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## Different influences of CADASIL pathologies on cognitive function and quality of life

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The purpose of this study is to investigate the effects of three major neuroimaging markers of Cerebral Autosomal Dominant Arteriopathy with subcortical infarcts and Leukoencephalopathy (CADASIL) on cognition and Quality of Life (QoL). 84 participants with CADASIL completed the comprehensive clinical evaluation including 3T MRI and genotyping of NOTCH3. WMH volume was calculated using volumes were measure by a fully automated monospectral segmentation method using FLAIR MRIs. Neurocognitive function was evaluated using CERAD-K neuropsychological assessment battery (CERAD-NP) and quality of life was measured using the Short Form 36 Health Survey Questionnaire (SF-36). Greater WMH volume had a negative impact on 8 neurocognitive tests ( $p < 0.05$ ; t-test) in CERAD-NP except constructional praxis. The number of lacunar infarctions was associated with poor performance of MMSE-KC ( $p < 0.05$ ; t-test) only and the number of CMBs was not related to any neurocognitive test scores. WMH volume was negatively associated with Physical Function (PF), role limitations, Vitality (VT), Mental Health (MH), Physical Component Score (PCS) and the mental component score. The number of lacunar infarction was only related to poor PF ( $p < 0.05$ ; t-test). The number of CMB was associated with the lower scores of quality of life, especially in general health, VT, MH and PCS. WMH volume [Odds Ratio (OR): 1.03; 95% Confidence Interval (CI): 1.007-1.060] in patients with CADASIL was associated with dementia, indicating that for every 1 ml of WMH volume, the risk of depressive disorder increased by 3%. WMH volume has the most significant effect on both cognitive function and quality of life.

### Biography

Joon Hyuk Park has completed his PhD from Seoul National University, Republic of Korea. He is an Associate Professor at Jeju National University, School of Medicine and the Director of Jeju Province Dementia Center. His research interests include epidemiology of dementia, BPSD and vascular depression and has published more than 50 papers in reputed journals.

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