Objective: The intrinsic connectivity networks mostly affected in Alzheimer's disease (AD) are the default mode (DMN) and salience networks (SN). The capacity of the functional connectivity (FC) changes in these networks in differentiating subjective cognitive impairment (SCI), earliest stage of cognitive decline along the AD continuum, from objectively diagnosed mild cognitive impairment (MCI) is not yet shown. Therefore, we investigated FC changes in DMN and SN among SCI, MCI and AD dementia (ADD) groups.

Methods: Resting-state fMRI data of 88 participants (21 ADD, 34 MCI, 33 SCI) were collected with 3T MRI scanner. FC of 11 regions of interest (ROI) corresponding to DMN and SN nodes were analysed using CONN-toolbox (https://web.conn-toolbox.org/). Cluster level significance threshold in the F test among the 3 groups was set at p(FWE-corr) <0.0045 (Bonferroni corrected according to number of ROIs). For ROIs with significant difference in the F test, t-tests were performed between pairs of groups, and results with p(FWE-corr) <0.017 were reported.

Results: In ADD compared to both MCI and SCI, FC of posterior cingulate cortex node of DMN with temporal and occipital cortices, FC of anterior cingulate cortex (ACC) node of SN with right insula and temporal cortices and FC of right and left anterior insula nodes of SN with ACC significantly decreased. Additionally, for ADD vs MCI comparison, FC of left anterior insula node of SN with the right insula, and for ADD vs SCI comparison, FC of the right and left anterior insula nodes of SN with the supplementary motor area were reduced.

Conclusion: The findings reveal that the FC changes of DMN and SN in AD continuum occur in the advanced stages of the disease with no distinctive change between SCI and MCI stages.

Keywords: Alzheimer's disease, default mode network, salience network, functional connectivity, magnetic resonance imaging

SS3-A05

Comparing short-term memory, working memory and executive functions among patients with relapsing remitting multiple sclerosis and healthy individuals

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Objective: Multiple sclerosis causes physical and cognitive impairments. However, the studies conducted to evaluate the cognitive functions of MS patients had controversial findings. The aim of the current study was to compare the short-term memory, working memory and executive functions of patients with Relapsing Remitting Multiple Sclerosis (RRMS) and healthy individuals.

Methods: The sample of the study consisted of 25 RRMS patients and 25 healthy participants. The groups were matched for age, gender, education level and hand preference. Data were collected through self-report questionnaires and neuropsychological tests including "Demographic Information Form", "Visual Aural Digit Span Test B Form", "Wisconsin Card Sorting Test (WCST)", "Backward Digit Span Task", "Stroop Test T-BAG Form", "WMS-R: Visual Memory Span Subtest", and "Trail Making Test (TMT)".

Results: The analysis showed that RRMS patients made less conceptual level responses (WCST) than healthy individuals (U=192.50, Z=-1.97, p<.05). The RRMS patients were also slower than healthy individuals in terms of TMT part A (U=91.50, Z=-2.60, p<.01) and Stroop Test T-BAG Form Part 3 (U=200.50, Z=-2.20, p<.05). Furthermore, RRMS patients' forward visual memory span (U=179.50, Z=-2.69, p<.01) and backward visual memory span (U=174.50, Z=-2.82, p<.01) which were obtained from WMS-R Visual Memory Subtest were lower than healthy individuals

Conclusion: The results showed that visuo-spatial short-term and working memory spans of the RRMS patients were significantly lower than healthy individuals. However, verbal short-term and working memory spans did not differ significantly from healthy individuals. When the results obtained from the tests that are sensitive to executive functions were examined, it was seen that the RRMS group had significantly lower conceptualization skills compared to the control group, while there was no significant difference between the groups in terms of perseveration, inhibition and set shifting skills.

Keywords: multiple sclerosis, short-term memory, working memory, executive functions, neuropsychological assessment

SS3-A06

Regenerative capacity of mesenchymal stem cells in peripheral nerve injury crush model

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Objective: Current study aimed to elucidate the regenerative capacity of mesenchymal stem cells (MSC) in a peripheral nerve crush model.

Methods: Study design was composed of control (n=7), crush (n=7), crush + MSC (treatment) (n=7) groups. Sciatic nerve crush injury model was established in adult male mice. Bone marrow-derived MSC (800,000 cells) was administered to the