pregnancy outcomes. The current sensitivity and positive predictive value of this association has, however, not yet justified initiation of increased antenatal surveillance in these patients. This study was carried out to identify if 3D placental evaluation enhances the performance of this serum marker as a predictor of adverse pregnancy outcomes.
Methods: 62 patients with PAPP-A levels lower than 0.4 multiples of median (MoM) were evaluated between 11 weeks to 13 weeks 6 days of gestation with 3D power Doppler studies in this prospective study. Placental volume, Vascularisation Index (VI), Flow Index and Vascularisation Flow Index (VFI) were computed with standardised equipment settings and correlated with pregnancy outcomes.
Results: 38 patients had an uneventful pregnancy outcome. 29 of these had normal 3D placental parameters. Of the 24 patients with adverse outcomes 19 had a small volume placenta, impaired 3D placental vascularisation indices or both.
Conclusions: 3D and 3D power Doppler evaluation of the placenta in the late first trimester improves the prediction of adverse outcomes in patients with low PAPP-A levels.

OP25.09
Early fetal growth in malaria infected pregnancies

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Objectives: The aim was to test the hypothesis that there is an association between malaria infection in pregnancy, and fetal growth during the second trimester.
Methods: Malaria infection in pregnancy is associated with lower birthweight at delivery. It is not known when in gestation the fetal growth trajectory is affected. The study was performed in SMRU antenatal clinics on the Thai Burmese border, an area where malaria is endemic. Malaria was diagnosed by peripheral smear. As LMP is not available in these refugee and migrant women, all women attending the ANC have a dating crown–rump length (CRL) ultrasound at their first consultation and a further scan at around 20 weeks of gestation, since 2001. All women with a CRL between 8–13 weeks and with a measurement of Biparietal Diameter (BPD) at around 20 weeks were included in this study. The BPD measurements were transformed to z-scores. The z-score of BPDs were compared between women who had an episode of malaria before the 20 week scan to those who had pregnancies without malaria. Ultrasonographers were unaware of the malaria status of the women.
Results: There were 3970 women who had both scans and a normal singleton baby. Of these 337 (8.5%) had documented malaria infection between the CRL dating scan and the biometry scan. The mean z-score of BPD in women with malaria was significantly smaller than those without malaria in pregnancy, $P < 0.01$. This difference remained after controlling for primigravidity and smoking.
Conclusions: In this retrospective cohort study we have shown that women with malaria in pregnancy have a smaller than expected BPD at 20 weeks when compared to those without this infection. This may suggest that fetal growth restriction seen in malaria can occur in the second trimester. Prospective, longitudinal studies are needed to exclude other sources of confounding and to confirm these findings.

OP25.10
Fetal biometrics, umbilical and uterine artery Doppler studies among malaria infected and not infected pregnant women

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Objectives: Placental malaria contributes to maternal morbidity and low birth weight in malaria endemic countries. Intermittent anti-malarial prophylaxis given twice during pregnancy has been shown to decrease the prevalence of low birth weight newborns. The goal of this study was to determine if uterine and umbilical blood flow is affected by maternal malaria and its growth consequences on the fetus.
Methods: Pregnant women were recruited from Msambweni, Kenya, at the time of first antenatal visit. Patients with known medical disorders contributing to fetal growth restriction, placental dysfunction, and prematurity were excluded. Using a SonoSite 180 Plus ultrasound machine, the uterine and umbilical artery Doppler indices were studied in addition to fetal biometrics. Malaria infection was determined by PCR from maternal blood samples taken at the time of the first clinic visit and at delivery (maternal venous, placental-intervillous, and cord blood). Newborn birth weight, length, and head circumference were measured. Study outcomes were stratified by 3 week gestational age groups and compared in malaria infected vs. not infected women.
Results: 471 women were enrolled. Malaria infection prevalence was ~7%. In 18–23 week gestational age groups, women with malaria had increased umbilical artery PI, RI and S/D ratios compared to women not infected with malaria. This effect was not seen in later gestational age groups. No difference in uterine artery Doppler indices was found between malaria infected and not infected women. Fetuses of malaria infected women had smaller BPD and HC compared to fetuses of not infected women (18–29 week gestational age groups). These fetal growth differences were not detected at birth.
Conclusions: Antenatal malaria infection, especially at earlier gestational ages, affects umbilical blood flow and fetal head growth, a trend that does not continue in later pregnancy and following delivery. Malaria prophylaxis should be encouraged in all pregnant women as early as possible in pregnancy.

OP26: FETAL ANOMALIES: SECOND TRIMESTER

OP26.01
Prenatal diagnosis of trisomy 18 with sonogram index scoring system

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Objectives: To assess the efficacy of prenatal diagnosis of fetal trisomy 18 with the sonogram scoring index system.
Methods: The study included all trisomy 18 fetuses, fetuses with other chromosomal abnormalities and normal karyotypes from Jan. 2004 to Dec. 2009, at a tertiary referral center of prenatal diagnosis. Logistic regression analysis was used to decide the individual sonographic features of trisomy 18. A score was assigned for different sonographic features according to their likelihood ratios. The diagnostic efficacy of the ultrasound scoring index was analyzed by diagnostic test.