

Clot-busting medicine safe for use in warfarin-treated patients following stroke

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The clot-busting medicine, tPA (tissue plasminogen activator), is safe to use in acute stroke patients already on the home blood thinner warfarin, according to researchers from Duke Clinical Research Institute (DCRI). This study helps allay previous concerns that tPA was too dangerous to use in patients on home anticoagulation and would lead to high risk for potentially fatal intracranial bleeding.

"To date, we have no [randomized trials](#) or large cohort studies to guide us," says Ying Xian, M.D., Ph.D., assistant professor of medicine at Duke, and first author of the study published today in *JAMA*. "Our large national study found no statistically significant increase in risk, which supports using intravenous tPA in warfarin-treated [patients](#) following stroke if their INR is less than or equal to 1.7."

The International Normalized Ratio (INR) measures the rate at which [blood clots](#) while taking anti-clotting medications like [warfarin](#).

The Duke researchers also found almost half of warfarin-treated patients who might have qualified for tPA following stroke did not receive treatment, according to DCRI Director Eric Peterson, M.D., the paper's senior author. "We noted a substantial under-treatment of patients on warfarin who were eligible, but did not receive tPA following their stroke."

Warfarin is an anticoagulant proven to reduce the rate of stroke in patients with atrial [fibrillation](#) - irregular heart beats. If warfarin

treatment fails and the patient suffers a stroke, tPA is the only effective treatment. However, it also carries an increased risk of symptomatic intracranial hemorrhage (sICH).

American Heart Association guidelines say IV tPA in warfarin-treated patients may be used if the INR is less than or equal to 1.7, but few small studies supported the guidelines.

The Duke observational trial included 23,437 stroke patients on warfarin treated at 1,203 hospitals, making it the largest to look at IV tPA use in warfarin-treated patients following stroke. While warfarin-treated patients had slightly higher crude rates of intracranial bleeding (5.7% vs. 4.6%) than non-warfarin patients, they were also older. After adjusting for age, stroke severity and other factors, warfarin and non warfarin users had similar intracranial hemorrhage risk.

"This study provides support for the current treatment guidelines," says Xian, and indicates that a portion of the population is being under-treated.

It also leaves several questions unanswered. "More studies are needed to look at tPA use in patients with an INR greater than 1.7, as well as in those who are taking one of the newer warfarin alternative anticoagulants (dabigatran and rivaroxiban)," Xian said.

Provided by Duke University Medical Center

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