



University of Pittsburgh

School of Nursing

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Jan. 23, 2017
End of funds report

Dear Mrs. Tsigas,

The Preeclampsia Foundation Vision Grant has been a vital support for our team in conducting the pilot study entitled, "Biomarker Assay Development for Translation of Discovery-based Placental mRNA Candidates to Serum Protein Concentrations in Early Pregnancy to Predict Preeclampsia." Our hypotheses are that 36 candidate genes, identified in first trimester trophoblastic and decidual tissues of women who went on to develop preeclampsia, will encode proteins detectable in maternal circulation.

The Vision Grant began in 2011. We conducted mass spectrometry studies that did not support our hypotheses. Because mass spectrometry is not as sensitive as other methods, we made the decision for to move to Western blots and ELISAs to detect circulating proteins. Western blots were inconsistent; therefore, we directed our funds to immunohistochemistry staining of proteins in archived tissues of first trimester decidua and trophoblast from terminations. Imaging for those slides has been delayed by co-investigators leaving our institution; however, a core lab has the equipment to move ahead.

Data were presented at a podium presentation:
Founds, S. A. (September 19, 2014). Linking Genomic Biomarkers of Preeclampsia with Lifelong Cardiovascular Disease. 2014 State of the Science Congress on Nursing Research: Optimizing Health by Addressing Complexity Council for the Advancement of Nursing Science, Washington, DC.

We published an article about the mass spectrometry and Western blots results:
Founds S, Zeng X, Lykins D, Roberts JM. Developing Potential Candidates of Preclinical Preeclampsia. *Int J Mol Sci*. 2015 Nov 13;16(11):27208-27. doi: 10.3390/ijms161126023.

The final funds have been directed to supplies and ELISA kits to test the most down-regulated candidate gene in maternal circulation. If this product optimizes well, we plan to measure the protein in each trimester of women with and without preeclampsia outcomes.

Thank you for the Vision Grant which has provided extensive support for my preliminary studies.

Sincerely,

A handwritten signature in black ink that reads "Sandra A. Founds".

Dr. Sandra Founds, CNM, FNP
Associate Professor, Health Promotion and Development
Member Magee-Womens Research Institute
c) 412-337-4923