

Outcome of stroke worse for people with infection

April 15 2014, by Kath Paddison

(Medical Xpress)—A team of scientists at the University of Manchester has now found a key to why and how infection is such a bad thing for stroke sufferers

In the research published today in the medical journal *Annals of Neurology*, the researchers show that rodents with pneumonia fared worse after having a stroke than those without the bacterial infection.

When people get an infection their natural defences - the immune system - kicks in and produces responses to try to remove the infectious agent. This allows the body to return to normal. But the body's own natural defences can also be harmful.

This study showed how infection worsens the damage caused by a stroke, but more importantly showed how. The researchers identified particular blood cells called platelets, which normally help to stop bleeding, and a molecule that normally helps people to fight infection as the key culprits in making the effects of a stroke even more devastating.

Over the last 20 years scientists from The University of Manchester have been investigating how to reduce damage to the brain following a stroke. In doing so they hope to be able to lessen the impact that stroke has on patients. The team is jointly led by the University's President, Professor Dame Nancy Rothwell and Professor Stuart Allan.

Professor Allan said: "The results of this new study strongly suggest that

patients with stroke, especially if they have preceding infections, could benefit substantially from anti-inflammatory therapies."

This study builds on previous research demonstrating that an anti-inflammatory drug, called 'interleukin-1 [receptor antagonist](#)', could dramatically limit the amount of brain damage in experimental stroke. This work has led to the drug being tested in [stroke patients](#).

Professor Allan concluded: "Our latest findings give further support to the potential beneficial effect of 'interleukin-1 receptor antagonist' for stroke, even in those patients who might have preceding [infection](#). A clinical trial of interleukin-1 receptor antagonist is soon to complete in [patients](#) with bleeding in the brain and is starting soon in stroke."

In May researchers from The University of Manchester are teaming up with the Stroke Association to run a series of events in the city during Action on Stroke Month. Called Science Stroke Art 2014 aims to highlight [stroke](#) through the media of science and art. The programme of events will include interactive talks, music, theatre and live demonstrations, each designed to capture the public's imagination and challenge misconceptions about the condition.

More information: Dénes, Á., Pradillo, J. M., Drake, C., Sharp, A., Warn, P., Murray, K. N., Rohit, B., Dockrell, D. H., Chamberlain, J., Casbolt, H., Francis, S., Martinecz, B., Nieswandt, B., Rothwell, N. J. and Allan, S. M. (2014), "Streptococcus pneumoniae worsens cerebral ischemia via interleukin 1 and platelet glycoprotein Iba." *Ann Neurol.* doi: 10.1002/ana.24146

Provided by University of Manchester

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