

Discovery of new heart attack risk factor could save lives, research finds

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Screening diabetes patients for damage to the blood vessels in their eyes, kidneys or nerves, could help doctors predict their risk of having a heart attack or stroke, new research has found.

Experts, including from St George's, University of London, found that [damage](#) to the [blood vessels](#) gave patients as high a [risk](#) of suffering

from cardiovascular disease, as other proven factors, including [high blood pressure](#), [high cholesterol](#) and poor glucose control.

By identifying this risk in patients, doctors could prevent heart attacks or strokes in the future by prescribing appropriate medication.

The study looked at data for 49,000 people with type 2 diabetes in the UK, who were routinely screened for microvascular disease, where damage occurs to small blood vessels in the eyes, kidneys and [nerve cells](#).

The presence of microvascular disease in any of the eye, kidney or nerve cells placed patients at 30% increased risk of developing cardiovascular disease or death.

Dr Jack Brownrigg, of St George's, University of London, said routine screening for microvascular disease, was introduced in 2004 in the UK as part of a pay-for-performance initiative in primary care.

"The research suggests that the broad screening programme for microvascular disease is warranted because in addition to predicting risk of blindness, kidney failure and leg amputations, it also provides information on whether an individual is likely to go on to develop cardiovascular disease," he said.

"It further shows that if microvascular disease was included in the risk assessment for cardiovascular disease, it could identify people who need cholesterol lowering medication to prevent future heart attacks and strokes."

In the UK, The National Institute for Health and Care Excellence guidelines recommend that any individual who is 10 per cent or more likely to experience cardiovascular disease in the next 10 years should be

offered cholesterol lowering medication, called statins.

Using [microvascular disease](#) as a risk factor, could change statin prescriptions in 11 per cent of patients, which is around 370,000 of the 3.2 million adults in the UK living with type 2 diabetes.

Some 135,000 patients in the UK could be offered a statin prescription for the first time, while 200,000 would fall below the threshold for treatment.

There would also likely be cost benefits to the health service, as there would be an opportunity to prevent more cardiovascular disease in higher risk patients, with fewer statin prescriptions and fewer side effects as a result, Dr Brownrigg said.

Co-senior author, Professor Kausik Ray from Imperial College London, said that we studied a large number of patients with diabetes using routine GP healthcare records to assess whether risk prediction for cardiovascular disease could be improved.

"We found that the presence of damage to the eyes, kidneys and nerves in combination incrementally doubled risk of [cardiovascular disease](#), mortality and hospitalization for heart failure. Our findings suggest that incorporating commonly available diagnostic screening tests routinely assessed in those with diabetes can significantly improve risk prediction over and above current tools," he said.

"If applied globally it has the potential to improve therapeutic decision making in several millions of patients, simply by looking in the back of the eye, testing the feet with a microfilament and taking a dip stick test of the urine."

The research was published in the *Lancet Diabetes* journal.

Provided by St. George's University of London

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