

Simple cardiac risk score can predict problems with blood flow in the brain

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Dr. Sonia Anand, co-principal investigator of the cohort study, a senior scientist at the Population Health Research Institute, and professor of medicine at McMaster University. Credit: McMaster University

A simple cardiac risk score can indicate who may have carotid artery plaque and silent strokes which often come before a serious clinical stroke.

The findings come from one of the largest magnetic resonance imaging (MRI) [cohort studies](#) in North America, a study designed to understand the [risk factors](#) associated with cerebrovascular [disease](#) before the person is aware of it.

The research, published in the *European Heart Journal Cardiovascular Imaging* today, is from the Canadian Alliance for Healthy Hearts and Minds Cohort Study led by the Population Health Research Institute of McMaster University and Hamilton Health Sciences (PHRI), in Hamilton, Canada.

For this paper, the research involved 7,549 adults with a mean age of 58 years, over half of whom (55%) are women from across Canada.

The study shows that for those participants who do not have a history of heart disease or [stroke](#) that a simple cardiac risk score—a summary measure of factors such as [blood pressure](#), diabetes, smoking, abdominal fat, and dietary factors—is associated with MRI-detected pre-clinical cerebrovascular disease like carotid artery plaque and silent strokes.

These cardiovascular risk factors are associated with early disease of the arteries that is present before clinical disease such as stroke and suggests that early detection and treatment of these common risk factors is important in disease prevention.

"These results are important as they show that vascular disease of the carotid arteries and silent strokes which are not clinically apparent are more frequent in men and women who have more risk factors for cardiovascular disease," said Dr. Sonia Anand, co-principal investigator of the cohort study, a senior scientist at PHRI, and professor of medicine at McMaster.

"This implies that screening and treatment of cardiovascular risk factors can prevent [cerebrovascular disease](#) from developing."

The study was led by Sonia Anand with Matthias Friedrich, professor of the departments of medicine and diagnostic radiology at McGill University, and a large team of researchers from across Canada.

"This new study validates Heart & Stroke's ongoing efforts on the heart-brain connection," said Anne Simard, chief mission and research officer for the Heart and Stroke Foundation.

"It reinforces the findings of our ground-breaking 2019 report (Dis)connected: Unseen links are putting us at risk, which systematically mapped the connections between [heart](#) health and brain health. The evidence that vascular diseases are deeply linked continues to grow, and that means a bigger

and more frightening problem for most people in Canada as 90 per cent are at risk of cardiovascular disease."

More information: *European Heart Journal Cardiovascular Imaging*,
academic.oup.com/ehjci/advance-article-abstract/doi/10.1093/ehjci/jez226/5575077

Provided by McMaster University

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