SLEEP DEPRIVATION IN PARKINSON’S DISEASE: BRAZIL AND UNITED KINGDOM RESEARCH NETWORK

https://neurodegenerationresearch.eu/survey/sleep-deprivation-in-parkinsons-disease-brazil-and-united-kingdom-research-network/

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Country

United Kingdom

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SLEEP DEPRIVATION IN PARKINSON'S DISEASE: BRAZIL AND UNITED KINGDOM RESEARCH NETWORK

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MRC

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1

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Research Abstract
Parkinson’s disease (PD) is the second most common neurodegenerative disease, afflicting about 1% of people over 65 years and 4-5% of people over 85 years. The major clinical features include asymmetric onset of bradykinesia, rigidity, rest tremor and disturbances in balance. PD patients also experience prodromal, non-motor features, such as sleep disorders (insomnia, restless legs and periodic limb movements, rapid eye movement (REM) sleep behaviour

disorder, excessive daytime sleepiness) and neuropsychiatric symptoms (depression, anxiety, apathy). Sleep disturbances and metabolic alterations may thus precede the cardinal motor features of PD by many years, and have been considered as early biomarkers of the premotor phase of PD. Accordingly, the overall aim of the present project is to investigate the behavioural, neurochemical and metabolic changes following chronic partial sleep deprivation in an animal model of PD. We hypothesise that sleep deprivation will produce cognitive deficits, neurochemical and metabolic disruption. Control and PD rats will be sleep deprived by “gentle stimulation” made by tapping or gentle shaking of the cage whenever drowsiness or attempts to engage in a sleeping posture are observed (from 7:00 to 13:00 h daily, totally 6 h of sleep deprivation per day during 21 days). The animals will be kept undisturbed from 13:00-07:00 h, totally 18 h/day sleep recovery. Hence, this protocol is consistent with a chronic sleep restriction procedure that is similar to the sleep restriction experienced in our society today. Behavioural testing will be conducted in the open-field and object recognition tests for analysis of motor and cognitive parameters. Blood, urine and brain samples will be collected and analysed by capillary electrophoresis with laser-induced detection (LIF) (neurochemical analysis) and targeted liquid chromatography/mass spectrometry (LC/MS) and NMR metabolomics analysis.

Further information available at:

Types:
Investments < €500k

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