Stroke Management: Acute Management and Saving the Viable Brain

study shows alteplase may improve stroke outcomes up to 24 hours after onset in select patients with salvageable brain tissue

LOS ANGELES, CA, UNITED STATES, August 27, 2025 /EINPresswire.com/ -- “In patients with salvageable brain tissue identified by perfusion imaging who did not initially receive thrombectomy, alteplase given 4.5 to 24 hours after acute ischemic stroke onset may improve functional outcomes,” states Dr. Ying Zhou, Ph.D.

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>
> *Greg Vigna, MD, JD*

What does Dr. Zhou's study "Alteplase for Acute Ischemic Stroke at 4.5 to 24 Hours," published in JAMA, August 7, 2025, say?

“Interventions: Patients were randomly assigned (1:1) ... to receive intravenous alteplase or standard medical treatment.

The primary efficacy outcome was functional independence, defined as a modified Rankin Scale score of 0 to 1 at 90 days. Safety outcomes included symptomatic intracranial hemorrhage within 36 hours and all-cause mortality within 90 days.

Greater odds of a better functional outcome among the alteplase group."

Read Dr. Zhou’s article:
https://jamanetwork.com/journals/jama/fullarticle/2837438?guestAccessKey=0a61c96b-9dd2-4ec8-8ccb-5df15445858f&utm_medium=email&utm_source=postup_jn&utm_campaign=article_alert-jama&utm_content=olf-tfl_&utm_term=080725

Dr. Greg Vigna, MD, JD, medical malpractice attorney, Board Certified Physical Medicine and Rehabilitation specialist, explains, “This study challenges previous research that describes windows of time during which intervention with thrombolytics treatment for acute stroke was not recommended due to the risk of hemorrhagic complications. The focus of this study emphasizes that if an acute stroke occurs and there is a substantial portion of the brain at risk,

intervention within 24 hours of stroke onset can improve outcomes."

Dr. Vigna explains, "The study defined two areas of infarction identified on CT angiogram/perfusion imaging: The core represents the volume of brain most at risk, caused by an acute complete or partial occlusion of a cerebral artery with blood flow reduced to less than 30% of normal. The penumbra lies outside the core and includes brain tissue that still receives blood flow from collateral vessels, which may or may not be sufficient to prevent cell death. In this study, when the penumbra was more than 1.2 times the size of the core, intervention improved functional outcomes."

Dr. Vigna continues, “The literature shows that every 15-minute delay in intervention makes a difference to all-cause mortality in stroke treatment. Earlier intervention leads to better outcomes. While the 24-hour window is a general guideline, some patients may still benefit from treatment beyond that timeframe, depending on the analysis of the brain at risk as determined by CT angiogram."

Read Dr. Man’s article, “Association Between Thromolytic Door-to-Needle Time and 1-Year Mortality and Readmission in Patients with Acute Ischemic Stroke," published in JAMA, 2020 2; 323(21):2170-2184: https://pmc.ncbi.nlm.nih.gov/articles/PMC7267850/

Dr. Vigna concludes, “When patients present with neurological symptoms, CT angiogram/perfusion studies in emergency rooms are the most important step to rule out large, medium, or small vessel occlusion. When that doesn’t happen, neurological function may be lost.”

Dr. Vigna is a California and Washington, D.C., lawyer who focuses on serious neurological injuries caused by medical malpractice and other serious personal injuries. He represents the injured from defective hernia mesh and litigates these cases with the Ben Martin Law Group, a national pharmaceutical injury law firm in Dallas, Texas.

Learn more about stroke management: https://vignalawgroup.com/practice-area/stroke-management/

Read Dr. Vigna’s book on Birth Injury.

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