

Genetic data related to sodium-regulating hormone may help explain hypertension risk

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New research points to the existence of a gene on chromosome 5 that influences how much aldosterone is produced — which may be excessive in African-descended populations.

"Aldosterone was very important to their early ancestors living in the arid climate of Africa," said J. Howard Pratt, study co-author. "Dietary intake of sodium in today's world is much higher, and there may not be the need for the amount of aldosterone produced, leading to a level of sodium balance that places individuals at risk for hypertension."

Among people of African descent, plasma concentrations of the sodium-regulating [hormone](#), aldosterone, are under genetic influences and are associated with higher diastolic [blood pressure](#) readings, new research shows.

Aldosterone is produced by the adrenal gland. It regulates a region in the kidney called the distal nephron, which is critically important for controlling sodium balance and blood pressure.

The study examined genetic data from families on the Caribbean island of Tobago. Researchers determined that the population has about 94 percent African ancestry.

After adjusting for the effects of age, gender and body mass index on plasma aldosterone concentration and blood pressure, genes account for 34 percent of the variation in aldosterone concentration among

individuals, and about 25 percent of the variation in systolic and diastolic blood pressure, according to Candace M. Kammerer, study co-author.

Provided by American Heart Association

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