

Abnormal brain networks as novel biomarkers of neurodegeneration

<https://neurodegenerationresearch.eu/survey/abnormal-brain-networks-as-novel-biomarkers-of-neurodegeneration/>

Principal Investigators

Eric Westman

Institution

Karolinska Institute

Contact information of lead PI

Country

Sweden

Title of project or programme

Abnormal brain networks as novel biomarkers of neurodegeneration

Source of funding information

The Swedish Brain Foundation

Total sum awarded (Euro)

€ 108,814

Start date of award

01/07/2015

Total duration of award in years

2.5

Keywords

Research Abstract

Below, I am outlining a plan for three closely related projects with the overall aim to advance our understanding of the underlying mechanisms of Alzheimer disease (AD) and other neurodegenerative disorders. The complexity and heterogeneity within the different diseases and the substantial overlap between them are poorly understood. Therefore the first project will assess the aberrant large-scale brain networks associated with distinct phenotypes of AD and to elucidate the relationship between network abnormalities and different clinical, cognitive and biomarker profiles. The second project will compare network abnormalities and biomarker profiles between AD and other types of disorders, such as Parkinson's disease to detect differences and similarities. The purpose of the third project is to investigate if it is possible to

predict future conversion to dementia in subjects in the prodromal stages of the disorders and in cognitively intact individuals. All projects will be performed using advanced neuroimaging (magnetic resonance imaging (MRI) and positron emission tomography (PET)) techniques in combination with techniques analyzing brain networks using the concepts of graph theory as well as advanced multivariate data analysis methods. This is a continuation of the application which I received funding for in 2014, extending it from AD subtypes to other neurodegenerative disorders. I provide some preliminary results to demonstrate the projects feasibility. My goal is that this project will have direct implications for diagnosis and management of neurodegenerative disorders. This is of particular importance with emerging disease-modifying therapies and to target the right populations for clinical trials.

Further information available at:

Types:

Investments < €500k

Member States:

Sweden

Diseases:

N/A

Years:

2016

Database Categories:

N/A

Database Tags:

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