Study Links Genes to Alzheimer's Risk in African Americans

The study marks a significant step toward understanding the genetic code and underlying mechanisms of dementia risk in Black Americans.

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Researchers from Boston University Chobanian & Avedisian School of Medicine have identified several genes linked to Alzheimer's disease (AD), the most common type of dementia, according to a university news release.

AD is a progressive illness affecting parts of the brain that control thought, memory and language. An estimated 7.2 million Americans ages 65 and older are living with AD, and that number continues to grow, according to the Alzheimer's Association.

Many studies show that African Americans are at greater risk for AD compared with other groups. In fact, older African Americans are about twice as likely to have AD or another dementia compared with older white Americans of European ancestry, according to the Alzheimer's Association.

Some researchers have suggested social determinants of health, such as limited access to health care and biases in testing, and higher rates of AD risk factors, such as cardiovascular disease and diabetes, are to blame for the increased risk for the disease among Black Americans.

Genetic differences may also help explain the gap in AD rates between Black and white people. Various previous studies have analyzed differences in gene expression in the brains of people with AD, but many involved too few African Americans to yield significant findings concerning this population.

Published in Alzheimer's & Dementia, the current study used brain tissue from 207 African Americans with autopsy-confirmed AD and identified several new genes linked to AD.

For example, researchers found a 1.5-fold higher level of expression of the ADAMTS2 gene in brain tissue from donors with AD. What's more, an independent study conducted by the same research team and involving a much larger sample of white individuals observed higher levels of ADAMTS2 among those with autopsy-confirmed AD.

"To our knowledge, this is the first time in similarly designed AD genetics studies that the most significant finding was the same in both white and African Americans," said corresponding author Lindsay Farrer, PhD, chief of biomedical genetics at the school.

The study marks a significant step toward understanding the genetic code and underlying mechanisms of AD risk in African Americans.

"Although risk of AD in African Americans has been associated with variants in several genes, the overlap of genes showing association in [white/European ancestry] populations is modest, and even among the overlapping genes the particular variants involved and the size of the effect on AD risk usually differ," Farrer said. "The fact that expression of ADAMTS2 is significantly and substantially higher in brain tissue from both whites and Blacks with AD not only points to a shared biological process leading to AD but also elevates the priority of further research involving this gene, which could determine its suitability as a potential therapeutic target."

To learn more, click #Alzheimer's Disease. There, you'll see headlines such as "How Exercise Can Protect Against Alzheimer's," "Millions of Aging Americans Are Facing Dementia by Themselves" and "When They Don't Recognize You Anymore."

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