International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Verma K et al. Int J Reprod Contracept Obstet Gynecol. 2026 Dec;15(12):5135-5138
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20264449

Case Report

Placenta accreta spectrum in an unscarred uterus: diagnostic challenges and unexpected intraoperative findings in two cases

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Received: 25 October 2026
Accepted: 21 November 2026

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ABSTRACT

Background: Placenta accreta spectrum (PAS) is most commonly associated with previous caesarean delivery and placenta previa, but it can also occur in an unscarred uterus, making antenatal recognition challenging. We report two cases demonstrating contrasting presentations and unexpected intraoperative findings of PAS in unscarred uteri. The first case involved 24 years old primigravida at 34 weeks and 1 day presenting with anhydramnios and fundo-posterior placenta without antenatal imaging features suggestive of PAS. During emergency caesarean section, a hypervascular fundal bulge with deep myometrial invasion was noted, and the placenta could not be separated. Definitive surgery was declined for fertility preservation, and she was referred to a higher centre. The second case describes a 28-year-old, gravida 2 para 0, at 33 weeks and 3 days with recurrent antepartum hemorrhage and placenta previa, without antenatal Doppler features of PAS. Partial separation during emergency caesarean section revealed an adherent posterior placental bed with severe haemorrhage; subtotal caesarean hysterectomy was performed and histopathology confirmed focal placenta accreta. PAS should be considered even in women without classical risk factors or suggestive imaging. Failure to identify a normal cleavage plane must prompt immediately suspicion of PAS and avoidance of forceful placental removal.

Keywords: Placenta accreta spectrum, Unscarred uterus, Placenta previa, Caesarean hysterectomy

INTRODUCTION

Placenta accreta spectrum (PAS) encompasses abnormal placental adherence and invasion into the myometrium, ranging from placenta accreta to placenta increta and placenta percreta.[1] It is associated with potentially life-threatening obstetric haemorrhage and may require massive transfusion, hysterectomy, and multidisciplinary surgical management.[2] Previous caesarean delivery is the most important established risk factor for PAS, and the risk escalating alongside the number of previous caesarean deliveries. Other recognized risk factors include placenta previa, previous uterine surgery or curettage, multiparity and advanced maternal age.[3] Although the underlying pathophysiology remains incompletely understood, several mechanisms have been proposed, including inadequate formation of the decidua, defective remodelling of the maternal uteroplacental vasculature, abnormal trophoblastic penetration, pelvic inflammatory disease or an interplay of these factors.[4] However, the occurrence of PAS in women without previous uterine surgery or instrumentation is well described, indicating that conventional scar-related mechanisms do not account for all cases.[5-7]

Antenatal ultrasound remains the first-line imaging investigation when PAS is suspected. However, PAS cannot be reliably excluded solely on the basis of an unremarkable scan, as sonographic findings may be subtle or absent.[8] The present report describes two contrasting

cases of PAS in women with an unscarred uterus in whom antenatal imaging did not identify specific features of PAS, but abnormal placental invasion was encountered intraoperatively.

CASE REPORTS

Over the course of a single overnight Labour Room emergency, two pregnant women with apparently unscarred uteri presented to our institution as obstetric emergencies and were intraoperatively diagnosed with PAS during caesarean section.

Case 1: Intraoperative diagnosis of FIGO grade 2 PAS in a primigravida with an unscarred uterus

A 24-year-old primigravida at 34 weeks and 1 day of gestation was referred from a primary health centre at midnight with complaints of reduced foetal movements since that morning, alongside a prior diagnosis of anhydramnios. There was no history of leaking or bleeding per vaginum. She was a booked case with an otherwise unremarkable antenatal course. On admission, she was hemodynamically stable.

On abdominal examination, uterine size was consistent in size with 34 weeks of gestation, with cephalic presentation and a foetal heart rate of 110 beats/minute. A 20-minute non-stress test was non-reassuring. Routine laboratory investigations were within normal limits. Her most recent ultrasound examination had a fundo-posterior placenta, grade II maturity and

anhydramnios (nil liquor) without documented features suggestive of PAS; colour Doppler imaging had not been performed.

An emergency lower-segment caesarean section was performed under spinal anaesthesia. A single live female baby was extracted, weighing approximately 2000 gm and cried immediately after birth. Following delivery, no cleavage plane could be established, and the placenta could not be separated. Exteriorisation of the uterus revealed a large, hypervascular placental bulge involving the fundal region near the left cornua and extending across the anterior and posterior muscular walls of the uterine body, with invasion reaching upto serosal surface without frank extrauterine extension (Figure 1). These intraoperative findings were consistent with clinical FIGO grade 2 PAS.[9] The patient and her attendants were counselled regarding the indication for caesarean hysterectomy; however, they declined the definitive surgery to preserve fertility and requested referral to a higher super speciality hospital for multi-disciplinary PAS expertise. Consequently, the placenta was left in situ, a peritoneal drain was placed in the pouch of Douglas, and the abdomen was closed. The patient was transferred in stable condition. Subsequent management records from the referral centre were unavailable to the authors.

