

EARLY IMPLANTATION ADJACENT TO CAESAREAN SCAR AS A PREDICTOR OF OCCULT PLACENTA ACCRETA SPECTRUM DESPITE REASSURING SCANS: A DIAGNOSTIC CHALLENGE

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INTRODUCTION

With increasing rates of Caesarean delivery worldwide, placenta accreta spectrum (PAS) is becoming an increasingly important obstetric challenge. Previous Caesarean section is a major risk factor for PAS, particularly when the placenta implants over or adjacent to the uterine scar. Antenatal diagnosis remains challenging, as sonographic features of placental invasion may be subtle, evolve with advancing gestation, or be absent despite significant pathological disease. The interpretation of placental–myometrial relationships can be further complicated by previous Caesarean section, altered uterine anatomy and placental location. Consequently, apparently reassuring interval imaging does not necessarily exclude clinically significant or occult PAS. Early pregnancy implantation close to a previous Caesarean scar may represent an important marker of abnormal placentation. The relationship between early implantation site and subsequent placental invasion, however, remains incompletely characterised, and the significance of an apparently resolving or reassuring ultrasound appearance later in pregnancy may be difficult to determine.

We present a case of a multiparous patient, who underwent two previous Caesarean sections, in whom early implantation adjacent to the Caesarean scar raised initial concern for Caesarean scar pregnancy, subsequent ultrasound assessments were reassuring, but occult PAS and an anterior uterine wall defect were identified intraoperatively at 31 weeks.

CASE REPORT

BACKGROUND

A 37-year-old G5 P2+3 patient was referred to the Rapid Access Clinic at 6 weeks' gestation. Her obstetric history included a stillbirth at 25 weeks associated with placental pathology, two previous preterm Caesarean sections at 27 and 29 weeks for severe fetal growth restriction both times with estimated fetal weight at 0 centile and placental abruption, including an inverted-T incision, and two early pregnancy losses. The patient had no significant medical history, a negative thrombophilia screen and no evidence of chronic histiocytic intervillitis. Booking BMI was 25.6 kg/m². The patient was a smoker, however, upon confirmation of pregnancy, she reduced daily number of cigarettes from 15 to 3.

EARLY PREGNANCY

At 6 weeks, ultrasound demonstrated a single live intrauterine pregnancy with the gestational sac adjacent to the previous Caesarean scar. The scar measured 5.5 mm and the appearances raised initial concern for Caesarean scar pregnancy (CSP). At 8+5 weeks, the pregnancy was visualised within the fundal aspect of the endometrial cavity. The patient was reviewed on multiple occasions due to vaginal bleeding, however, by 12+5 weeks, ultrasound demonstrated normal appearances for gestation.

ANTENATAL REVIEWS

At 20+4 weeks, the anomaly scan was unremarkable, with an anterior, high left-lateral placenta. However, both uterine artery Doppler PI measurements were >99th centile (mean PI 2.13), prompting increased surveillance.

Serial ultrasound at 22+4, 24 and 26 weeks demonstrated normal fetal growth, liquor volume and Doppler studies, with the placenta described as anterior and high. At 28 weeks, fetal abdominal circumference demonstrated a reduction in growth to the 10th centile. Abnormal Doppler findings were noted, and ultrasound demonstrated an anterior/left-lateral placenta with lacunae at its lower margins and increased vascularity on colour Doppler, raising suspicion of placenta accreta spectrum (PAS). Subsequent assessments at 29–30+4 weeks demonstrated reassuring fetal Dopplers and no visible anterior uterine dehiscence. At 30 weeks, the placenta was described as anterior and high, with no sonographic evidence of invasive placentation.

DELIVERY AND INTRAOPERATIVE FINDINGS

At 31+1 weeks, the patient was admitted with reduced fetal movements and new-onset severe pre-eclampsia. Bedside ultrasound demonstrated an anterior placenta, less than 20 mm from the internal os but not covering it. Emergency Caesarean delivery was performed. Intraoperatively, approximately 2 cm of abnormal placental tissue with prominent neovascularisation was identified within the anterior uterine wall, corresponding to the lower aspect of the previous classical Caesarean scar. A 2 cm anterior uterine wall defect, which was markedly thinned and filled with placental tissue, was identified. The abnormal tissue was excised, leaving macroscopically normal myometrial margins, and sent for histopathological examination. Estimated blood loss was 900 mL. A male infant was delivered at a birthweight corresponding to the 0.40th centile.

