« In vivo brainstem tau pathology is related to entorhinal amyloid pathology and basal forebrain amyloid and tau pathology in middle-aged healthy participants »

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INTRODUCTION & METHODS

Braak's model of Alzheimer's disease suggests that the initial accumulation of hyperphosphorylated tau is seen in the locus coeruleus (LC). We assessed in cognitively unimpaired individuals, the relationship between tau accumulation in the LC with tau and Aß accumulation in the basal forebrain (BF) and entorhinal cortex (ERC).

65 participants aged 50-70 years were enrolled in a multimodal cross-sectional study. MRI acquisitions were performed on a 3-T scanner (MAGNETOM Prisma, Siemens). PET were performed on an ECAT EXACT+ HR scanner (Siemens). [18F]THK5351-PET was used as a proxy of tau accumulation and Aβ-PET radiotracer was [18F]Flutemetamol.

Masks were used for entorhinal cortex (ERC), basal forebrain (BF) and dorsal meso-pontine tegmentum (DMPT) (comprising LC) to extract Tau and Aβ value in each region.

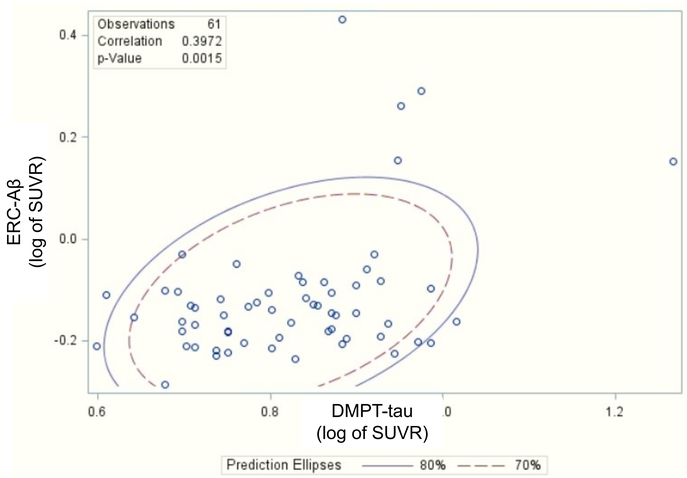
Statistical analyses were performed with SAS 9.4 for Windows (SAS Institute, Cary, NC, USA).

CONCLUSION

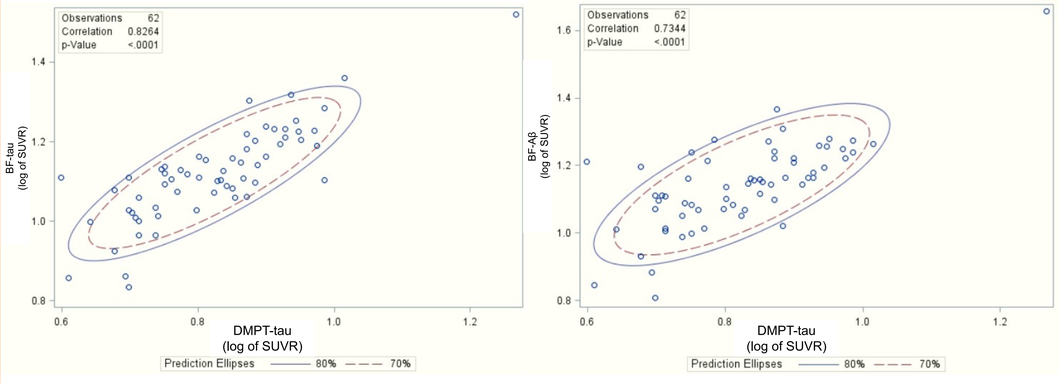
Our results showed a positive correlation between Tau burden in the DMPT and amyloid burden in the ERC, as well as tau and amyloid burden in the BF, in healthy individuals without any cognitive impairment

RESULTS & DISCUSSION

(1) We found direct correlations between DMPT-tau and ERC-Aβ (p<0.005)



(2) We also found direct correlations between DMPT-tau and BF-tau, and between DMPT-tau and BF-Aβ



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