Mechanisms of neurodegeneration in an animal model of cerebral hypofusion

https://neurodegenerationresearch.eu/survey/mechanisms-of-neurodegeneration-in-an-animal-model-of-cerebral-hypofusion/

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Country

United Kingdom

Title of project or programme

Mechanisms of neurodegeneration in an animal model of cerebral hypofusion

Source of funding information

Alzheimer's Research UK

Total sum awarded (Euro)

€ 589,447

Start date of award

01/10/2013

Total duration of award in years

4.0

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords
Research Abstract
Over the past decade in Newcastle, we have contributed to the understanding of risk factors for vascular disease and the causes of dementia through multidisciplinary studies in prospectively assessed clinical cohorts but that knowledge now needs to be translated to understand mechanisms and interventions that are effective. To simulate such studies in the elderly, we will implement widely acceptable but highly relevant experimental animal (rodent) model work in

collaboration with our colleagues in Edinburgh. We propose to study the long term consequences of low brain perfusion (hypoperfusion) in novel transgenic mice models, which relate to the development of Alzheimer's disease. We will use state-of-the-art tools to monitor synaptic/neuronal and blood microvessel function and cognitive ability. More importantly, we will assess how neurodegenerative or vascular alterations are ameliorated by two readily implemented interventions including the use of a trial-tested vascoactive compound cilostazol and exposure to physical activity in an enriched environment. The collaboration between our two centres and support from world leaders in transgenic mice model work affords us an unique opportunity to combine expertise to tackle a key understudied area of dementia research. Our strategy will also enable future translation of clinicopathological findings for effective prevention and treatment of dementia.

Lay Summary
Further information available at:

Types:
Investments > €500k

Member States:
United Kingdom

Diseases:
Alzheimer's disease & other dementias

Years:
2016

Database Categories:
N/A

Database Tags:
N/A