ULTRASOUND IMAGING

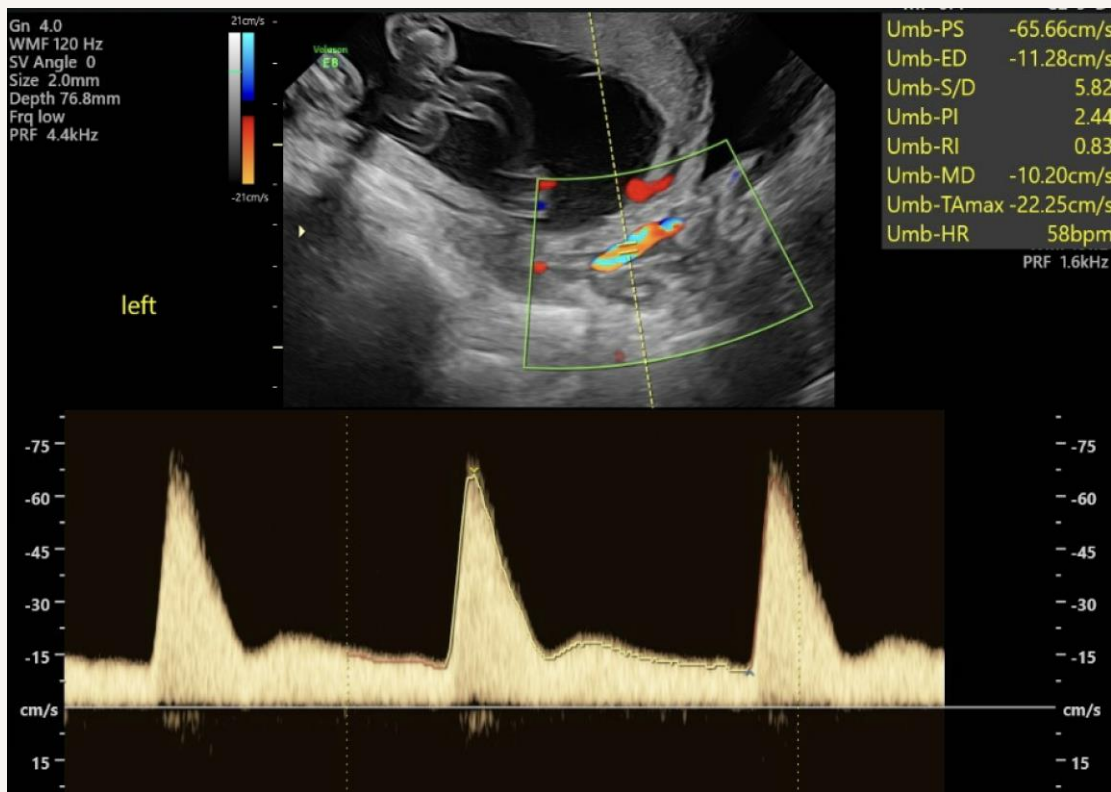


Figure 1. Doppler ultrasound during nuchal scan at 12+5 weeks

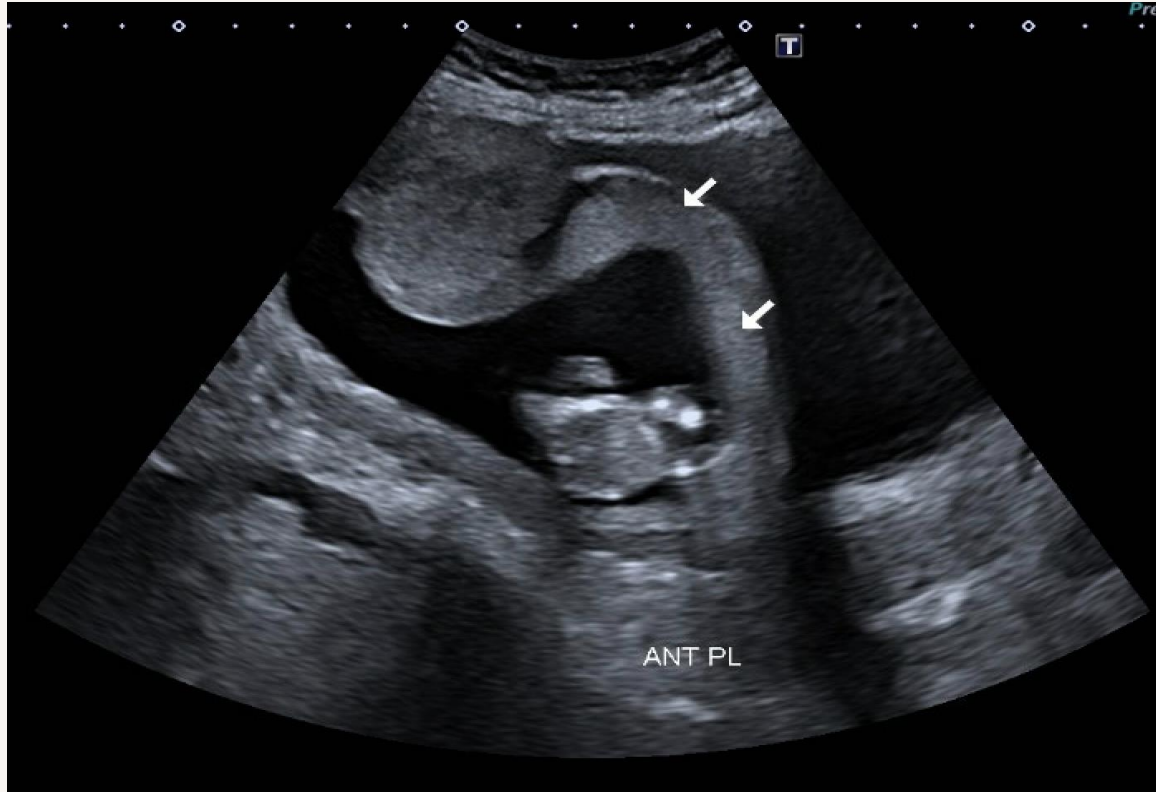


Figure 2. Placental localization at 12+5 weeks

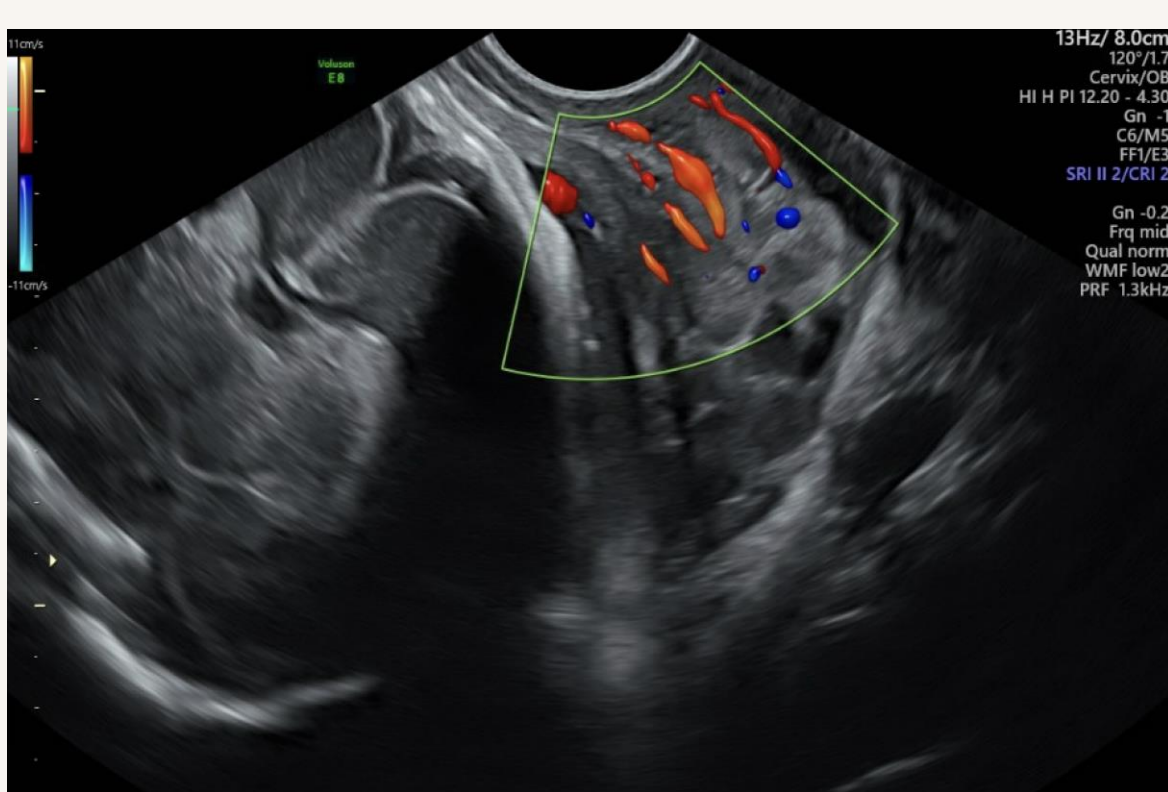


Figure 3. Lacunae with increased vascularity at 28 weeks

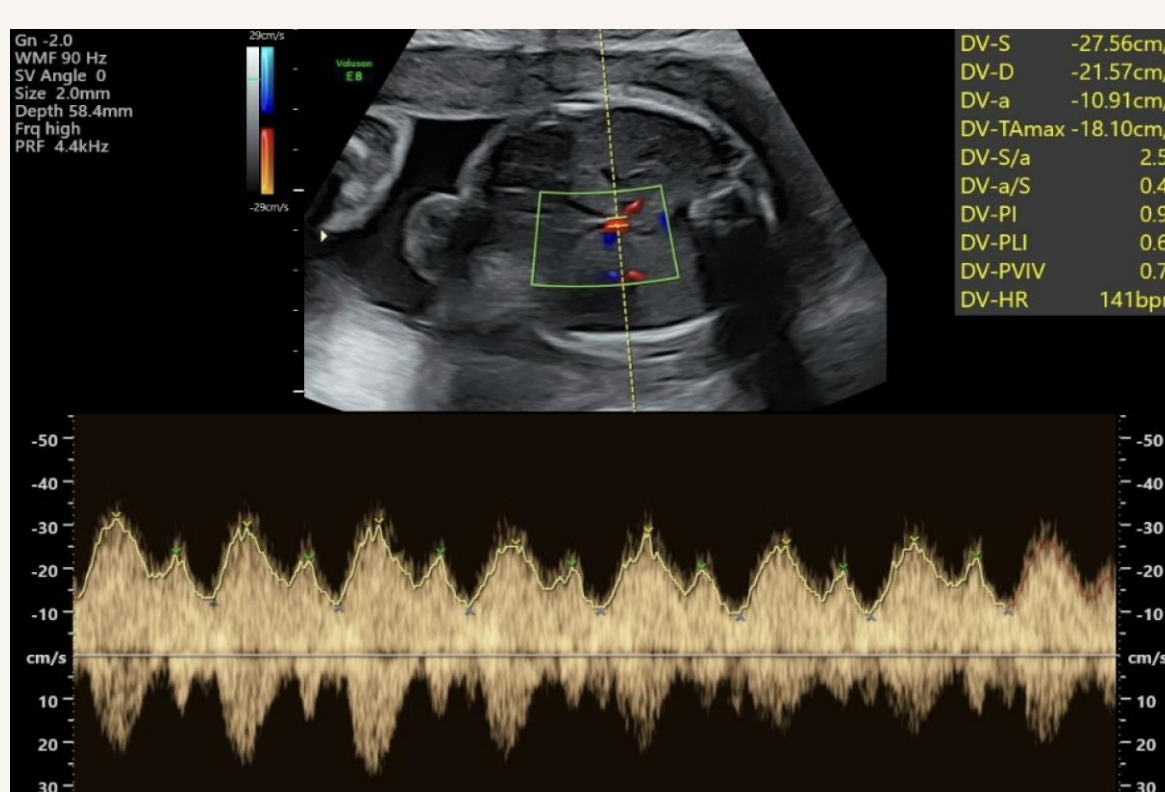


Figure 4. Ductus venosus Doppler at 28 weeks



Figure 5. Placenta anterior high with no evidence of PAS at 30+4 weeks

DISCUSSION

- Early implantation adjacent to a Caesarean scar may be an early marker of abnormal placentation, even when subsequent imaging excludes Caesarean scar pregnancy.
 - PAS can remain occult despite serial reassuring ultrasound, particularly when invasion is focal and sonographic features are subtle or transient. The emergence of placental lacunae and increased vascularity at 28 weeks highlights the evolving nature of PAS-related ultrasound findings.
- Apparent resolution of concerning early implantation should not necessarily eliminate ongoing surveillance for PAS in high-risk patients.
- The case also demonstrates the complex relationship between early pregnancy imaging, CSP and subsequent PAS. Differentiating a pregnancy implanted adjacent to a scar from a true CSP may be challenging, and apparent resolution of concerning early findings should not necessarily eliminate subsequent surveillance for abnormal placentation.

This case demonstrates that occult PAS may occur despite apparently reassuring serial ultrasound assessment. Early implantation adjacent to a previous Caesarean scar may represent an important marker of abnormal placentation, even when subsequent imaging does not demonstrate persistent CSP or definitive features of PAS.

In women with previous Caesarean delivery, particularly those with multiple or complex uterine incisions, early targeted assessment of implantation site and the Caesarean scar may provide an opportunity for earlier PAS risk stratification. A concerning early implantation pattern should potentially prompt continued specialist review throughout pregnancy, even when subsequent scans appear reassuring.