

尿酸は脳卒中後機能的予後を改善する (Abstract LB1)

標準的な血栓溶解薬に尿酸を追加することにより虚血性脳卒中後の障害を軽減できる

Adding uric acid to standard stroke clot-busting medication reduces disability following ischemic stroke

脳卒中患者において、標準的治療に加え、症状発現から4.5時間以内に尿酸を投与することにより、安全かつ効果的に障害を軽減することができるとのlate-breaking scienceの結果が2014年American Stroke Association's International Stroke Conferenceで報告された。高尿酸値は腎結石、痛風、心臓および血管疾患および糖尿病と関連するとされてきた。しかし尿酸は強力な抗酸化物質であり、動物実験では脳細胞に尿酸を追加投与することにより細胞を脳卒中による損傷から保護することが示されている。今回のスタディにおいては、スペイン周辺の脳卒中センター10箇所の急性脳卒中患者421人(半分女性、平均年齢76歳)を登録した。全ての患者が組織プラスミノゲンアクチベータ(tPA)を投与され、尿酸またはプラセボ投与群にランダムに割り付けられた。90日後に障害を有さなかったのは尿酸およびtPA投与を受けた患者の40%近くであったのに対し、プラセボ投与を受けた患者では33%であった。尿酸は血糖値が高く中等度の脳卒中の女性において最も恩恵をもたらした。スタディの患者数が少なかったため、今回の結果は大規模なトライアルで検証する必要がある。今回のスタディは、より重篤な脳卒中を発症し他の合併症を有する高齢者を含めたことが強みであると筆者らは述べている。

Full Text

Giving ischemic stroke patients uric acid along with standard clot-busting medication within 4.5 hours of first symptoms appears safe and effective at limiting disability, according to late-breaking science presented at the American Stroke Association's International Stroke Conference 2014.

In a study of 421 acute stroke patients, nearly 40 percent treated with uric acid and clot busters were relatively free of disability at 90 days compared to 33 percent of patients treated with a placebo. Uric acid produced the greatest benefits for women and patients with high blood sugar and moderate stroke.

High levels of uric acid in the blood can lead to serious medical illness including kidney stones or the inflammatory arthritic condition known as gout and has been linked with heart and vascular problems and diabetes. However, animal studies have shown that adding uric acid to brain cells protected the cells from stroke-related damage.

"When used in stroke, uric acid is a firefighter, not an arsonist," said Angel Chamorro, M.D., Ph.D., study author and director of the Comprehensive Stroke Center, at Hospital Clinic in Barcelona, Spain. He said extensive research in patients and in animals found that a higher level of uric acid in acute stroke patients was associated with better recovery.

"That was kind of surprising because everyone knows uric acid has a pretty bad reputation because it is associated with gout attacks, renal problems and perhaps also with cardiovascular disease," he said. "But what people do not know so well is that uric acid is an extremely potent antioxidant, which is it prevents the formation of free radicals that can result when a brain artery is blocked."

Researchers suggest that uric acid may have a greater role in regulating human health and is a possible new approach to managing acute stroke. Chamorro noted that the study may explain why women have more disability after stroke than men.

"We believe women are less equipped to combat oxidative stress as the result of their lower uric acid levels," he said.

Half of patients in the study were women and the average age of all patients was 76. Most had other medical conditions and were treated at 10 stroke centers around Spain. All patients received the anti-clotting drug tissue plasminogen activator (tPA) and were randomly assigned to receive uric acid or a placebo. Sixty patients died.

While the study group was small and the results will need validation in larger trials, Chamorro said the study's strength is that it involved elderly patients who had more serious strokes and other health problems.

"We may need to acknowledge that there's promise for uric acid in patients with acute stroke treated with a clot buster within 4.5 hours of symptoms onset," Chamorro said. "The results of this trial are exciting and offer new hope in a field that was full of failures."

Co-authors are Sergio Amaro, M.D.; Mar Castellanos, M.D.; Tomás Segura, M.D.; Juan Arenillas, M.D.; Joan Martí-Fàbregas, M.D.; Jaime Gállego, M.D.; Jurek Krupinski, M.D.; Meritxell Gomis, M.D.; David Cánovas, M.D.; Xavier Camé, M.D.; Luis San Román, M.D.; Laura Oleaga, M.D.; Ferrán Torres, M.D. and Anna M. Planas, M.D. Author disclosures are on the abstract.

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