

# Diabetes drug could protect the heart

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New research has shown the promising potential of a new glucose-regulating drug to protect the heart from scarring, a common complication of diabetes that can cause heart failure.

The pre-clinical study, published in the journal *Diabetes and Vascular Disease Research*, demonstrated potentially beneficial side-effects of the glucose-regulating medication.

Investigators evaluated whether the new medication used to treat diabetes could reduce [heart](#) fibrosis associated with the condition which causes the heart muscle to be replaced by scar tissue, often leading to

[heart failure](#).

The research also showed the drug's potential to help reduce scarring of the heart in [high blood pressure](#) or age-related cardiac fibrosis, irrespective of whether diabetes was present.

Dr Anthony Dear and Professor Richard Simpson from Monash University's Eastern Clinical Research Unit are leading a research team, who for several years have been investigating the beneficial side-effects of the new glucose-regulating medication used to treat type 2 diabetes.

In a previous study they demonstrated the drugs' potential to improve the condition of arteries for diabetes sufferers and are now looking at its ability to protect the heart.

Dr Dear said the drug's potential was important, as most of the medication available to diabetes sufferers to lower blood sugar doesn't necessarily protect blood vessels or the heart.

"We may be looking, for the first time, at a class of new drugs which could have a significant impact on the cardiovascular problems suffered by type 2 diabetic patients, and which would enable a significant advance in our management of these patients," Dr Dear said.

"Currently used medications for the treatment of type 2 diabetes successfully lower the blood glucose levels which is the "up front" problem seen in diabetes - but very few therapies address the accelerated blood vessel and heart disease observed in this patient population. This makes our observations particularly exciting."

The medication is derived from the natural gut hormone, Glucagon-Like Peptide-1 (GLP-1).

"Our studies suggest that this new agent has an anti-inflammatory effect in the heart which reduces the scarring. It achieves this by reducing the cell types responsible for causing cardiac fibrosis together with the expression of key molecules associated with the inflammatory process," Dr Dear said.

"As these observations also seemed to hold true in hypertensive and aged hearts in the absence of diabetes, it suggests the drug is targeting a process central to cardiac fibrosis and may be of benefit in heart conditions other than those seen in diabetes."

A clinical trial is currently underway to further validate the positive side effects of the drug, with results expected in 2017.

According to The World Health Organisation, by 2023 type 2 [diabetes](#) is projected to become the leading specific cause of disease burden for men and the second leading cause for women.

Provided by Monash University

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