High Blood Pressure and Diabetes Linked to Brain Changes

Those with both conditions were more susceptible to brain changes such as those seen in Alzheimer's disease.

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High rates of diabetes and high blood pressure among Puerto Rican people may be associated with changes in brain structure, according to study findings published in the medical journal Neurology.

"This research is important because although Hispanic people make up more than 18% of the U.S. population, they are underrepresented in large studies on the prevalence of diseases and have usually been treated as a whole group instead of looking at smaller groups from different backgrounds such as Puerto Ricans, Cubans or Mexican Americans," study author Bang-Bon Koo, PhD, of Boston University said in a news release.

This study followed 192 Puerto Rican people from the Boston area for more than 10 years. Participants underwent brain scans and had their thinking skills evaluated.

Participants were divided into four groups depending on whether they had high blood pressure and type 2 diabetes. A total of 67 people had only high blood pressure, 61 people had both conditions and 54 people had neither condition. A small number of people (10) who had only diabetes were excluded from the analysis.

Results were compared to those from two other large-scale studies that included both Latino and white people.

Findings showed that nearly five times as many Puerto Rican people had diabetes compared with white people—32% versus 7%. What's more, 67% of Puerto Rican people had high blood pressure compared with 39% of white people.

The area of the hippocampus in Puerto Rican people with both conditions had the smallest volume. This area is affected by Alzheimer's disease and plays a role in learning and memory.

Additionally, compared to those with neither condition, the white matter of the brains in those with both conditions clearly revealed deterioration as well as a greater difference between actual, chronological age and the apparent age of their brain. People with only high blood pressure had

less deterioration.

Results were adjusted for factors such as education level, age, and sex. A limitation of the study was the small number of people with type 2 diabetes who did not have high blood pressure being excluded.

“The decline in brain health and cognitive capacity in people in the Puerto Rican study who had both diabetes and high blood pressure was comparable to people in another study who had mild cognitive impairment and progressed to Alzheimer’s disease within five years,” Koo said. “Our results suggest that the high rate of diabetes and high blood pressure among Puerto Rican people may contribute to the higher risk of Alzheimer’s disease within this group.”

To learn more about high blood pressure and its possible link to brain damage, click here.

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