Introduction There is some controversy in the literature regarding the outcomes of pregnancies complicated by antepartum bleeding of unknown origin (ABUO).
Objective To explore the risk of adverse maternal and perinatal outcomes in women with ABUO occurring after the first trimester of pregnancy.
Methods Cohort study based on data extracted from the Aberdeen Maternity and Neonatal Databank. The study population was all primigravidae delivering in Aberdeen Maternity Hospital between 1976 and 2010. Exposure was antepartum haemorrhage occurring after the first trimester not attributable to placenta praevia or abruption. Data were analysed using univariate and multivariate statistical methods.
Results Between 1976 and 2010, there were 7,517 women with ABUO and 68,423 women without. Women with ABUO were more likely to be smokers, belong to lower social class and have slightly higher body mass index. Multivariate analysis revealed that non-specific APH was a significant risk factor for induced labour (OR = 1.23, 95% CI = 1.16, 1.31), preterm delivery (OR = 2.30, 95% CI = 2.11, 2.50), postpartum haemorrhage (OR = 1.15, 95% CI = 1.06, 1.25), Apgar score less than 7 at 1 minute (OR = 1.12, 95% CI = 1.05, 1.21), and at 5 minutes (OR = 1.25, 95% CI = 1.04, 1.50). There was no significant association detected with preeclampsia, mode of delivery or perinatal death.
Conclusion Pregnancies complicated by ABUO are at greater risk of delivery related and neonatal adverse outcomes attributable to preterm birth, some of which is iatrogenic.

PP.23 MEASUREMENTS OF AMNIOTIC FLUID: ASSOCIATION AND PREDICTION OF SMALL FOR GESTATIONAL AGE AND COMPROMISE OF FETAL WELLBEING: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Objective Evaluate the strength of association and predictive value of measurements of amniotic fluid volume (AFV) for small for gestational age and compromise of fetal wellbeing.
Design Systematic literature review with random effects meta-analysis to compute summary odds ratios (OR) to assess prognostic association and assess predictive ability with sensitivity, specificity and likelihood ratios. Study characteristics, design, methodological and reporting quality were objectively assessed.
Data Sources and Eligibility Systematic search (inception to October 2011) for studies comparing AFV measures and outcomes of fetal size or wellbeing.
Results 43 studies reporting 244,493 fetuses included. Strong associations between oligohydramnios (heterogenic definition) and birth weight < 10th centile [OR 6.31 (4.15–9.58)] in a high risk population (6 studies, 28510 fetuses), and mortality [Neonatal death OR 8.72 (2.43–31.26) 6 studies, 55735 fetuses, and perinatal mortality in a high risk population OR 11.54 (4.05–32.9) 2 studies, 27891 fetuses] were identified. There was no significant association between oligohydramnios and abnormal cord pH or adverse perinatal outcome.

There was no significant association between polyhydramnios (heterogenic definitions) and poor fetal growth [Birth weight < 10th centile OR 0.37 (0.07–1.95)]. A strong association between polyhydramnios (maximum pool depth > 8 cm or amniotic fluid index ≥ 25 cm) and birth weight > 90th centile [OR 11.41 (7.09–18.36) 1 study, 3960 fetuses] was found. Despite strong associations predictive ability was poor with significant heterogeneity despite subgroup analysis.
Conclusion Oligohydramnios is associated with poor fetal growth and mortality. Polyhydramnios is associated with BW > 90th centile. Despite strong associations, overall predictive ability was poor. MPD accuracy was slightly improved over AFI and is the recommended technique.

PP.24 PLACENTAL VOLUME CAN BE ACCURATELY MEASURED USING TWO- AND THREE-DIMENSIONAL ULTRASOUND NEAR TERM

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Introduction Stillbirth and fetal growth restriction are associated with lower placental weights compared to live, appropriately grown infants. Sonographic measures of placental size have been used to predict later pregnancy complications but have not been related back to true placental size. We aimed to validate measures of placental size in the third trimester of pregnancy.
Methods Ultrasonographic placental examination was performed in 30 singleton pregnancies of 35–42 weeks' gestation within seven days of delivery. Placental length, width and depth were measured using two-dimensional (2D) ultrasound, placental volume was estimated by a novel elliptical model, Kliman placental gas gauge and two three-dimensional (3D) ultrasound techniques (rotational (VOCAL) and slicing methods). Following delivery, the placenta was measured, weighed and volume determined. Sonographic and true placental measures were compared using linear regression.
Results Elliptical (but not Kliman placental gas gauge) 2D and all 3D ultrasound estimates of placental volume each related significantly with true placental volume with similar accuracy (Table 1) but not to placental weight (p > 0.05). VOCAL demonstrated higher accuracy than the elliptical model at the smallest placental volumes.

Abstract PP.24 Table 1

		r^2	p
Ellipse		0.27	0.0033
Kliman placental gas gauge		0.054	0.21
VOCAL	30°	0.31	0.0018
	15°	0.67	0.0042
Slicing	10 mm	0.24	0.0064
	5 mm	0.29	0.0025

Conclusion True placental volume can be accurately predicted using 2D and 3D ultrasound in the third trimester. 3D ultrasound may improve detection of the abnormally small placenta. Further research is required to establish whether this measurement can predict poor pregnancy outcomes related to placental disease.

PP.25 INTERPREGNANCY CHANGES IN MATERNAL WEIGHT AND BODY MASS INDEX

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