

Title: Genetic determinants of pre-eclampsia in African American women

Faculty Mentor: Dr. Rupam Ruchi, MD

Assistant Professor of Medicine

Division of Nephrology

Email: Rupam.Ruchi@medicine.ufl.edu

Tel number: 248-935-8146

Description:

Background: preeclampsia is significantly more common in African American women than Caucasians, even after adjusting for socio-economic risk factors. It is also common in women who have had pre-eclampsia in their previous pregnancies, indicating some genetic causation.

Hypothesis: APOL1 is highly expressed in placenta. It recently has been associated with kidney disease in African Americans. We want to determine genetic variants in APOL1 gene and study if they predispose to pre-eclampsia in this population.

Methods: We will recruit patients of pre-eclampsia as well as age, race, parity matched healthy AA controls without pre-eclampsia. We will obtain saliva and/or blood and extract their DNA. We will then genotype them with respect to APOL1 gene variants (sequencing as well as SNP genotyping with Taqman). We will look for any association between the genetic variants and pre-eclampsia

Role of Medical Student: the medical student will be involved at all levels, and will learn the basics of conducting translational research, and principles of genetics.

Funding: through division

Relevant Publications:

1. Pregnancy outcomes among African-American patients with systemic lupus erythematosus compared with controls. Barnado A, Wheless L, Meyer AK, Gilkeson GS, Kamen DL. *Lupus Sci Med*. 2014 Apr 22;1(1)
2. Paré E, Parry S, McElrath TF, Pucci D, Newton A, Lim KH. Clinical risk factors for preeclampsia in the 21st century. *Obstet Gynecol*. 2014 Oct;124(4):763-70.
3. Breathett K1, Muhlestein D, Foraker R, Gulati M. Differences in preeclampsia rates between African American and Caucasian women: trends from the National Hospital Discharge Survey. *J Womens Health (Larchmt)*. 2014 Nov;23(11):886-93.
4. Page NM1, Butlin DJ, Lomthaisong K, Lowry PJ. The human apolipoprotein L gene cluster: identification, classification, and sites of distribution. *Genomics*. 2001 May 15;74(1):71-8.