

Clot-busting medication safe for patients who wake up with stroke

September 19 2016



Micrograph showing cortical pseudolaminar necrosis, a finding seen in strokes on medical imaging and at autopsy. H&E-LFB stain. Credit: Nephron/Wikipedia

Using a clot-busting medication to treat people who wake up with symptoms of stroke was safe and should be studied further to see how effective it might be for a population that otherwise has few treatment options, according to researchers at The University of Texas Health Science Center at Houston (UTHealth).

The results of the first prospective multicenter study for people with "wake-up [stroke](#)" were published online in the journal *Annals of Neurology*. Prior studies have all been retrospective reviews.

The only medication available to treat stroke is [tissue plasminogen activator](#) (tPA), but it must be given within 4.5 hours of the onset of the stroke to be effective. Traditionally, since a physician doesn't know when [stroke symptoms](#) began in a patient who wakes up with a stroke, that patient is not eligible for tPA.

"Similar to heart attack, a significant portion – 1 out of 4 – of strokes start suddenly at or just before waking. At that time, the body undergoes many changes to prepare itself for wakefulness including elevating the blood pressure by releasing stress hormones," said Andrew Barreto, M.D., co-principal investigator and associate professor of neurology at McGovern Medical School at UTHealth. "Unfortunately, there are currently no treatments available for [stroke patients](#) who wake-up with their stroke symptoms. Without tPA or some other form of restoring blood flow, the majority of these patients will be left with disabling effects."

Between October 2010 and October 2013, 40 patients were enrolled at five [stroke centers](#). No patients had intracerebral hemorrhaging and at the three-month follow-up mark, 53 percent achieved excellent recovery according to the modified Rankin Scale, a common scale for measuring the degree of disability after stroke.

Patients were enrolled through the Mischer Neuroscience Institute at Memorial Hermann-Texas Medical Center, Memorial Hermann-Southwest Hospital and Memorial Hermann-The Woodlands Hospital.

"We plan to next move forward with a larger, randomized trial to definitively answer whether tPA reduces disability in this important

group of [stroke victims](#)," Barreto said.

More information: Andrew D. Barreto et al. Prospective, open-label safety study of intravenous recombinant tissue plasminogen activator in wake-up stroke, *Annals of Neurology* (2016). [DOI: 10.1002/ana.24700](#)

Provided by University of Texas Health Science Center at Houston

Citation: Clot-busting medication safe for patients who wake up with stroke (2016, September 19) retrieved 4 May 2024 from <https://medicalxpress.com/news/2016-09-clot-busting-medication-safe-patients.html>

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