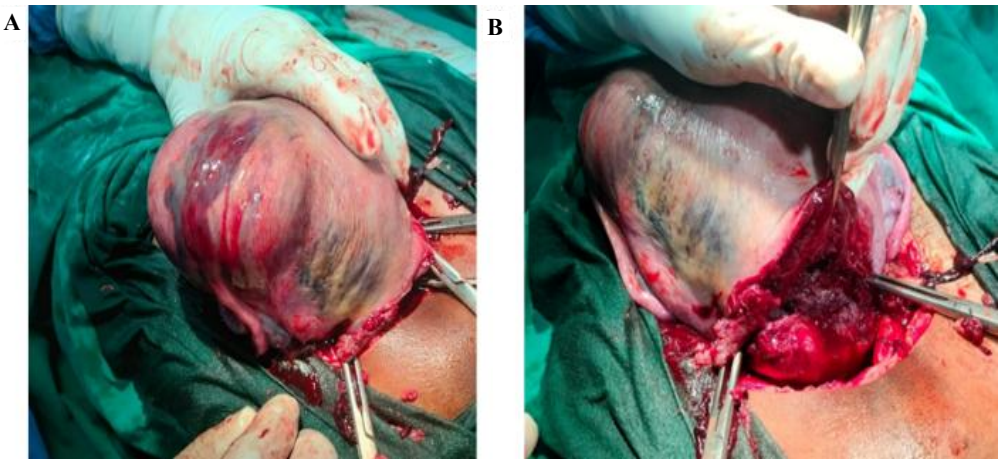


Figure 1 (A and B): Intraoperative appearance of clinically diagnosed FIGO grade 2 placenta accreta spectrum in case 1, demonstrating a hypervascular placental bulge at the left cornua.

Case 2: Intraoperative diagnosis of FIGO grade 1 Focal placenta accreta associated with placenta previa in an unscarred uterus

A 28-year-old woman, gravida 2, para 0, abortion, at 33 weeks and 3 days of gestation was referred with antepartum haemorrhage in a diagnosed case of placenta previa. The obstetric history was notable for a first-trimester spontaneous miscarriage at 9 weeks, managed medically without surgical evacuation or uterine instrumentation. The index pregnancy was uncomplicated until 15 weeks, when ultrasound identified a low-lying placenta covering the internal os. Follow-up scans at 28 and 32 weeks confirmed persistent placenta previa without sonographic or colour Doppler evidence of PAS. She had experienced an episode of warning haemorrhage at 28 weeks, managed conservatively at an outside healthcare facility, followed by mild bleeding per vaginum at 31

weeks requiring brief hospitalisation. She remained asymptomatic for 48 hours and took discharge against medical advice due to family obligations.

At 33 weeks and 3 days, she experienced sudden vaginal passage of a large blood clot (~10 cm) while asleep and presented in emergency. Admission blood investigations revealed moderate anaemia. An emergency caesarean section was performed under spinal anaesthesia, delivering a live male baby, weighing approximately 1700 gm with good Apgar scores. Following delivery, gentle controlled cord traction resulted in partial separation of the placenta anteriorly, while the posterior portion remained firmly adherent. This failure of spontaneous separation raised intraoperative suspicion of focal placenta accreta (FIGO grade 1).

Further traction was abandoned; however, brisk haemorrhage ensued from the partially separated placental bed. General anaesthesia was induced, and an emergency subtotal caesarean hysterectomy was performed (Figure 2). Total estimated intraoperative blood loss was approximately 1500 ml. She received 2 units of packed red blood cells and 2 units of fresh frozen plasma intra-operatively. The patient remained hemodynamically stable and was monitored in the ICU postoperatively, where she was extubated within 6 hours. She was transferred to the high-dependency unit on postoperative day 10. The patient and baby were discharged in satisfactory condition.

Histopathological examination of the hysterectomy specimen demonstrated chorionic villi directly anchored to the myometrium, without an intervening decidual layer, confirming focal placenta accreta.

