Conclusions: In a sample comprised of late-middle-aged individuals, KL-VS heterozygotes showed a diminution of *APOE4*-related alterations in cortical thickness in select regions associated with AD. These findings support the notion that carrying the longevity-promoting haplotype of *KLOTHO* may provide resilience to cortical thinning, specifically in those at increased risk for AD.

O5-01-06 TAU PET IMAGING WITH AV-1451 IN AUTOSOMAL DOMINANT ALZHEIMER'S DISEASE: UPDATE FROM THE DOMINANTLY INHERITED ALZHEIMER NETWORK (DIAN)

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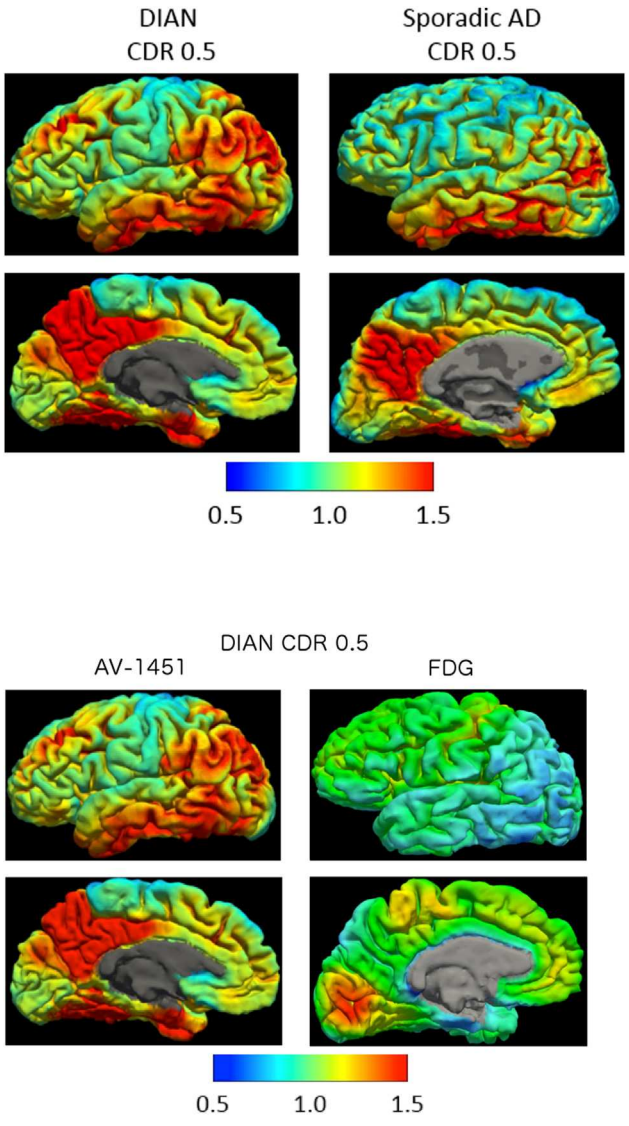
Background: 18F-AV-1451 is a PET tracer used for the evaluation of neurofibrillary tangle pathology *in vivo*. The objective of the current work is to examine the patterns of AV1451 uptake in autosomal dominant Alzheimer's disease (AD), compared to late-onset (LOAD) Alzheimer's disease. **Methods:** Participants in the Dominantly Inherited Alzheimer Network (DIAN) undergoing imaging visits at Washington University during 2015 and 2016 underwent AV1451 tau PET imaging, in addition to MRI and 11C-PiB amyloid and 18F-FDG PET. Comparisons are made between the uptake patterns between the PET tracers in 11 participants. Additionally the patterns of amyloid and tau in DIAN participants are compared to a cohort of 63 participants in a study of LOAD. Standardized uptake value ratios (SUVRs) were obtained from the 80-100 minute post-injection window, using whole cerebellum as the reference region. **Results:** Patterns of tau deposition within the temporal lobe are similar for cognitively impaired participants from DIAN compared to sporadic AD. However, DIAN participants with only mild impairment (Clinical Dementia Rating (CDR) = 0.5) have apparently increased uptake in the precuneus, parietal lobe, and frontal lobes compared to sporadic AD (Figure 1). Glucose hypometabolism in symptomatic DIAN participants is confined to regions of elevated AV1451 uptake (Figure 2). Enrollment is ongoing; additional data is required for full statistical modeling. **Conclusions:** AV1451 uptake in DIAN participants is similar to patterns in sporadic AD, but with apparent greater spread for a given dementia severity. In DIAN participants, regions of FDG hypometabolism are co-localized within regions of elevated AV1451 uptake, which suggests that local metabolic failure is occurring after neurofibrillary tangle formation. Acknowledgements: F18-AV-1451 precursor and technology was supported by Avid Radiopharmaceuticals. Research was funded by the NIH (UF1AG032438) and the Barnes-Jewish Hospital Foundation.



THURSDAY, JULY 28, 2016
ORAL SESSIONS
O5-02
CLINICAL (NEUROPSYCHIATRY AND BEHAVIORAL NEUROLOGY): HIGH-RISK COHORTS — CLINICAL, BIOMARKER AND NEUROPSYCHIATRIC FEATURES

O5-02-01 LONGITUDINAL CLINICAL AND BIOMARKER CHANGES IN DOMINANTLY INHERITED ALZHEIMER'S DISEASE: THE DOMINANTLY INHERITED ALZHEIMER NETWORK

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