169 SHORT CERVIX IS NOT CHARACTERIZED BY PLACENTAL APOPTOSIS: EXAMINING THE MATERNAL PLASMA FREE FETAL DNA (FFDNS) IN PATIENTS AT RISK FOR PRETERM LABOR

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OBJECTIVE: The association between apoptotic and degenerative changes in the syncytiotrophoblast and the release of ffDNA to the maternal circulation has been demonstrated by in vitro studies under hypoxic conditions. Ischemia is one of the etiopatogenic conditions leading to spontaneous preterm delivery. The objective of this study was to evaluate the capability of ffDNA to increase the accuracy of cervical length in the prediction of preterm labor

STUDY DESIGN: Fifty-seven women with cervical length assessment at 22-24 weeks were included in the study, and divided in 3 groups: 1) Short cervix (<15 mm) delivered at term (T=20); 2) Short cervix delivered before 37 weeks (PT=15); and 3) Patients who delivered at term with normal cervical length (N=22). Maternal plasma samples were collected between 18 to 24 weeks of gestational age. Real-time polymerase chain reaction (PCR) using TaqMan primers and probes directed against DYS14 gene sequences were used to quantified ffDNA in the maternal plasma. Statistical analysis was done using ANOVA test and Pearson's correlation

RESULTS: ffDNA was detectable in almost all cases (56/57). The median gestational age at delivery for group PT and T were 26+1 (range 22-33) and 39+3 (range 37-41) weeks. There was no significant difference between the 3 groups (PT= 11.06 ge/ml; T= 8.24 ge/ml; N=6.71 ge/ml p=0.27). Similarly, no correlation was observed between ffDNA and gestational age at delivery ($r = -0.23$; $p=0.07$)

CONCLUSION: ffDNA is not increased at midtrimester in patients at risk for preterm delivery determined by a short cervix. These findings do not support the role of apoptotic and degenerative changes in the syncytiotrophoblast as a main factor in the triggering of spontaneous preterm delivery

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170 PREGNANCY ASSOCIATED DVT: CAN IT BE USED AS AN INDICATOR OF MATERNAL HEALTHCARE QUALITY?

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OBJECTIVE: Describe pregnancy associated deep vein thrombosis (DVT) and pulmonary embolism (PE) by method of delivery, and evaluate its potential use as an indicator of healthcare quality.

STUDY DESIGN: Using 2003 California discharge data, rates of DVT/PE were calculated for antepartum, delivery, and postpartum discharges at the hospital level. Criteria suggested by Agency for Healthcare Research and Quality was used to evaluate the potential for DVT/PE to be used as a measure of hospital quality--importance, scientific acceptability, usability, and feasibility.

RESULTS: There were 48,015 antepartum admissions, 525,354 delivery discharges, and 17,981 postpartum admissions. Amongst antepartum admissions, there were 139 (0.29%) DVT and 39 (0.12%) cases of PE. There were total of 222 (0.04%) women with delivery associated DVT (180) or PE (42). Women undergoing cesarean delivery were more likely to have DVT/PE as compared to women delivering vaginally (0.09% vs 0.03%)*. Postpartum admissions included 98 (0.55%) and 58 (0.32%) cases of DVT and PE respectively, and were more common among patients with cesarean delivery (0.08% vs. 0.03%)*. The mean rate of DVT/PE for delivery or postpartum admissions by hospital was 0.08% (0% to 1.1%) with 45.5% of hospitals reporting no events. *$p<0.0001$

CONCLUSION: Women undergoing cesarean delivery are more likely to experience DVT/PE. DVT/PE is not a good quality indicator measure. Although clinically important (significant cause of maternal morbidity and mortality), and scientifically acceptable (prophylaxis could impact incidence), the prevalence is low. It is not usable as a measure of hospital quality of care as rates of DVT/PE do not vary significantly by hospital. It is feasible to monitor based on aggregate data reporting, but further validation is needed to determine the reliability of reporting.

