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Drugs to prevent stroke and dementia show promise in early trial

Treatments that prevent recurrence of types of stroke and dementia caused by damage to small blood vessels in the brain have moved a step closer, following a small study.

The drugs – called cilostazol and isosorbide mononitrate – are already used to treat other conditions, such as heart disease and angina.

This is the first time they have been tested in the UK for the treatment of stroke or vascular dementia.

A study involving more than 50 stroke patients found that patients tolerated the drugs, with no serious side effects, even when the drugs were given in full dose or in combination with other medicines.

Experts say the findings pave the way for larger studies to check if the treatments can prevent brain damage and reduce risk of stroke and vascular dementia.

Damage to small blood vessels in the brain is responsible for around a quarter of strokes. It is also a common cause of memory problems and dementia.

Around 400,000 people in the UK are affected but there are no specific treatments. Currently the only way to reduce risk of the disease is by controlling blood pressure and cholesterol, stopping smoking and managing symptoms of diabetes.

A team led by the Universities of Edinburgh and Nottingham recruited 57 patients who had experienced a stroke caused by damaged small blood vessels, known as a lacunar stroke.

Patients took the two medicines either individually or in combination for up to nine weeks, in addition to usual treatments aimed at preventing further strokes.

They completed health questionnaires and had regular blood pressure checks, blood tests and brain scans.

The findings suggest the drugs are safe for use in stroke patients, taken alone or in combination, at least in the short term.

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There were also signs that the treatments helped improve blood vessel function in the arms and brain, and may improve thinking skills, but the researchers stress that further studies are needed to test this. A larger study, called LACI-2, is already underway.

The study, published in *EClinicalMedicine*, was funded primarily by the Alzheimer's Society, with support from the UK Stroke Association, British Heart Foundation, the European Union, National Institutes of Health Research, and NHS Research Scotland.

Lead researcher Professor Joanna Wardlaw, of the University of Edinburgh's Centre for Clinical Brain Sciences, said: "We are delighted that the results of this trial show promise for treating a common cause of stroke and the commonest cause of vascular dementia, since currently there are no effective treatments. Further trials are underway."

Dr James Pickett, Head of Research at Alzheimer's Society, added: "There hasn't been a new drug for dementia for 15 years, so finding evidence that these cheap existing drugs could prevent dementia after a stroke would be a huge breakthrough. It's promising to see that these two drugs are safe to use and we'll be excited to see the results of the next stage of testing in a couple of years, which will show whether these drugs can be an effective treatment."

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Reference:

G.W Blair et al. Tolerability, safety and intermediary pharmacological effects of cilostazol and isosorbide mononitrate, alone and combined, in patients with lacunar ischaemic stroke: The LACunar Intervention-1 (LACI-1) Trial, a randomised clinical trial. *EClinicalMedicine*, 2019.