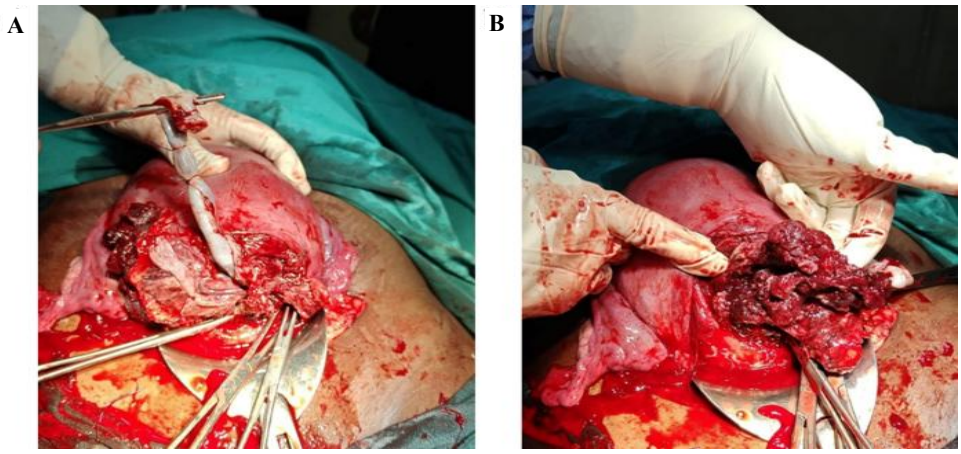


Figure 2 (A and B): Intraoperative appearance of abnormal placental adherence in case 2 and a lack of distinct cleavage plane along the posterior placental bed.

DISCUSSION

PAS comprises a range of abnormal placental attachment and invasion disorders attributed to deficient decidua basalis and impaired development of the Nitabuch layer.[8] While rising caesarean rates drive the overall incidence, other risk factors disrupting the endometrial–myometrial interface include placenta previa, advanced maternal age, multiparity, smoking, and previous uterine surgery or inflammation.[10-12] As demonstrated by our two cases, PAS can unexpectedly develop in an unscarred uterus, presenting distinct diagnostic and intraoperative dilemmas.

A major clinical hurdle is the discordance between antenatal ultrasonography and intraoperative reality. Ultrasound remains the standard screening modality for PAS, relying on markers such as intraplacental lacunae, loss of the retroplacental hypoechoic clear zone, myometrial thinning, placental bulging, hypervascularity at the uterine-bladder interface. However, sonographic sensitivity decreases substantially when abnormal placentation occurs in atypical, non-lower segment regions of uterus.[8,13] In Case 1, the fundo-posterior placenta diverted clinical suspicion away from PAS, and standard two-dimensional evaluation did not prompt targeted Doppler interrogation. Upper segment and posterior PAS are well recognized diagnosed pitfalls because foetal acoustic shadowing frequently obscures subtle sonographic features, and they lack the obvious bladder-uterine interface distortions characteristic of anterior lower-segment disease.[8,9,13,14] Similarly in Case 2, serial scans did not reveal overt PAS features despite known placenta previa. Focal placenta accreta readily escape antenatal detection because a small, patchy area of abnormal myometrial adherence lacks the conspicuous, turbulent vascular lacunae characteristic of diffuse and deeper invasions.[8,15]

When PAS is encountered unexpectedly, the cornerstone of management is the immediate avoidance of forced placental removal to prevent disruption of dilated sub-placental neovessels, catastrophic postpartum haemorrhage, consumptive coagulopathy, and surgical shock.[9,13,16,17] Case 1 highlights the value of intraoperative restraint; upon recognizing an inseparable, hypervascular fundal bulge, the surgical team refrained from attempting

blunt separation, averting severe haemorrhage and facilitating safe closure and transfer. In contrast, Case 2 illustrates the common presentation where abnormal adherence is identified only after cord traction, which leads to partial detachment and brisk haemorrhage. In this setting, rapid escalation to subtotal hysterectomy provides an effective damage-control strategy when the cervix and lower uterine segment are free of invasion, avoiding dissection near the bladder base and ureters in an emergency setting.[9,13,18]

A limitation of this report is the unavailability of post-referral operative and histopathological records for Case 1 leaving the diagnosis of FIGO grade 2 PAS, based solely on macroscopic intraoperative visualization.

CONCLUSION

Placenta accreta spectrum can occur in women with unscarred uterus, including those lacking conventional risk factors or characteristic antenatal imaging findings. During caesarean delivery, failure to establish a normal cleavage plane between the placenta and myometrium should prompt immediate suspicion of PAS and strict avoidance of forceful manual removal of placenta. Early intraoperative recognition, prompt multidisciplinary escalation, and rapid resuscitation are essential to mitigate catastrophic postpartum haemorrhage in such atypical presentations.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Verma K, Singh T, Verma D, Chhabra A. Placenta accreta spectrum in an unscarred uterus: diagnostic challenges and unexpected intraoperative findings in two cases. Int J Reprod Contracept Obstet Gynecol 2026;15:5135-8.