

Hands-free ultrasound device with clot-busting drug safe for stroke patients

October 24 2013



Researchers at UTHealth in Houston are using Cerevast's CLOTBUST-ER device to see if ultrasound added to tPA can be beneficial for stroke patients. Results from an early study just published in the journal *Stroke* showed the device is safe. Credit: Cerevast Therapeutics

A hands-free ultrasound device combined with a clot-busting drug was safe for ischemic stroke patients in a phase II pilot study, reported in the American Heart Association journal *Stroke*.

The device is placed on the [stroke](#) patient's head and delivers [ultrasound](#) to enhance the effectiveness of the clot-busting drug [tissue plasminogen](#)

[activator](#) (tPA).

Unlike the traditional hand-held ultrasound probe that's aimed at a blood clot, the hands-free device used 18 separate probes and showers the deep areas of the brain where large blood clots cause severe strokes.

"Our goal is to open up more arteries in the brain and help stroke patients recover," said Andrew D. Barreto, M.D., lead author of the study and assistant professor of neurology in the Stroke Program at the University of Texas Health Science Center at Houston. "This technology would have a significant impact on patients, families and society if we could improve outcomes by another 5-10 percent by adding ultrasound to patients who've already received tPA."

In the first-in-human study, 20 moderately severe ischemic [stroke patients](#) (12 men and 8 women, average age 63 years) received intravenous tPA up to 4.5 hours after symptoms occurred and two hours exposure to 2-MHz pulsed wave transcranial ultrasound.

Researchers reported that 13 (or 65 percent) patients either returned home or to rehabilitation 90 days after the combination treatment.

After three months, five of the 20 patients had no disability from the stroke and one had slight disability.

Researchers have launched an 830-patient international, randomized efficacy study of the ultrasound approach combined with the clot buster in [ischemic stroke](#).

Provided by American Heart Association

Citation: Hands-free ultrasound device with clot-busting drug safe for stroke patients (2013,

October 24) retrieved 19 November 2023 from <https://medicalxpress.com/news/2013-10-hands-free-ultrasound-device-clot-busting-drug.html>

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