Abstract Information

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Participation :	symposium
Title of the Symposium :	An update in the pathophysiology of the non-motor symptoms in Parkinson?s disease
Category :	Academic/Researcher
Thematic Area :	Neurodegeneration, Neuroplasticity, and Repair
Title :	The role of motivational deficits in sleep/wake disorders in PD
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Abstract :

Sleep/wake alterations are predominant in neurological and neuropsychiatric disorders involving dopamine dysfunction. Unfortunately, specific, mechanisms-based therapies for these debilitating sleep problems are currently lacking. The pathophysiological mechanisms of sleep/wake alterations within a hypodopaminergic MitoPark mouse model of Parkinson?s disease (PD) are investigated. MitoPark mice replicate most PD-related sleep alterations, including sleep fragmentation, hypersomnia, and daytime

sleepiness. Surprisingly, these alterations are not accounted for by a

dysfunction in the circadian or homeostatic regulatory processes of sleep, nor by acute masking effects of light or darkness. Rather, the sleep phenotype is linked with the impairment of instrumental arousal and sleep modulation by behavioral valence. These alterations correlate with changes in high-theta (8?11.5 Hz) electroencephalogram power density during motivationally-charged wakefulness. These results demonstrate that sleep/wake alterations induced by dopamine dysfunction are mediated by impaired modulation of sleep by motivational valence and provide translational insights into sleep problems associated with disorders linked to dopamine dysfunction.