

Study shows ultrasound and tPA effective for stroke

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An experimental therapy using tiny bubbles activated by transcranial Doppler (TCD) ultrasound combined with the clot busting drug tissue plasminogen activator (tPA) is more effective than tPA alone in treating patients suffering from ischemic stroke, according to new research presented at the American Stroke Association's International Stroke Conference in San Diego.

The findings, presented by Andrei Alexandrov, M.D., director of the UAB (University of Alabama at Birmingham) Comprehensive Stroke Center, and Carlos Molina, M.D., of the Vall d'Hebron Hospital in Barcelona, Spain, show that patients can be treated safely with TCD in combination with a specific dose of the bubbles, called microspheres, and tPA.

The microspheres, developed by ImaRx Therapeutics, are tiny gas-filled lipid structures that cavitate (rapidly expand and collapse) when exposed to ultrasound waves, helping to reopen blocked arteries and restore blood flow.

"These findings demonstrate that ultrasound combined with microspheres and tPA can be tested further in a pivotal clinical trial with the goal of providing a more effective treatment option for stroke patients by promoting faster clearing of blocked blood vessels as well as improved patient outcomes," said Alexandrov, UAB professor of neurology. "It's very promising to see such results, which support the potential of this therapy as a more effective and expansive therapy for

stroke patients."

The Phase 1/2 trial involved 35 patients and evaluated two different doses of ImaRx's MRX-801 microspheres. Cohort I and cohort II patients received 1.4 mL and 2.8 mL of microspheres respectively. Control patients received the standard dose of tPA alone.

The researchers report that complete recanalization was achieved in 120 minutes in 67 percent of cohort I patients, in 46 percent of cohort II patients and 33 percent of control patients. Dramatic clinical recovery has achieved in 45 percent of cohort I, 10 percent of cohort II and 27 percent of controls.

In addition, clinical improvement after 90 days was reported in 75 percent of cohort I, 50 percent of cohort II and 36 percent of controls.

According to the American Heart Association, approximately one-third of adults in the United States have some form of cardiovascular disease. Approximately 700,000 adults in the U.S., are afflicted with, and 150,000 die as a result of, some form of stroke each year.

Stroke is the third leading cause of death, and the leading cause of disability, in the United States. The vast majority of strokes are ischemic strokes, meaning that they are caused by blood clots, while the remainder are the more deadly hemorrhagic strokes caused by bleeding in the brain.

Source: University of Alabama at Birmingham

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