Metabolomics and risk of Parkinsons Disease

https://www.neurodegenerationresearch.eu/survey/metabolomics-and-risk-of-parkinsons-disease/

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Country

USA

Title of project or programme

Metabolomics and risk of Parkinsons Disease

Source of funding information

NIH (NINDS)

Total sum awarded (Euro)

€ 2,666,689.91

Start date of award

01/09/2015

Total duration of award in years

4

The project/programme is most relevant to:

Parkinson's disease & PD-related disorders

Keywords

metabolomics, Parkinson Disease, Urate, Risk, Blood specimen

Research Abstract
? DESCRIPTION (provided by applicant): Parkinson disease (PD) is the second most common neurodegenerative disease in the United States and affects over one million Americans; this number is growing due to population aging. Current treatments do not prevent the disease progression that ultimately results in severe disability. There is thus a compelling need to develop neuroprotective treatments. Because at the time of the clinical diagnosis of PD there is

already substantial neuronal loss, such treatments should ideally be initiated earlier. Aims of the proposed investigation are to implement and validate a novel metabolomic approach for the identification of early changes in peripheral blood of individuals with preclinical or premotor PD. The metabolomic results will be integrated with detailed and validated information on risk factors for PD, which has been collected prospectively and periodically updated. We expect by this means to identify new clues to the etiology of PD and to identify a metabolomic signature of PD that could contribute to an early diagnosis. To achieve these goals, we will take advantage of data and blood samples collected from over 80,000 participants in three large ongoing cohorts, the Nurses' Health Study (NHS), the Health Professional Follow-up Study (HPFS), and the Cancer Prevention Study-II Nutrition, who have been followed for over 25 years for incident Parkinson disease. We expect to include a total of 805 incident cases of PD that will be matched to 805 controls, using a nested case-control design.

Lay Summary
PUBLIC HEALTH RELEVANCE: Parkinson disease is a chronic progressive disease for which there is no cure – the loss of brain cells that leads to disability develops insidiously over many years, and by the time the disease is diagnosed it is already extensive and irreversible. To identify Parkinson disease years before it becomes clinically manifest, we are proposing a novel approach that will take advantage of the peripheral blood and detailed lifestyle and medical information collected from over 80,000 individuals who were followed for up to 25 years. By comparing the blood levels of hundreds of compounds between the blood of individuals who developed Parkinson disease and the blood of individuals of the same age and sex who remained healthy, we expect to make novel discoveries on the etiology of Parkinson disease and to be able to develop a method for the early identification of Parkinson disease in other populations.

Further information available at:

Types:
Investments > €500k

Member States:
United States of America

Diseases:
Parkinson's disease & PD-related disorders

Years:
2016

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N/A

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