

Encouraging news for heart patients

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Inheriting gene variants that increase the risk of developing coronary heart disease does not necessarily mean an individual is going to have reduced life expectancy if he or she suffers a heart attack.

Two research papers revealing these findings by Dr Katrina Ellis and colleagues at the University of Otago, Christchurch have been highlighted in the leading international cardiology journal *Circulation*, along with 42 other papers from cardiac researchers around the world.

“These results have attracted considerable international attention as we found for the first time that the most likely gene variants for risk of developing [coronary heart disease](#) didn’t have a major negative effect on survival after heart attack, as might have been expected by the medical and scientific community,” explains Dr Ellis.

“When we examined the progress of patients with four key gene variants, who were admitted to Christchurch Hospital with either angina or heart attack, we found little or no effect on their subsequent survival eight to 15 years after a heart attack compared with those carrying the more common form of the gene sequence.

“However we noted those who carried these gene variants tended to develop [heart disease](#) at a younger age or have more risk factors, like high cholesterol.”

As the head of the research group Professor Vicky Cameron says: “This is good news for those patients, and of high interest to medical science as

it would be expected that gene variants associated with a greater risk for having a heart attack would also indicate a negative rather than positive prognosis.”

Research into gene variants and their relationship to heart attacks has rapidly progressed since 2007 when it became possible to examine all 23,000 genes in humans relatively quickly using new computerised technology.

This led to ‘genome-wide association studies’ which identify those gene variants most strongly linked to the development of coronary heart disease, and subsequent survival after treatment.

Coronary heart disease is the leading cause of death world-wide and in New Zealand, with sixteen people dying each day from this condition.

Risks include environmental or lifestyle factors such as smoking and obesity, but about 50% of heart disease is actually inherited through our genetic make-up and gene variants.

“For many this means our genes make us more susceptible to lifestyle risk factors, such as bad diet or lack of exercise,” says Professor Cameron.

Dr Ellis is now moving to the prestigious Mt Sinai School of Medicine in New York. However her research is continuing at the University of Otago, Christchurch under Professor Cameron.

A new research project, ‘The Family Heart Study’, is looking at the specific genetic risk factors that contribute to early coronary heart disease in New Zealanders.

This will enable identification of genetic factors, such as gene variants,

which put people at risk of [heart attack](#) and will enable even earlier intervention and better chances of survival.

This new study is now looking for participants from Canterbury only, who have two or more family/whanau members with early heart disease; that is before 50 with men, and 60 years in women.

Provided by University of Otago

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