ADRC Participant Access Request

Access Request Goal

Goal - Formal requst for ADRC data

Principal Investigator

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No Co-PI listed in survey

Study and Theme Details

Hypothesis

1) The functional losses in retinal signaling found one half a lifetime ahead of cognitive decline in mouse models

Specific Aims

SA1: We will quantify the earliest functional and anatomical loss of retinal signaling in the APP/PS1 transgenic mouse and the new AppSAA knock-in model of Alzheimer's disease based on the hypothesis that functional loss due to synaptic disruption will precede histological loss and precede cognitive decline.
SA 2. We will measure ERG b-wave threshold and retinal ganglion cell function in human subjects using both standard and novel ERG, PhNR and PERG parameters, varying check size and contrast. We will compare our functional measures with measures of macular ganglion cell volume (OCT) and superficial capillary bed density (OCTA) in the macular area where volume has been shown to decrease in dementia patients.

Study related to Deep South Disparities

Our test base population will be drawn from the ADRC as representative of the Southeastern population in the US. We will also target Veterans who have a disproportionately high incidence of Alzheimer's and dementia.

Funding and IRB Details

Funding source - Already funded

Entity - NIH funded grant/application

Details - NIA R56AG088642-01

IRB Contact - Yes, we have IRB approval

IRB Protocol # - IRB-300002957

Subject Sample Size and Profile

Sample size by cognitive ability

Normal Controls	20 to 80 depending on years of grant support
Preclinical AD	biomarker positive, cognitively normal 10 to 40
MCI	your definition 10 to 40 subjects

Additional inclusion/exclusion details

Exclusion of the eye-based exams are Glaucome, Diabetes and forms of macular or retinal degeneration.

Racial minorities and other stratifcation

This study does NOT test hypothesis on racial disparities

Additional stratification details

Prior or current military service; record of head trauma or concussion

Requested Resources

Existing data

Demographics	Required
Medical History	Required
Social Determinants	Not needed
Clinical Exam	Required
Cognitive Testing	Required
MRI Values	If available
Amyloid PET Values	If available
Tau PET Values	If available
Raw MRI/PET Image Files	Not needed
CSF	If available
Blood Test	If available
AD Blood Biomarkers	If available
Genetics	If available

Human subject involvement

Study procedures

After informed consent the subjects will wear an eye patch on one eye, while the other is tested by having the subjects focus on an alternating checkerboard pattern, Electrodes will be placed on the earlobes and touching the anesthitized sclera (white of the eye). Then eye that patched will dilated and tests with dim and bright flashes of light. Next the subject will have and OCT (non contact) measure of the retinal image and retinal layers.

Study duration

18

Compensation

$75

Statistical support

Statistician has already been consulted - We are making arrangements with Beard, but are happy to connect with ADR statisticians