

Uric acid may lessen women's disability after stroke

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Micrograph showing cortical pseudolaminar necrosis, a finding seen in strokes on medical imaging and at autopsy. H&E-LFB stain. Credit: Nephron/Wikipedia

Uric acid - a chemical at high levels can lead to serious illness - may lessen women's disability after stroke, according to new research in the American Heart Association's journal *Stroke*.

High levels of uric acid can lead to kidney stones or the inflammatory

arthritis condition known as gout and is linked with heart and vascular problems and diabetes. However, in a new study, 42 percent of women treated with uric acid therapy following a [stroke](#) had little to no disability after 90 days compared to 29 percent of women treated with a placebo. Women also had less dead tissue resulting from lack of blood supply after receiving uric acid. Among men, there was essentially no difference between uric acid treatment and placebo.

"Women fare better with uric acid therapy because they tend to have less uric acid in their bodies," said Ángel Chamorro, study lead author and director of Barcelona's Comprehensive Stroke Center, Hospital Clinic Chamorro. "While high levels of uric acid can lead to other health problems, uric acid also helps protect tissue from harmful molecules known as [free radicals](#)."

Researchers re-analyzed 2014 data based on URICO-ICTUS, a randomized, double-blind trial of patients admitted to stroke centers in Spain. Participants included 206 women and 205 men. All participants were given therapies to remove the clots, while half in each gender group were also given either 1000 mg of uric acid therapy or a placebo through IV infusion.

In ischemic stroke - the most common form of stroke - a clot lodges in an artery supplying oxygen to the brain. When doctors successfully remove a clot, oxygen re-enters the brain, but it also releases free radicals, which may damage surrounding tissue. Uric acid counteracts the release of the free radicals, minimizing the damage.

Women in the study were, on average, seven years older than the men, and they were more likely to have irregular heartbeat, [high blood pressure](#) and other conditions. As younger, healthier stroke victims are treated, the results should be even more impressive, Ángel said.

More data are needed before uric acid becomes standard clinical practice. Among other directions, researchers want to determine whether uric acid also could benefit men—perhaps those with naturally lower levels of [uric acid](#) or high levels of blood sugar and other metabolic conditions that fuel the release of free radicals.

Each year in the United States about 55,000 more women have a stroke than men, and stroke kills and disables more [women](#) than men each year.

Provided by American Heart Association

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