

REM sleep behavior disorder should be considered as a precursor and marker of synucleinopathies and promote therapeutic intervention

T. Gurevich

Movement Disorders Unit, Neurological Institute, Tel Aviv Medical Center, Sackler School of Medicine, Sagol School of Neuroscience, Tel Aviv University, Israel

Initially, REM sleep behavior disorder (RBD) was felt to be idiopathic clinical entity. Revolutionary observation of Schenck et al in 1996 that individuals initially diagnosed with RBD eventually developed Parkinson's disease (PD) paved the way to the long line of research that demonstrated that idiopathic RBD represents the premotor stage of PD and other alpha-synucleinopathies, which is going along with the Braak's theory of rostral propagation of neurodegeneration beginning in the brainstem. Synucleinopathy was found to be the underlying pathology on the autopsy of 94% of RBD patients in the largest pathological study. Longitudinal cohort studies have shown that up to 90% of patients with RBD are eventually diagnosed with PD, dementia with Lewy bodies, or multiple system atrophy. The majority of idiopathic RBD patients meet the criteria for prodromal PD and possess additional biomarkers of synucleinopathy. In view of the fact that RBD is the earliest known symptom of neurodegeneration and carries a pronounced risk of full-blown clinical syndrome of synucleinopathy development, along with the evidence that disease-modifying interventions may be more successful if applied at the earliest stage of disease, therapeutic interventions must be implemented during the stage of idiopathic RBD (prodromal alpha-synucleinopathy), before irreversible damage appears. As Dr. James Parkinson noted, "It is obvious, that the chance of obtaining relief will depend in a great measure on the period at which the means are employed. As in every other disease, so here, the earlier the remedies are resorted to, the greater will be the probability of success".