

Brain scan study shows clot-busting drug benefits stroke patients

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A drug that breaks up blood clots in the brains of stroke patients could be used more widely than at present without increased risk, a brain scan study suggests.

It had previously been thought that giving the drug to people with signs of early damage in the brain caused by a [stroke](#) would increase the chances of them suffering a bleed on the brain - which can be fatal.

The study is the first to show that early tissue damage seen in [brain scans](#) does not necessarily indicate an increased risk of bleeding. Patients with early tissue damage from strokes are less likely to make a full recovery, but they still benefit from receiving the drug, researchers say.

The drug - called alteplase - is the only treatment for stroke caused by a blocked blood vessel in the brain.

Worries over the appearance of brain scans of [patients](#) taken on arrival at hospital to diagnose strokes have probably meant patients who could have benefitted from alteplase did not receive it, the team says.

Experts were concerned that patients with early [brain tissue damage](#) - which can be difficult for stroke doctors to see - were more likely to suffer a brain bleed if they were treated with alteplase.

Researchers at the University of Edinburgh found there is only an increased risk of haemorrhage in patients with multiple signs of tissue

damage caused by other diseases before the stroke - which are easily identified in scans - together with signs of a fresh clot blocking an artery.

In the small number of people with signs of both previous [tissue damage](#) and a new clot in a blood vessel, 14 per cent of those given alteplase are likely to have a haemorrhage, the team says. However, in people without these signs only three per cent are expected to suffer a bleed if they are given the drug.

Researchers analysed more than 3,000 people involved in a clinical trial assessing the effectiveness of alteplase as a stroke treatment.

Patient risk factors are easy to identify in brain scans, enabling doctors to decide whether the risk to patients outweighs the potential benefits of receiving alteplase, the team says.

The study, published in the journal *The Lancet Neurology*, was funded by the Medical Research Council.

Professor Joanna Wardlaw, of the University of Edinburgh's Centre for Clinical Brain Sciences, who led the study, said: "Bleeding in the [brain](#) is the main side effect of alteplase, so if we can avoid that hazard, then patients are more likely to benefit. Previous studies have not looked at pre-existing signs of damage nor considered analysing multiple signs in combination, yet having multiple and old signs are both very common in patients with stroke."

Provided by University of Edinburgh

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