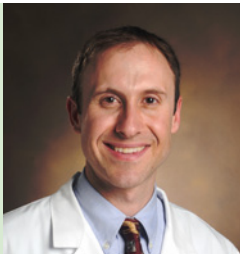
2010 Abstracts



Eric Douglas Austin, MD, MSCI

Vanderbilt University Medical Center
Nashville, Tennessee

Sex Hormone Abnormalities in Pulmonary Arterial Hypertension

Pulmonary arterial hypertension (PAH) is a progressive, fatal disease characterized by increased pulmonary vascular resistance and arterial pressure resulting in right heart failure and rapid death. Most types of PAH, including heritable (HPAH) and idiopathic (IPAH), predominantly affect women for unknown reasons, and our preliminary laboratory data support the central hypothesis that sex hormone variation modifies disease expression in PAH, with metabolites that possess greater estrogenic effects in abundance compared to those with less estrogenic effects. To test our hypothesis, we will determine whether mediators of estrogen and androgen activity are associated with HPAH and IPAH in females and males. We hypothesize that higher estrogen activity (e.g., as represented by a lower ratio of 2-hydroxyestrogens: 16α-hydroxyestrogens) will be associated with increased risk of disease and younger age at diagnosis. We expect this study to confirm and extend the PI's preliminary studies demonstrating altered sex hormone levels in PAH patients, with implications for disease prevention and therapy.