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171 MYD88 AND TRIF MEDIATE THE CYCLIC ADENOSINE MONOPHOSPHATE (CAMP) INDUCED CORTICOTROPIN RELEASING HORMONE (CRH) EXPRESSION IN THE PLACENTA

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OBJECTIVE: During pregnancy cAMP mediates the corticotrophin releasing hormone (CRH) expression in the trophoblasts. Since inflammation plays a significant role in the pathogenesis of preterm delivery we examined the role of innate immune signaling molecules MyD88 and TRIF in cAMP-induced CRH expression in trophoblasts.

STUDY DESIGN: We transiently transfected the JEG3 trophoblast cells with CRH-luciferase and b-galactosidase expression vectors and either empty or dominant-negative (DN)-MyD88, DN-TRIF or DN-IRAK2 vectors using Fugene6 (Roche). cAMP-induced CRH promoter expression was assessed by luciferase assay and a luminometer. Colorimetric b-galactosidase assay was performed to correct for transfection efficiency. Luciferase expression vectors of cAMP-downstream molecules, CRE and AP-1, were used to further examine the signaling cascades.

RESULTS: cAMP stimulation induced AP-1 and CRE promoter expression and led to CRH expression in a dose- and time-dependent manner in trophoblasts. DN-MyD88 blocked the cAMP-induced CRE and CRH expression. DN-TRIF blocked the cAMP induced CRH but not CRE expression. DN-IRAK2 did not have an effect on cAMP-induced CRH expression.

CONCLUSION: Innate immune system molecules MyD88 and TRIF regulate cAMP induced CRH expression in the placenta, in the absence of infection. This regulation appears to be high up in the signaling cascade.

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172 ARE EICOSANOIDS A NEW CLASS OF TOCOLYTICS FOR UTERINE TISSUE FROM PREGNANT WOMEN?

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OBJECTIVE: Eicosanoids are derived from arachidonic acid (AA) and emerged as a novel class of smooth muscle tone modulators but, to date, no functional study on pregnant human myometrium has been performed. The aim of this study was to explore the pathway of eicosanoids in pregnant women tissues and the effect of exogenous eicosanoids such as epoxyeicosatrienoic acid (EET) on spontaneous uterine contractile activity.

STUDY DESIGN: Nine uterine biopsies were performed, from consenting women undergoing elective caesarean sections at term. Isometric tension measurements were performed in vitro on fresh human myometrial strips (n=84) in isolated organ baths. After a 2 hour equilibration period, we assessed the effect of AUDA, DDMS, MS-PPOH, 8,9-EET, 14,15-EET or 20-HETE. Contractile activities were quantified by calculating the area under the curve over 20 minute periods. Proteins from myometrium, decidua, fetal membranes and placenta were extracted and separated on SDS-PAGE prior to Western blot analysis. Statistical analysis included paired t-test with $p<0.05$ considered significant.

RESULTS: Our data demonstrated the presence of CYP450 2J2 epoxygenase and soluble Epoxyde Hydrolase (sEH), which respectively produces and degrades EET-regioisomers, in all tested tissues. Addition of 1 μM AUDA ($p=0.006$), which inhibits sEH, had a tocolytic effect, but MS-PPOH, an epoxygenase inhibitor, had no detectable effect. Exogenous 8,9-EET and 14,15-EET (1 to 3 μM) were separately added in the organ bath and significant tocolytic effects on uterine contractile activities were observed. On the other hand, 10 μM DDMS, an ω-hydroxylase inhibitor ($p=0.003$) which prevents the production of 20-HETE from AA, or 20-HETE (3 μM) ($p=0.005$) had also tocolytic effects on contractile activities.

CONCLUSION: Epoxy- and hydroxy-eicosanoids represent new arachidonic acid pathways in pregnant women myometrium and display tocolytic activities. These findings suggest that CYP450 isozymes would represent relevant pharmacological targets under physio-pathological conditions.

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173 WITHDRAWN

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