaged PAS, corroborating research that describes maternal mortality in severe cases.[6]

Imaging correlation and preoperative planning

The diagnostic accuracy of ultrasound and MRI played a pivotal role in the preoperative planning and management of our patients. The ultrasound findings of loss of normal hypoechoic space and the presence of sonolucent spaces are essential markers for PAS, as indicated by established guidelines.[3] The utilization of MRI in cases with inconclusive ultrasound results underscores the importance of advanced imaging modalities in confirming diagnoses and determining the extent of invasion, allowing for more informed surgical planning.

Postoperative complications

Postoperative complications were also significant in this series. The occurrence of fevers and endometritis in one patient highlights the need for continued monitoring and possibly intensive postoperative care protocols to manage such complications effectively. The invasiveness of PAS not only complicates surgical procedures but also increases the risk of subsequent infections, which necessitates the careful monitoring of these patients' post-surgery.

CONCLUSION

This case series highlights the increasing prevalence and complexity of placenta accreta syndrome, a serious obstetric condition associated with significant maternal morbidity and mortality. Our findings emphasize the importance of early identification of at-risk patients, thorough preoperative planning, and the implementation of scheduled caesarean hysterectomy in a controlled environment without attempting placental removal. When supported by appropriate transfusion resources and managed by a multidisciplinary team, this approach can significantly reduce maternal complications. The rising incidence of this condition calls for greater awareness among healthcare providers regarding its risk factors, clinical presentation, and the role of imaging in diagnosis. Proactive education, simulation-based training, and adherence to evidence-based protocols are crucial to improving patient outcomes. By fostering a systematic and collaborative approach to management, healthcare teams can mitigate the challenges posed by placenta accreta. Future research should aim to refine current strategies and explore innovative methods to enhance care and reduce associated maternal risks.

Recommendations

Continued studies are warranted to refine the screening and management protocols, explore long-term maternal and fetal outcomes, and improve the predictive value of ultrasound and MRI in detecting placenta accreta spectrum.

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