trophoblast death (from a baseline of 17.8 ± 2.6% to 30.8 ± 2.7%, p = 0.0068). In normoxic conditions $VEGF_{165}b$ decreased trophoblast death in a dose dependent manner from 33.6% ± 0.6 (control) to 29.2% ± 0.9 with 40 ng/ml $VEGF_{165}b$ to 24.2% ± 3.5 with 80 ng/ml $VEGF_{165}b$, One way ANOVA, p = 0.0019, Dunnett's Multiple Comparison Test.

These findings suggest that $VEGF_{165}b$ deficiency is associated with trophoblast death, $VEGF_{165}b$ supplementation with trophoblast survival This has implications for pre-eclampsia pathophysiology.

PM.23 WITHDRAWN BY AUTHOR

PM.24 QUANTITATIVE FETAL FIBRONECTIN AS A PREDICTOR OF PRETERM BIRTH IN ASYMPTOMATIC WOMEN WITH TRANS-ABDOMINAL CERCLAGE

doi:10.1136/archdischild-2013-303966.107

N Vousden, N Hezelgrave, D Abbott, A Shennan. *Division of Womens Health, Kings College London, Women's Health Academic Centre, Kings Health Partners, London, UK*

Background Preterm birth (PTB) remains a significant cause of neonatal morbidity and mortality. The most accurate predictors of PTB are ultrasound determined cervical length (CL) and fetal fibronectin (fFN). Cervical cerclage in situ gives more false positive fFN results[1] but its value in abdominal cerclage is unknown. The aim of this study is to assess the accuracy of quantitative fFN for prediction of PTB (<34 weeks') in asymptomatic high-risk women with abdominal cerclage.

Method Secondary analysis of quantitative fFN results from EQUIPP study, taken between 20^{+0} and 24^{+6} week' in asymptomatic women referred to specialist antenatal clinics (2010–2012), with a trans-abdominal, elective or ultrasound-indicated (emergency) cervical cerclage.

Results Quantitative fFN may be most accurate for predicting PTB at <34 weeks' in women with abdominal cerclage (AUC 1.0 (95% CI 0.0–1.0), 0.82 (95% CI 0.70 – 0.94) and 0.60 (95% CI 0.45–0.75) respectively). For delivery at <34 weeks' the sensitivity and specificity of fFN testing was lower in women with elective and emergency cervical cerclage compared to women with abdominal cerclage (Table 1). The positive predictive value of the test is similar between groups.

Abstract PM.24 Table 1

Type of Cerclage	Sensitivity	Specificity	NPV	PPV
Abdominal (n = 20)	100%	95%	100%	50%
Elective Cervical (n = 67)	69%	81%	92%	47%
Emergency Cervical (n = 55)	74%	44%	70%	49%

Conclusion Asymptomatic high-risk women with cervical cerclage in situ may have more false positive fFN test than women with an abdominal cerclage. Quantitative fFN is an accurate predictor of PTB in women with abdominal cerclage.

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PM.25 THE IMPACT OF CERVICAL SURGERY ON INTERVENTION AND OUTCOME IN HIGH RISK PREGNANT WOMEN

doi:10.1136/archdischild-2013-303966.108

N Vousden, A Mehdi, D Abbott, A Shennan. *Division of Women's Health, Kings College London, Women's Health Academic Centre, Kings Health Partners, London, UK*

Background A meta-analysis of 27 studies demonstrated that cervical surgery for cervical intraepithelial neoplasia (CIN) was associated with almost two-fold increased risk of preterm birth (PTB)[1]. A more recent epidemiological study has suggested no influence of cervical surgery on risk of PTB[2]. However, rates of intervention were not analysed. The aim of this study was to determine the impact of cervical surgery on intervention and pregnancy outcome in high-risk asymptomatic women.

Methods Analysis of 535 women attending preterm surveillance clinic at St. Thomas' hospital (1997 to 2011) with a history of one or two previous PTB/mid trimester loss. The rates of spontaneous preterm delivery (<37 weeks') and interventions were compared in women with and without destructive cervical surgery (DCS).

Results Previous cervical surgery did not significantly increase the risk of a further PTB (13/47 [28%] with history of DCS vs. 122/488 [25%] with no history of DCS, p = 0.68). Women that had previous DCS were significantly more likely to require an ultrasound indicated cerclage compared to those that had no history of DCS (9/47 [19%] vs. 48/488 [10%] respectively; p < 0.05).

Conclusion In this high-risk cohort, DCS increases the risk of intervention, but not the risk of subsequent PTB. Reports suggesting treatment is not a risk factor need to include effects on intervention[2]. This suggests that cervical surgery may be detrimental to the mechanical function of the cervix and further research to define the role of cerclage in women with prior PTB and DCS is warranted.

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PM.26 QUANTIFICATION OF UTERINE SPIRAL ARTERY TRANSFORMATION FROM 11 – 19 WEEKS GESTATION

doi:10.1136/archdischild-2013-303966.109

[1,2]AL Fisher, [1,2]SC Robson, [1]BA Innes, [1]E Stamp, [1,2]JN Bulmer. *[1]Newcastle university, Newcastle Upon Tyne, UK; [2]Royal Victoria Infirmary, Newcastle Upon Tyne, UK*

Background Uterine spiral artery (SpA) remodelling, characterised by loss of vascular smooth muscle (VSM), is essential for successful placentation; impaired SpA remodelling occurs in late miscarriage, pre-eclampsia and fetal growth restriction. Non-remodelled and completely remodelled SpA are easily identified histologically but identification of partially remodelled SpA is less defined; various stages have been proposed based on semi-quantitative scoring. The aim was to compare semi-quantitative scoring of VSM loss with quantification of VSM.

Methods Placental bed biopsies from women undergoing surgical pregnancy termination were immunostained to assess trophoblast (cytokeratin 7), endothelial cells (factor 8), myometrium and VSM (h-caldesmon, α smooth muscle actin). SpA VSM was scored using 4 categories: SM1 = intact but separated; SM2 = <50% lost; SM3 = 50–90% lost; SM4 = >90% lost. 20 SpA were independently scored by 2 individuals who showed >95% concordance. VSM was also quantified using a computerised pixel counting (using Adobe Photoshop).

Results VSM loss was scored in175 SpA (11–19 weeks gestation) in decidua, junctional zone and myometrium; SM1 = 47; SM2 = 24; SM3 = 35; SM4 = 69. The 4 categories of VSM loss correlated to the quantified VSM loss (analysis of variance $P < 0.001$); differences in VSM % based on pixel counts between groups were confirmed with t tests: mean, standard deviation: SM1 76.76, 12.12; SM2 62.46, 13.03; SM3 38.50, 16.51; SM4 11.28, 12.69; $P < 0.001$ all cases.