

Press Release
For immediate release

BRAIN-AF Study Receives Canadian Institutes of Health Research Grant

This money will allow for the expansion of remote recruitment of participants for this research that aims to treat the heart and help the brain.

Montreal, March 15, 2021. The Montreal Heart Institute (MHI) announces that the BRAIN-AF study has received a \$1.4 million grant from the Canadian Institutes of Health Research. Seeking to better understand the effects of cardiovascular disease on the cognitive decline of the brain, the study will be able to recruit participants remotely thanks to this funding.

BRAIN-AF is studying a common heart rhythm disorder called atrial fibrillation (AF). This is the first study in the world to analyze the effects of atrial fibrillation on cognitive decline in young patients up to age 65. *“We hypothesize that cardiac microclots damage the brains of young patients with atrial fibrillation,”* says Dr. Lena Rivard, a cardiologist specializing in electrophysiology at the MHI, and the principal investigator of the BRAIN-AF study launched in 2015 with her colleagues, Drs. Denis Roy and Paul Khairy.

Although anticoagulant therapy is indicated for older people (over 65 years old) or the ones who present an additional risk factor (such as high blood pressure, diabetes, heart failure, or a history of stroke) with atrial fibrillation, it has limitations for younger people living with the condition because of the risk of bleeding associated with the medication. By investigating an anticoagulant called rivaroxaban, the research team hopes to reduce the risk of cognitive decline in the brain and stroke in younger patients. If this new therapy proves effective, it could benefit an estimated 125,000 people in Canada.

“We believe that this anticoagulant treatment will prevent the onset and progression of cognitive impairment, in other words, by treating a heart rhythm disorder, we would be developing a new approach to preventing memory loss and dementia,” says Dr. Lena Rivard.

BRAIN-AF is a double-blinded, placebo-controlled clinical study approved by Health Canada. The pilot phase of the study of 500 patients shows a good safety profile and the preliminary results also show that the cognitive decline in these patients would be greater than expected. Almost 40% of the patients needed (more than 800 patients) were recruited in 44 centres in Canada, of which about 20 are in Quebec.

Atrial Fibrillation and Cognitive Decline

Atrial fibrillation affects about 200,000 people in Canada. This cardiovascular disease affects the two upper chambers of the heart called the atria. The atria are the receiving chambers of the heart that ensure, through regular electrical signals, the efficient blood flow to the heart’s ventricles then to the rest of the body. In atrial fibrillation, the electrical signals are rapid, irregular and disorganized, reducing the heart’s efficiency in pumping blood.

If atrial fibrillation is left untreated, it can cause blood clots to form in the atria. These can cause strokes and according to the ICM researchers, it may be responsible for memory problems and

dementia. In fact, according to the World Health Organization (WHO), dementia affects more than 50 million people. In Canada alone, more than 747,000 seniors are affected by this condition.

About the Montreal Heart Institute

Founded in 1954, the Montreal Heart Institute constantly strives for the highest standards of excellence in the cardiovascular field through its leadership in clinical and fundamental research, ultra-specialized care, professional training, and prevention. It is home to Canada's largest cardiology research centre, cardiovascular prevention centre, and cardiovascular genetics centre. The Institute is affiliated with the Université de Montréal and has more than 2,000 employees, including 245 physicians and more than 85 researchers. icm-mhi.org

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