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Most stroke patients not getting clot-busting treatment in timely manner

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Less than one-third of acute stroke patients treated with intravenous tissue plasminogen activator (tPA) receive the clot-busting drug within 60 minutes of their hospital arrival, according to research presented at the American Stroke Association's International Stroke Conference 2011. The research is simultaneously published in *Circulation: Journal of the American Heart Association*.

The drug is a proven intervention for acute ischemic stroke patients, but can only be given within 4.5 hours after stroke onset and has the greatest benefits when given earlier in that timeframe.

Despite proven benefits, guidelines recommendations and explicit goals for administering tPA in a timely manner, the drug's administration has not been well studied, said Gregg C. Fonarow, M.D., lead author of the study and professor of cardiovascular medicine at the University of California-Los Angeles.

In abstract 205, Fonarow and colleagues reported the frequency, patient and hospital characteristics, trends and outcomes of ischemic stroke with door-to-needle times of 60 minutes or less.

They analyzed data from 1,082 hospitals from the American Heart Association/American Stroke Association's Get With The Guidelines®–Stroke quality improvement program between April 2003 and September 2009. Specifically, the researchers looked at 25,504 acute ischemic stroke patients treated with tPA within three hours of

symptom onset.

They found during that time, 6,790, or 26.6 percent, received tPA in 60 minutes or less – with only modest improvement over the past 6.5 years – from 19 percent in 2003 to 29 percent in 2009.

Patients who were younger, male, white and had no prior stroke were most likely to receive the therapy within the 60-minute window, Fonarow said.

"It is a concern that older patients, women and black patients were less likely to receive timely tPA administration," he said. "It's also notable that the symptom onset-to-arrival times were shorter in patients with door-to-needle times of greater than 60 minutes, suggesting that hospitals were taking a more relaxed approach to the administration of tPA in earlier arriving patients."

Hospitals that had greater annual volumes of tPA-treated stroke patients were more likely to administer the therapy within 60 minutes of hospital arrival.

"This suggests that greater hospital team experience translates into improved performance," said Fonarow, immediate-past chair of the Get With The Guidelines Steering Committee.

The proportion of patients with door-to-needle times of 60 minutes or less varied widely by hospital. Some hospitals did not achieve tPA administration within the ideal time frame for any patient. Other hospitals achieved door-to-needle times of 60 minutes or less in 80 percent or more of patients.

In abstract 146, the team also demonstrated that in-hospital mortality was significantly lower among patients treated more timely with tPA,

and there were fewer complications with more timely treatment.

"These findings demonstrate for the first time that shorter door-to-needle times improve the likelihood that acute ischemic stroke patients will survive," Fonarow said.

The study identifies substantial opportunities nationally for improving the speed of tPA therapy initiation in acute ischemic stroke patients, he said.

"These findings suggest there is a critical need for a targeted campaign tailored to increase the portion of patients with door-to-needle times 60 minutes or less, such as the recently launched American Stroke Association Target®: Stroke initiative," Fonarow said. "Nearly 1,000 hospitals across the country are now registered to use Target: Stroke information and tools to improve their door-to-needle time for administering tPA to appropriate stroke patients."

Provided by American Heart Association

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