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Global study shows brain damage from stroke can be minimised

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(Medical Xpress) -- A new study from The University of Queensland shows monitoring the brain of stroke patients using Quantitative EEG (QEEG) studies could inform treatments and therefore, minimising brain damage of stroke victims.

EEG stands for electroencephalogram and is a medical test which is used to measure the electrical activity of the brain.

Dr Simon Finnigan from UQ's Centre for Clinical Research and Professor Michel van Putten from Medisch Spectr`um Hospital and University of Twente in the Netherlands, recently reviewed all published QEEG studies of stroke worldwide.

“The main goals of this research were to evaluate key findings, identify common trends and determine what the future priorities should be, both for research and for translating this to best inform clinical management of stroke patients,” Dr Finnigan said.

“Our studies have real potential to eventually contribute to better outcomes for stroke patients and for me this is the ultimate goal,” he said.

The review of outcomes from hundreds of patients has highlighted that QEEG indicators are particularly informative in two ways.

“Firstly they can help predict long-term deficits caused by stroke,” Dr

Finnigan said.

“In addition, they could provide immediate information on how patients are responding to treatments and guide decisions about follow-on treatments, even before stroke symptoms change,” he said.

Currently, tissue plasminogen activator (TPA), a drug which can dissolve blood clots, is administered intravenously to stroke patients within 4.5 hours after the onset of symptoms and clinicians wait for visual signs that symptoms are improving.

If this doesn't occur after approximately one hour, follow-on treatments may be used.

“This is where QEEG could indicate whether or not the brain is responding to the drug. Plus, it could do so up to an hour before the symptoms might improve," Dr Finnigan said.

"This is a critical difference when “time is brain” and clinicians are trying to get blood back into the brain before it's too late. If QEEG can enable clinicians to start other treatments faster, this could help minimise brain damage and deficits," he said.

Dr Finnigan is working with neurologists, Dr Wong, Dr Read and Dr Sheikh and other clinicians at the Royal Brisbane and Women's Hospital (RBWH).

Provided by University of Queensland