Medical Xpress

Biomarker for salt sensitivity of blood pressure discovered

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For the first time researchers have identified a genetic marker (GNAI2) that is associated with the risk of salt sensitivity in blood pressure (BP) regardless of age or gender.

It is hoped that with this discovery a simple test to identify salt sensitivity of BP during a clinical visit can be developed.

High blood pressure (hypertension) impacts nearly one of every two adults in the U.S. and is the leading global non-communicable cause of death. It is projected to be the primary global cause of death and disability by 2020. Salt sensitivity in blood pressure is a major risk factor for hypertension and increased cardiovascular risk and is highly relevant given that 99 percent of U.S. adults exceed the recommended daily intake for salt.

"Our data highlights a potential genetic method to screen for the salt sensitivity of blood pressure that may identify patients who exhibit the salt sensitivity of blood pressure. Possessing this specific marker makes you three times more likely to be salt sensitive than people who don't have the marker," explained corresponding author Richard Wainford, Ph.D., associate professor of Pharmacology & Experimental Therapeutics at Boston University School of Medicine (BUSM).

The researchers looked at two groups of patients. The first group had no change in blood pressure in response to high dietary salt intake (meaning they were salt resistant). The second group of patients had an increase in

blood pressure in response to high dietary salt intake (salt sensitive). Both groups were then screened for genetic variation in the GNAI2 gene. Those patients with the gene variation were more likely to be salt sensitive.

"Developing a simple diagnostic biomarker of individual salt-sensitivity of BP would aid in identifying individuals at risk for developing salt sensitivity related complications (hypertension, cardiac, renal and cerebral diseases), and in risk stratification and treatment decisions in individuals with established salt-sensitive conditions."

The findings appear in the journal *Physiological Genomics*.

Provided by Boston University School of Medicine