OP19.08 – Evaluation of the tramline sign in the prediction of perioperative outcomes in anterior placenta previa.

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Objectives:
To evaluate the prognostic role of the tramline sign within a selected cohort of women with anterior placenta previa.

Methods:
Retrospective analysis of stored 3D ultrasound (US) volumes collected from women with anterior placenta previa who underwent TA and TV two-dimensional (2D) and 3D US with and without colour Doppler for the evaluation of the placental insertion beyond 32 weeks. 3D and 3D colour volumes were obtained from a sagittal section of the uterus bisecting a partially full bladder and processed using Crystal Vue and Crystal Vue Flow rendering to look for the “tramline sign” as defined by two parallel lines demonstrating the bladder mucosa and the myometrial-placental interface in the sagittal plane. The decision as to whether to plan caesarean hysterectomy was based upon imaging findings and involved MDT discussion in both Units. Postnatal ascertainment of AIP, which included placenta accreta, increta or percreta, was confirmed either intraoperatively or at pathology report.

Results:
Ninety cases were included. An abnormal tramline sign was found in 35 cases (16 partial obliteration of the tramline) and was associated with earlier gestational age at delivery (34 +2 ± 2+3 vs 36+1 ± 1+4, p<0.001), greater estimated blood loss (1697±2480 vs 589±305, p 0.001) with need of blood transfusion (28.6% vs 7.2%, p 0.001) and longer operative time (155±44 vs 59±14, p<0.001). Abnormal tramline sign was also associated with a higher rate of hysterectomy (97.1% vs 3.6%, p<0.001), longer postoperative admission (7.2±2.9 vs 3.4±0.9, p<0.001) and a 100% rate of postnatal diagnosis of AIP. The finding of an abnormal tramline sign identified 34-36 women that required hysterectomy and identified AIP correctly in 35-38 cases.

Conclusions:
Within a population at high risk of AIP, the finding of an abnormal tramline sign is strongly associated with indicators of operative complexity, the postnatal confirmation of AIP and the need for peripartum hysterectomy.