

Vitamin pill could prevent heart attacks and strokes in people with kidney disease

April 15 2016, by Grant Hill

A new trial, led by the Universities of Dundee and Glasgow, is underway to discover whether vitamin K can improve heart and blood vessel health in chronic kidney disease patients.

People with kidney disease have a significantly greater risk of having a [heart attack](#) or stroke as the condition causes a layer of calcium to settle in the wall of [blood vessels](#), making them stiff, which increases [blood pressure](#) and puts strain on the [heart](#).

Chronic kidney disease affects over a third of people over the age of 65 and is one of the commonest comorbidities seen in hospitals, particularly in those admitted with acute cardiovascular conditions such as heart attacks and strokes.

Vitamin K is found in all sorts of leafy greens, and has been associated with a number of health benefits over the years. Previous research has suggested it plays an important part in regulating calcium build-up in blood vessels and the first patients have begun receiving treatment in the new clinical trial, funded by the British Heart Foundation (BHF), to see if vitamin K supplementation reduces vascular stiffness.

Dr Miles Witham, the lead researcher on the trial from the University of Dundee, said, "If successful, this trial could open up a whole new avenue of ways to reduce heart attacks and strokes, not only in people with [chronic kidney disease](#) but also in others affected by calcium build-up in their blood vessels.

"This trial has only been possible thanks to funding provided by the British Heart Foundation and the generous support of their donors."

Chronic kidney disease is a long-term condition where the kidneys do not work effectively. It is linked to ageing and is a strong risk factor for cardiovascular disease. Current treatments to tackle the heightened risk of heart disease, such as blood pressure medication, are less effective in people with kidney disease and do not tackle the problem of calcium in the blood vessel.

Dr Witham and his colleagues from Dundee and Glasgow will give either 400mcg of vitamin K or a placebo to 166 people with CKD once a day for a year and measure the stiffness of blood vessels. As vitamin K is a cheap, safe, and naturally occurring vitamin, the trial could reveal a new and inexpensive way of reducing heart attacks and strokes in people with kidney disease.

Professor Jeremy Pearson, Associate Medical Director at the British Heart Foundation, said, "Chronic [kidney disease](#) is common in people over 60, and as it progresses their risk of cardiovascular event increases several-fold. New treatments to slow the progression of the disease and its cardiovascular complications are therefore badly needed.

"This BHF-funded trial will test whether a simple treatment, vitamin K supplementation, can reduce the development of arterial stiffness – an early sign of cardiovascular risk. If successful, it will pave the way for a large scale trial to find out whether [vitamin](#) K supplementation reduces cardiovascular events in CKD patients and therefore should become part of routine treatment.

"We can only fund clinical [trials](#) like this with the support of the public. We receive no funding from Government so we rely on the continued and generous support of people making donations."

Provided by University of Dundee

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