

A potential biomarker for vascular dementia

<https://neurodegenerationresearch.eu/survey/a-potential-biomarker-for-vascular-dementia/>

Principal Investigators

Mikulis, David JBlack, Sandra E

Institution

University Health Network (Toronto)

Contact information of lead PI

Country

Canada

Title of project or programme

A potential biomarker for vascular dementia

Source of funding information

CIHR

Total sum awarded (Euro)

€ 210,989

Start date of award

01/10/2013

Total duration of award in years

4

Keywords

Research Abstract

As the population ages, more people are developing dementia. It is therefore increasingly important for the health care system to find solutions for slowing or even eliminating this condition. Individuals with declining brain function may be developing one of several different types of dementia that can be difficult to distinguish from each other early on. Knowledge of the dementia type is important for starting the right treatment as soon as possible. New research indicates that small blood vessels supporting the nerve cells are also under attack. One type of dementia is actually caused by injury only to the blood vessels themselves. Yet, in the other dementias, the relationship between blood vessel injury and direct injury to nerve cells is less well understood though it likely plays a role in Alzheimer's Disease. In the last 10 years our research team has developed a very accurate method for measuring how well the brain's blood vessels function to deliver blood to working nerve cells. This research proposal will use this

method to better understand the role damaged blood vessels play in the development and progression of dementia. The method uses a unique breathing device where subjects breathe oxygen with different concentrations of carbon dioxide while MRI brain images are collected. Brain blood flow increases in healthy blood vessels when a small amount of carbon dioxide is inhaled but the flow does not increase as much in unhealthy vessels. We believe that the areas in the brain with unhealthy blood vessels will be seen at a very early stage of dementia allowing doctors to start the right kind of treatment sooner improving the future quality of life. Finally the method is accurate, affordable, safe as it has already been tested in over 600 patients, and is ready to be installed in almost any MRI scanner.

Further information available at:

Types:

Investments < €500k

Member States:

Canada

Diseases:

N/A

Years:

2016

Database Categories:

N/A

Database Tags:

N/A