A sleep electroencephalography biomarker predicting Alzheimers disease pathology

https://neurodegenerationresearch.eu/survey/a-sleep-electroencephalography-biomarker-predicting-alzheimers-disease-pathology/

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Country

USA

Title of project or programme

A sleep electroencephalography biomarker predicting Alzheimers disease pathology

Source of funding information

NIH (NIA)

Total sum awarded (Euro)

€ 3,781,926.61

Start date of award

15/07/2016

Total duration of award in years

1

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Acquired Cognitive Impairment... Aging... Alzheimer's Disease... Alzheimer's Disease including Alzheimer's Disease Related Dementias (AD/ADRD)... Behavioral and Social Science... Brain Disorders... Clinical Research... Clinical Research - Extramural... Dementia... Neurodegenerative... Neurosciences... Prevention... Sleep Research

Research Abstract

Project Summary/Abstract: Early biomarkers of Alzheimer's disease are urgently required for at least three reasons: (i) to determine which individuals are at greatest Alzheimer's disease risk, thereby (ii) offering preventative intervention, pre-disease onset, and (iii) further allowing nascent treatment intervention as early as possible in the disease process. All three goals demand a sensitive, non-invasive, affordable, accessible biomarker of Alzheimer's disease pathology/progression. Addressing these needs, we propose to test the hypothesis that a unique NREM sleep EEG signature provides a candidate early biomarker of A? pathology, one that may accurately track and forecast Alzheimer's disease risk and Alzheimer's disease pathophysiological progression. If correct, the proposal would establish a novel, inexpensive, and early diagnostic tool for determining Alzheimer's disease risk and pathology progression before clinical symptoms emerge, and one that is suitable for community settings. Moreover, such data would motivate an increased medical awareness regarding the importance of treating sleep difficulties across the lifespan, and further motivate the development (clinical or commercial) of sleep-based interventions that improve adult sleep and thus reduce Alzheimer's disease prevalence and its societal burden. More generally, such findings would argue for improved public health policies advocating for sufficient quality sleep throughout adulthood—a memorandum that may lower dementia risk and maintain cognitive health across the populous.

Lay Summary
Project Narrative: This proposal seeks to determine whether a unique NREM sleep EEG signature provides a candidate early biomarker of A? pathology, one that may accurately track and forecast Alzheimer's disease risk and Alzheimer's disease pathophysiological progression. The goals of the proposal are to therefore establish a novel, inexpensive, and early diagnostic tool for determining Alzheimer's disease risk and pathology progression before clinical symptoms emerge, and one that is suitable for community settings.

Further information available at:

Types:
Investments > €500k

Member States:
United States of America

Diseases:
Alzheimer's disease & other dementias

Years:
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N/A

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