Abstracts

8.4 SERUM BETA DEFENSIN CONCENTRATION IN THE FIRST TRIMESTER IS RELATED TO GENOTYPE, AND IS HIGHER IN WOMEN WHO DEVELOP PPROM AND DELIVER BEFORE 34 WEEKS

Lachelin GCL, M Bajaj-Elliott, A Syngeelaki, N Klein, D Nicolaides, DM Peebles. Institute for Women's Health, University College London, London, UK; Institute of Child Health, University College London, London, UK; Harris Birthright Research Centre of Fetal Medicine, King's College Hospital, London, UK

Background Previously we showed that the DEFB1 SNP rs1799946 is associated with PPROM and a four-fold increase in spontaneous preterm birth risk (PTB); rs1047031 may reduce the risk of PTB. This study describes the relationship between DEFB1 genotype, its constituent human beta defensin 1 (hBD1) protein expression and clinical phenotype, and the expression of inducible human beta defensin 2 (hBD2).

Methods Blood was collected at 11–13/40 (n = 400, King's College Hospital 2006–2010) and genotyped for rs1799946 and rs1047031 using KASP (Kompetitive Allele Specific PCR). Serum hBD1 and hBD2 concentrations were determined by ELISA (n = 292). Analyses were by Kruskal-Wallis and Mann-Whitney-U tests.

Results rs1047031 is associated with lower serum hBD1 concentration (p = 0.0200), and rs1799946 with a trend to increased hBD1 concentration (p = 0.0264). Of 292 women with serum samples, 59 delivered <34/40 (28 PPROM, 31 spontaneous). Women with PPROM and PTB <34/40 had higher hBD1 concentrations than those delivering at term (1.15MoM, IQR 0.753–2.12 vs 0.995MoM, IQR 0.739–1.34). Serum hBD1 concentration was negatively correlated with mid-gestation cervical length (r = −0.170, 95% CI −0.326–0.00532, p = 0.0433). Similarly, serum hBD2 concentration is higher in pregnancies with PPROM and PTB <34/40 compared to term birth (1.51MoM, IQR 0.73–3.47, vs 0.94MoM, IQR 0.511–1.55, p = 0.0116).

Conclusion DEFB1 genotype is related to serum hBD1 expression in the first trimester and clinical phenotype. Serum hBD2 expression is higher in women who have PPROM and PTB. Women with PPROM and PTB have a distinct innate immune profile evident in their serum in the first trimester, which may provide the basis for a predictive test.

8.5 COMBINED FETAL FIBRONECTIN AND SALIVA PROGESTERONE MEASUREMENT FOR PREDICTION OF SPONTANEOUS PRETERM BIRTH

1 Carter, N Henegray, P Seed, R Tribe, A David, G Lachelin, A Sherman, L Poston. Guy's and St Thomas' NHS Foundation Trust, London, UK; 2King's College London, London, UK; 3University College London, London, UK

Introduction Low saliva progesterone concentrations are associated with spontaneous preterm birth (SPTB) in high risk women. This study further evaluated the combined use of fetal fibronectin (fFN) and saliva progesterone for SPTB prediction.

Methods A predefined secondary analysis undertaken on a subgroup of women from a prospective cohort (n = 1216) of asymptomatic women at high risk of SPTB. Participants provided at least one saliva sample between 202+6 and 28+6 weeks' and some underwent a qualitative fFN test (Holologic™); positive test results ≥50 ng/ml). Saliva progesterone concentrations were measured by ELISA (Salimetrics™). Primary end point was SPTB or rupture of membranes with delivery before 34 weeks'. Exclusions: women with iatrogenic PTB before 34 weeks' and women on progesterone supplementation or in the OPPTIMUM trial.

Results Overall, 638 women with paired saliva progesterone and fFN results (22+6 and 25+6 weeks') were identified with a SPTB rate <34 weeks' of 4.5%. A saliva progesterone concentration of <280 ng/l was associated with an odds ratio for delivery <34 weeks' of 3.81 (95% CI: 1.34 to 10.83); for fFN, the receiver operating characteristic curve (ROC) area for SPTB <34 weeks' was 0.61 (0.53 to 0.70). Combination of tests improved the ROC area [0.67 (0.56 to 0.78)]. In fFN negative women (n = 583), low saliva progesterone concentrations were associated with greater risk of SPTB <34 weeks' [positive likelihood ratio 3.4 (1.34 to 8.71)].

Conclusions Saliva progesterone measurement may be useful for prediction of SPTB in high risk women as an adjunct to fFN testing.


8.6 THE EVOLUTION OF THE VAGINAL MICROBIOME THROUGHOUT UNCOMPPLICATED PREGNANCY IN A UK POPULATION


Introduction The vaginal microbiome measurement has become an important role in maintaining reproductive health throughout pregnancy. Despite the presence of an ‘abnormal’ vaginal microbial community being associated with an increased risk of preterm birth, interventional trials of antibiotics have failed to demonstrate significant benefit, which is likely due to a poor understanding of the
8.4 Serum beta defensin concentration in the first trimester is related to genotype, and is higher in women who develop PPROM and deliver before 34 weeks

CP James, M Bajaj-Elliott, A Syngelaki, et al.

Arch Dis Child Fetal Neonatal Ed 2014 99: A12
doi: 10.1136/archdischild-2014-306576.33

Updated information and services can be found at:
http://fn.bmj.com/content/99/Suppl_1/A12.1

These include:
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Topic Collections
Articles on similar topics can be found in the following collections
Molecular genetics (29 articles)
Pregnancy (1465 articles)
Reproductive medicine (1383 articles)

Notes