

# Renin-angiotensin system blockers affect cognitive decline in Parkinson's disease: The PPMI dataset

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*Objective:* To explore the potential clinical effects of renin-angiotensin system blocker (RASB, angiotensin II receptor blockers (ARBs) and angiotensin-converting enzyme inhibitors (ACEIs)) in patients from the Parkinson's Progress Marker Initiative (PPMI) study database.

*Methods:* One hundred and seven untreated, newly diagnosed PD patients with hypertension, from the PPMI were included. We measured cognitive performance, biomarkers in CSF, and magnetic resonance imaging (MRI) during the five follow-up years for patients exposed or not to renal-angiotensin system blockers. Sixteen PD patients with hypertension underwent [18F]florbetaben positron emission tomography (PET) scanning. SUVRs of region of interest (ROI) were calculated and compared within different groups.

*Result:* Treatment with ARBs but not ACEIs improved global cognitive function evaluated by MoCA score in PD patients with hypertension compared to other hypertensive medicines up to 5 years follow up. Specifically, ARBs improved visuospatial, memory, executive abilities, processing speed attention test scores in PD. There was no significant impact of ARBs on  $\alpha$ -syn, tau, A $\beta$  in CSF. RASBs reduced [18F] florbetaben uptake in cortex and subcortex nuclei in the brain.

*Conclusions:* These results show potential protective effect with ARBs in cognitive impairment of parkinson's disease with hypertension.

Keywords : parkinson's disease, renin-angiotensin system, angiotensin receptor antagonists(ARBs), angiotensin converting enzyme inhibitors(ACEIs), cognition, CSF biomarker, 18F florbetaben PET scan

**Biography:**

Dr. Lijuan Wang has her expertise in evaluation and passion in improving the health and wellbeing. She is a professor at the university of Southern Medical University. Her research focuses on identifying key pathogenesis in Parkinson's disease. Identification of these pathogenesis may allow cure of the parkinson's disease in the future.



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