

right, and bilateral precuneus specifically ($p=-.43$, $p=.017$; $p=-.48$, $p=.008$; $p=-.46$, $p=.010$, respectively). No significant associations were found in non-carriers.

Conclusions: These findings suggest that learning curves on an associative memory test may be sensitive to preclinical pathological changes in AD, specifically within the precuneus, a brain region known to be involved in cue reactivity, episodic memory retrieval, and mental imagery strategies. Future studies with larger samples are warranted to further examine associations between the FCSRT learning curves and regional tau accumulation in individuals with ADAD.

Categories: Neurodegenerative Disorders

Keyword 1: dementia - Alzheimer's disease

Keyword 2: test reliability

Keyword 3: cognitive screening

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53 REM Sleep Behavior Disorder in Parkinson's Disease : Longitudinal Effects on Brain Lateralization

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Objective: Laterality of motor symptom onset in Parkinson's disease (PD) is well-known and under-appreciated. It is still unclear though if this laterality might have an influence on other symptoms. Specifically, REM sleep behavior disorder has been shown to be a factor that has a high probability to be lined to PD. In this study we analyzed the longitudinal effect of REM symptomatology on brain lateralization in PD.

Participants and Methods: We used the baseline and 3-year visit data of 116 participants (67 without REM (PD-non-REM), 49 with REM (PD-REM)) aged 37-81 years from the Parkinson's Progression Markers Initiative (PPMI) dataset. Statistical 3T MRI data (cortical thicknesses, areas, foldings of cortical Desikan atlas and volumes of subcortical regions) were obtained via FreeSurfer 7.1.1. Lateralization was

computed using the formula: (left-right) / (left+right). Mixed ANOVAs were performed on each region of interest.

Results: Our findings showed an increased right asymmetry of the paracentral lobule area and of the pars orbitalis area and volume in PD-REM. There was a reduced right asymmetry of the parietal inferior volume at baseline in PD-REM, whereas REM symptomatology had a stable effect at the 3 years visit. At baseline, there was an increased left asymmetry of the thickness of the caudal anterior cingulate, pars orbitalis and pars triangularis regions in PD-REM. After 3 years, there was an increased right asymmetry in those regions. The precentral, frontal superior and transversal temporal gyri showed inverse results: an increased right asymmetry of the thickness at baseline and an increased left asymmetry after 3 years. Finally, REM symptomatology is associated with more significant increases of the left asymmetry of the frontal superior gyrus volume and of the right asymmetry of the supramarginal gyrus volume after 3 years than at baseline.

Conclusions: These results provide evidence of the modulating effect of the disease progression on the relationship between REM symptoms and brain lateralization in PD.

Categories: Neurodegenerative Disorders

Keyword 1: Parkinson's disease

Keyword 2: laterality

Keyword 3: sleep disorders

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54 Sleep and Circadian Rhythms in Premanifest Huntington's disease: Relationship with Cognition

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Objective: Huntington's disease (HD) is a neurodegenerative disease characterised by motor, psychiatric and cognitive decline. Currently, no treatments have been identified in HD for slowing down cognitive decline or improving cognitive function. We are interested in identifying potentially modifiable factors in HD that can be targeted to improve or maintain