MedicalXpress

New evidence of a preventative therapy for gout

September 17 2018

Among patients with cardiovascular disease, it's a common complaint: a sudden, piercing pain, stiffness or tenderness in a joint that lasts for days at a time with all signs pointing to a gout attack. Gout and cardiovascular disease (CVD) appear to be intimately linked—they are frequently seen together although the underlying connection between the two remains unclear. When rheumatologist Daniel Solomon, MD, MPH, heard about a large, clinical study to determine if targeting inflammation among patients with a history of heart attacks could lower future risk of cardiovascular events, he immediately wondered if the new approach might help prevent gout attacks among these patients as well. Solomon and colleagues found a significant reduction in risk of gout attacks among patients who received the drug that targets a key inflammatory molecule, suggesting a new target for therapeutic strategies to prevent gout attacks. Their findings are published online today in *Annals of Internal Medicine*.

"By looking across diseases, we're trying to put together a picture of the relationship between gout, cardiovascular disease and inflammation," said Solomon. "There's a long-held understanding that gout and cardiovascular disease travel together. We're using data from the CANTOS trial to understand why."

CANTOS (Canakinumab Anti-inflammatory Thrombosis Outcomes Study), sponsored by Novartis, was designed to test whether canakinumab, which targets interleukin-1β, could reduce risk of a future cardiovascular event. The study recruited people who had had a prior

heart attack and who, despite aggressive care, had persistently elevated levels of the inflammatory biomarker high-sensitivity C-reactive protein (hsCRP).

CANTOS, which met its primary endpoints, also offers a treasure trove of data on 10,000 patients with a history of heart attacks. As part of the study, information on gout attacks and levels of baseline serum urate concentrations (a measure associated with the production of monosodium urate crystals that form in joints, tendons, kidneys and elsewhere) was collected.

Solomon *et al*. report that, over the course of the trial, 3 percent of participants taking the placebo had a gout attack. This percentage was reduced by half among participants taking the IL-1β blocker. Serum urate levels remained unchanged over time, suggesting that, importantly, the drug was acting on an independent mechanism to reduce risk of a gout attack.

"Our results suggest that targeting IL-1β could open up new therapeutic avenues for not only treating heart disease but also crystal diseases like gout," said Solomon.

Canakinumab, manufactured by Novartis, has been shown in previous research studies to shorten the length of gout attacks but has not been approved by the FDA for gout treatment. Additional studies are ongoing to test the effectiveness of less expensive drugs, including generics, that target inflammation.

More information: Solomon, D et al. "Relationship of IL-1 Blockade With Incident Gout and Serum Urate Levels: Exploratory Analysis of a Randomized Controlled Trial" *Annals of Internal Medicine* DOI: 10.7326/M18-1167

Provided by Brigham and Women's Hospital