

New biomarkers for Alzheimer's & Parkinson's diseases – key tools for early diagnosis and drug development

<https://www.neurodegenerationresearch.eu/survey/new-biomarkers-for-alzheimer%20s-parkinson%20s-diseases-key-tools-for-early-diagnosis-and-drug-development/>

Principal Investigators

Institution

Contact information of lead PI

Country

European Commission

Title of project or programme

New biomarkers for Alzheimer's & Parkinson's diseases - key tools for early diagnosis and drug development

Source of funding information

European Commission FP7-Seventh Framework Programme

Total sum awarded (Euro)

€ 1,500,000

Start date of award

01/06/2013

Total duration of award in years

5.0

The project/programme is most relevant to:

Alzheimer's disease & other dementias|Parkinson's disease & PD-related disorders

Keywords

Research Abstract

Alzheimer's disease (AD) and Parkinson's disease (PD) are common in elderly and the prevalence of these is increasing. AD and PD have distinct pathogenesis, which precede the overt clinical symptoms by 10-15 years, opening a window for early diagnosis and treatment. New disease-modifying therapies are likely to be most efficient if initiated before the patients exhibit overt symptoms, making biomarkers for early diagnosis crucial for future clinical trials. Validated biomarkers would speed up initiation of treatment, avoid unnecessary investigations, and reduce patient insecurity.

AIMS: (1) identify and validate accurate and cost-effective blood-based biomarkers for early identification of those at high risk to develop AD and PD, (2) develop algorithms using advanced imaging and cerebrospinal fluid biomarkers for earlier more accurate diagnoses, and (3) better understand the underlying pathology and early progression of AD and PD, aiming at finding new relevant drug targets.

We will assess well-characterized and clinically relevant populations of patients and healthy elderly. We will use population- and clinic-based cohorts and follow them prospectively for 4 year. Participants will undergo neurocognitive evaluation, provide blood and cerebrospinal fluid, and have brain imaging using advanced MRI protocols and a newly developed PET-tracer visualizing brain amyloid. Sample will be analyzed with quantitative mass spectrometry and high sensitivity immunoassays.

New biomarkers and brain imaging techniques will aid early diagnosis and facilitate the development of disease-modifying therapies, since treatment can start earlier in the disease process. New methods to quantify relevant drug targets, such as oligomers of β -amyloid and α -synuclein, will be vital when selecting drug candidates for large-scale clinical trials. By improving both diagnosis and therapies the social and economic burden of dementia might be reduced by expanding the period of healthy and active aging

Lay Summary

Further information available at:

Types:

Investments > €500k

Member States:

European Commission

Diseases:

Alzheimer's disease & other dementias, Parkinson's disease & PD-related disorders

Years:

2016

Database Categories:

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