

Poster Presentations

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Vasopressin, depression, pain & preeclampsia

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Aims: Preeclampsia (PreE) is a prevalent hypertensive disorder of pregnancy leading to a death every minute worldwide. Predictive and preventative challenges in PreE stems from its unclear early-pregnancy etiology. Arginine vasopressin (AVP) secretion, as measured by copeptin, activates the stress response system and is a novel, early pregnancy predictor of PreE. In addition, elevated AVP is associated with stress, depression and pain. Our Precision Healthcare goal is to understand how AVP-associated changes in depression and pain affect the phenotype of PreE to develop preventative and therapeutic

modalities against it. We hypothesize that in humans, antecedent depression and pain affects early pregnancy AVP secretion/copeptin which will be differentially predictive of PreE. To address this hypothesis we aim to 1) determine the association of maternal plasma copeptin and measures of depression and pain throughout human gestation and 2) determine how depression and pain through gestation affects an early pregnancy copeptin based prediction model of preeclampsia.

Methods: This nested case control study will use banked, coded, clinically-annotated maternal plasma from the Iowa Maternal Fetal Tissue Bank

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(MFTB, IRB# 200910784) from pregnant and postpartum women. Copeptin will be measured using a commercial enzyme-linked immunosorbent assay. All clinical data including depression measures (Patient Health Questionnaire-9 and Edinburgh Postnatal Depression Scale) and pain measures (Numeric Rating Scale) will be extracted from Iowa Clinical Data Warehouse associated with the MFTB. Regression modeling and receiver operating characteristic curve analyses will be performed to evaluate the association of copeptin, depression,

pain and PreE.

Results

Research in progress.

Conclusions

Research in progress

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