

# Antibiotic may be new stroke treatment

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The antibiotic minocycline may revolutionize the treatment of strokes. A new study, published in the open access journal *BMC Neuroscience*, describes the safety and therapeutic efficacy of the drug in animal models.

Dr. Cesar V. Borlongan from the University of South Florida, USA worked with a team of researchers to test the treatment in laboratory experiments. He said, "To date, the thrombolytic agent tPA is the only effective drug for acute ischemic stroke; however, only about 2% of ischemic stroke patients benefit from this treatment due to its limited therapeutic window. There is a desperate need to develop additional neuroprotective strategies. This research is an important step in rectifying the treatment issues, presenting a new, more effective treatment for stroke patients".

Every 5 minutes someone in the UK has a stroke and stroke currently accounts for almost 10% of deaths worldwide, claiming more lives than HIV/AIDS. During a stroke, a clot prevents blood flow to parts of the brain, which can have wide ranging short-term and long-term implications. This study recorded the effect of intravenous minocycline in both isolated neurons and animal models after a stroke had been experimentally induced. At low doses it was found to have a neuroprotective effect on neurons by reducing apoptosis of [neuronal cells](#) and ameliorating behavioral deficits caused by stroke.

According to Dr. Borlongan, "The safety and therapeutic efficacy of low dose minocycline and its robust neuroprotective effects during acute

ischemic stroke make it an appealing [drug candidate](#) for stroke therapy. An on-going phase 1 clinical study funded by the National Institutes of Health is exploring the use of intravenous minocycline to treat [acute ischemic stroke](#)".

More information: Therapeutic targets and limits of minocycline neuroprotection in experimental ischemic [stroke](#), Noriyuki Matsukawa, Takao Yasuhara, Koichi Hara, Lin Xu, Mina Maki, Guolong Yu, Yuji Kaneko, Kosei Ojika, David C Hess and Cesar V Borlongan, *BMC Neuroscience* (in press), [www.biomedcentral.com/bmcneurosci/](http://www.biomedcentral.com/bmcneurosci/)

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