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2015 Part the Cloud Translational Research Funding for Alzheimer's Disease

Mechanistic Potential of Antihypertensives in Preclinical Alzheimer's

This Phase 1b clinical trial will determine if the FDA-approved antihypertensive drug, perindopril, may work by mechanisms other than lowering blood pressure to ultimately reduce Alzheimer's risk in African-Americans.

PI

- Ph.D. in Cognitive Neuroscience, The George Washington University
- Assistant Professor, Neurology, Emory University School of Medicine
- Her research interests include vascular risk factors for Alzheimer's disease and the influence of sex hormones on cognition

Research Category

- Translational Research & Clinical Interventions

Awards

- This is Dr. Wharton's first Association award

There is evidence that reducing high blood pressure can decrease risk for developing Alzheimer's disease. One class of drugs used to lower blood pressure (anti-hypertensives) acts on the renin-angiotensin system (RAS), which is a key regulator of blood pressure in the body and the brain. This class of drug is associated with reduced risk of Alzheimer's in people of European ancestry. However, because these drugs are less effective in lowering blood pressure in African-Americans, they are prescribed less often. The beneficial effects of these drugs in people of European ancestry could be working to reduce Alzheimer's risk by mechanisms other than lowering blood pressure. If true, they could be of advantage to African-Americans as well.

Whitney Wharton, Ph.D., and colleagues have proposed a clinical trial to test the effects of a drug that targets the RAS, called perindopril, in a group of middle-aged African-American individuals who have high blood pressure and a family history of Alzheimer's disease. Perindopril is already being used to treat high blood pressure, so its safety profile is well known. The researchers will determine 1) what dose of perindopril is optimal for modulating RAS activity in the brain and 2) examine the drug's effects on biological changes associated with Alzheimer's disease in the cerebrospinal fluid, which highly reflects changes occurring in the brain. The study will help determine if perindopril may be useful as a treatment to reduce the risk of Alzheimer's disease in African-Americans by its ability to regulate mechanisms involved in the development of Alzheimer's, and not necessarily by its effectiveness in lowering blood pressure.