



THE VICTOR CHANG
CARDIAC RESEARCH INSTITUTE

MEDIA RELEASE

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Atrial Fibrillation – Heart Disease That May Be Prevented

Heart disease for some people with a family history may be prevented following findings, released today, by researchers at the Victor Chang Cardiac Research Institute.

Atrial fibrillation is the most common heart rhythm abnormality in our community and is a major risk factor for stroke and heart failure. Recent studies suggest that inherited gene changes in families are an important cause of atrial fibrillation, but what these genes are, and how changes in genes can promote heart rhythm abnormalities, are unknown.

Victor Chang Cardiac Research Institute researchers have found that interactions between inherited gene changes and stretch or dilatation of the low pressure upper chambers of the heart, the atria, may be important in the onset of atrial fibrillation. The work, which will be published this week in the Journal of the American College of Cardiology, suggests that aggressive treatment of underlying conditions, such as high blood pressure the cause atrial enlargement may prevent the onset of atrial fibrillation.

Atrial fibrillation is a type of heart disease, termed a cardiac arrhythmia, where the heart beats in an irregular and often rapid rhythm. The abnormal beating results in poor blood flow and an increased risk of developing a stroke or heart failure. It is the most common cardiac arrhythmia, affecting 2% of Australians and 1 in 10 people over 80. Yet while many Australians are afflicted with this form of heart disease, little is understood about its causes.

The research at the Victor Chang Cardiac Research Institute was carried out by the head of the Electrophysiology and Biophysics lab, Associate Professor Jamie Vandenberg and Associate Professor Diane Fatkin of the Molecular Cardiology laboratory at the VCCRI.

“There are two distinct types of patients who develop atrial fibrillation,” Associate Professor Jamie Vandenberg explained. “The first type of patient develops the disease at a young age and in them it is clearly due to genetic factors.

“The second type of patient develops the disease later in life. In such patients, it has always been thought that they just “acquire” the disease, and that there is no genetic basis”.

“Our study has found that this may not be the case. Even people who develop atrial fibrillation later in life may actually inherit the susceptibility to get the disease and it is only after another event where the heart is stressed, such as developing high blood pressure, that brings on atrial fibrillation,” said Associate Professor Vandenberg.



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This is an exciting advance in heart research as it suggests that by controlling a person's environment, and with aggressive treatment, some people with a family history of atrial fibrillation may be able to avoid the onset of the disease.

"A person has an increased risk of developing atrial fibrillation if a family member has the disease," added lead researcher Dr Robyn Otway. "In these people it may therefore be beneficial to monitor other factors contributing to heart disease, such as high blood pressure, obesity and smoking, and ensure that these factors are controlled, so the person decreases their risk of developing atrial fibrillation".

The most common treatment for atrial fibrillation is long term medication, which successfully prevents recurrence of the disease in only 50% of cases, and which can often have unwanted side effects.

More severe cases need cardioversion (where the heart rhythm is changed by either using an electric shock or via medication) or ablation (which involves the removal or inactivation of area(s) of the heart responsible for creating the abnormal electrical signals), which is invasive and unpleasant.

Therefore this study brings hope to families who have a family history of atrial fibrillation as it suggests that just by aggressively treating factors such as high blood pressure, they may be able to avoid the disease altogether.

The research team has called for volunteers willing to participate in a future study.

If you have atrial fibrillation and you are part of a large family who has a genetic history of atrial fibrillation, and you are interested in taking part in the atrial fibrillation study, please contact the Victor Chang Cardiac Research Institute on (02) 8382 3786 or at d.fatkin@victorchang.unsw.edu.au

Established in 1994, the Victor Chang Cardiac Research Institute (VCCRI) is committed to excellence in research into heart disease and cardiovascular biology, cardiovascular research training, and facilitating the rapid application of research discoveries to patient care.

To donate to the Victor Chang Cardiac Research Institute call (02) 8382 3022 or visit www.victorchang.com.au

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