

Abstract

Cerebellar morphologic and functional MRI measures as a biomarker of cognitive impairment in Parkinson disease.

Baijayanta Maiti, MD, PhD

Dementia occurs in up to 80% of Parkinson disease (PD) patients and significantly adds to morbidity and mortality. A major portion of the human cerebellum functionally relates to the association cortex and involves cognition. The spatiotemporal pattern of early PD pathology could disrupt these functional connections leading to cognitive impairment. The proposed study will utilize morphometric and optimized resting state functional connectivity MRI (rs-fcMRI) measures to explore the pathophysiologic role of cerebellum in cognitive impairment in PD. We will also investigate the correlation of cerebellar connectivity with two key non-amnesic cognitive subdomain functions, namely the executive and visuospatial functions, with varied temporal patterns of involvement in PD. The study aims to establish the importance of cerebellum as a target for an imaging biomarker in PD.