SPECIAL ISSUE FOR CURRENT ALZHEIMER RESEARCH (CAR)

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CHRONOTHERAPEUTICS IN NEURODEGENERATIVE DISORDERS

Aims & Scope
Nighttime agitation is frequent in patients suffering from neurodegenerative disorders such as Alzheimer disease and / or synucleinopathy. In Alzheimer nighttime disturbances are thought to be circadian rhythm disturbances. These disturbances cause exhaustion in the caregivers because of poor sleep. Exhaustion is considered the number one reason for longterm institutionalization of these patients. Thus, circadian rhythm behavior in Alzheimer’s patients is of utmost importance. REM-sleep behavior disorder is considered of being a prodromal state in synucleinopathies. Here the outacting of dreams often cause injuries to the patients or the partners sleeping nearby.

The two chronotherapeutics light and melatonin - as the signal of darkness - show beneficial effects in neurodegenerative disorders. Both lack serious side effects. Still, especially with respect to light in demented patients reports are inconsistent. One of the major reasons is the emerging picture of complexity with many interrelations on the effects of light on human health. Since the discovery of melanopsin and description of his melatonin action spectrum some ten years ago, a tremendous amount of new data on the topic has been reported. It is clear that light has a pivotal influence on human performance, well-being and health.

This theme issue collects aspects on circadian rhythm disturbances in neurodegenerative disorders. Besides one review on the historical background on the effects of light in Alzheimer’s patients six original studies will be presented on the effects of light and melatonin in neurodegenerative disorders. Different study design lead to divergent results. In an editorial the current stage of knowledge is discussed. The goal was to come up with some practical advices on how to treat these patients with light and melatonin which both have low side effect.

Key words:
Circadian Behavior, Sleep, Alzheimer’s disease, Parkinson’s disease, REM-Sleep Behavior Disorder, Tauopathy, Synucleinopathy, Light, Melatonin.

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