

Intracranial stenting, injecting clot-busting drugs directly to brain

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Techniques that keep brain arteries open (intracranial stenting) or inject clot-busting drugs directly to the brain (intra-arterial tPA) may be more effective than other urgent ischemic stroke treatments, researchers said at the American Stroke Association's International Stroke Conference 2010.

In a study of 1,056 severe [stroke](#) patients treated with one or more therapies within eight hours of symptom onset, blood flow was restored in 76 percent of stented patients and 72 percent of those receiving the clot-busting drug [tissue plasminogen activator](#) (tPA) directly to the brain (intra-arterial tPA). Overall, blood flow was restored in only 69 percent of patients treated with other drug techniques or interventions.

[Ischemic stroke](#) is caused by blockages in a vessel in or leading to the [brain](#).

"Essentially, there is no standard currently as to which interventions are performed for acute stroke in this country," said Rishi Gupta, M.D., senior author of the study and an assistant professor at Vanderbilt University Medical Center's Department of Neurology in Nashville, Tenn. "We decided to study treatment at 12 of the busiest stroke centers in the country to determine which of the therapies currently in use may be yielding the best results in terms of opening the blood vessel without creating hemorrhage."

Researchers said 534 patients received more than one therapy and 75 percent of the time (or in 400 patients), it was successful.

The next phase of the study will examine whether the initial success of these two treatments continues through three months of follow-up, he said.

Researchers studied several treatment techniques: Provided by American Heart Association

- intra-arterial tPA
- intracranial stenting
- intravenous delivery of tPA via the arm
- Merci Retriever™ - a corkscrew-like device that is threaded into the blocked blood vessel to grab and pull out clots
- Penumbra™ aspiration catheter - uses suction to remove blood clots
- glycoprotein IIb/IIIa antagonists
- angioplasty (without stenting)

But only results for intra-arterial tPA and intracranial stenting reached statistical significance.

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