

## ScienceBriefs

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### **Cardiac disease-dementia link found**

Singapore researchers have uncovered a link between cardiac diseases and tiny brain lesions commonly found in patients with cognitive impairment or dementia.

The team of cardiovascular and brain researchers from the National University Health System (NUHS) studied 243 elderly participants, who were on average 72 years old. They found that the presence of tiny brain lesions, called cerebral microinfarcts (CMIs), was strongly associated with cardiac disease and blood cardiac biomarkers – molecules or genes linked to the condition. A rise in cardiac markers was accompanied by an increased risk of developing CMIs, the findings showed.

“Our findings suggest that the development of these tiny brain lesions, which are closely linked to diseases like dementia, may be caused by chronic heart problems and vascular disease,” said Associate Professor Christopher Chen, director of NUHS’ Memory Ageing and Cognition Centre.

Apart from signalling problems with the heart, cardiac biomarkers are also indicators of injury to circulatory and blood vessel systems in other organs, for example the brain, said Prof Arthur Mark Richards, director of NUHS’ Cardiovascular Research Institute.

“Our selected cardiac markers are powerful predictors of the presence of CMIs and cognitive impairment, and may provide scientists and clinicians with tools for the prevention or timely treatment of brain-related diseases.”

The findings were published in scientific journal JAMA Neurology, a journal of the American Medical Association.

The team plans to expand the study to better understand the role that cardiac dysfunction plays in the development of CMIs, and if the findings are applicable to non-Asian populations who may have different risk profiles.

These future studies may help to determine if treatments for cerebrovascular disease-related (relating to the brain and its blood vessels) cognitive impairment can be achieved by targeting cardiac disease, the team said.