Abstracts of papers presented at the 2020 virtual meeting on NEURODEGENERATIVE DISEASES: BIOLOGY & THERAPEUTICS

December 2–December 4, 2020
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NEURODEGENERATIVE DISEASES: BIOLOGY & THERAPEUTICS

December 2–December 4, 2020

Arranged by

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<td>1 Genetics, Genomics and Target Identification in Neurodegenerative Disease</td>
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<td>2 Neuroinflammation and Glial Biology of Neurodegeneration</td>
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*Virtual Icebreaker*, Wednesday, 5:30 pm

*StemCell Technologies Workshop*: Thursday, 5:30 pm (*p. T-1*)

*Closing Social*, Friday, 6:00 pm

All times shown are US EST: *Time Zone Converter*
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LONGITUDINAL ASSESSMENT OF TAU PET IMAGING AND ITS CORRELATION WITH NEUROPATHOLOGY AND CLINICAL SIGNS PROGRESSION.

Laura Vegas-Gomez¹, George A Edwards III², Omar Hasan², Nazaret Gamez², Jonathan Schulz², Claudio Soto², Paul E Schulz², Ines Moreno-Gonzalez¹,²

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Alzheimer’s disease (AD) and other associated dementias remain a consistent and unruly problem for the aging population and health. As the world’s population increases, so does the prevalence of age-related dementias. The neuropathology of AD is characterized by the extracellular deposition of beta-amyloid protein (Aβ) and the formation of intraneuronal neurofibrillary tangles (NFT) composed of hyperphosphorylated tau (p-tau), along with neuroinflammation and neuronal loss that ultimately induces noticeable cognitive impairments. Abnormal p-tau leads to the formation of insoluble, beta-sheet rich amyloid aggregates in tauopathies such as AD. Positron emission tomography (PET) imaging is a promising avenue that may identify tau aggregates in vivo cross-sectionally and longitudinally in various dementia conditions. The goal of this study is to characterize the longitudinal assessment of the tau tracer 18F-THK5351 by in vivo tau PET imaging concomitantly to behavior and tau pathology by histology and biochemistry from 6 to 12 months of age in tau transgenic P301S mice, a mouse model of tauopathies. Our results demonstrate an augmentation of overall gross brain tau pathology by in vivo PET imaging in P301S mice compared to age-matched wild-type (WT) animals accompanied by P301S-model associated pathological tau and phenotypic and behavioral deficits. This longitudinal study provides new insights on the relationship between imaging diagnostic tools, the in vivo neuropathological temporal pattern and the clinical signs observed in animal models of AD that could benefit early disease diagnosis.

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