

Genetic links seen for HDL cholesterol, systolic BP with Alzheimer's disease

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Genetically determined high-density lipoprotein (HDL) cholesterol and high systolic blood pressure are associated with increased odds of Alzheimer's disease (AD), according to a study published online May 17

in *JAMA Network Open*.

Jiao Luo, M.D., Ph.D., from Copenhagen University Hospital-Rigshospitalet in Denmark, and colleagues conducted a genetic association study using two-sample univariable and multivariable Mendelian randomization to examine potentially causal aspects of modifiable risk factors for AD. Independent genetic variants associated with modifiable risk factors were selected as instrumental variables. Outcome data were obtained from the European Alzheimer & Dementia Biobank (EADB).

The EADB-diagnosed cohort included 39,106 and 401,577 participants with clinically diagnosed AD and controls without AD, respectively. The researchers found that the odds of AD were increased in association with genetically determined HDL cholesterol concentrations (odds ratio, 1.10 per one standard deviation [one-SD] increase).

After adjusting for [diastolic blood pressure](#), genetically determined high [systolic blood pressure](#) was associated with an increased risk for AD (odds ratio, 1.22 per 10-mm Hg increase). In a second analysis to minimize bias due to sample overlap, the odds for AD were similar for HDL cholesterol and systolic blood pressure (odds ratios, 1.08 per one-SD unit increase and 1.23 per 10-mm Hg increase, respectively).

"These findings may inspire new drug targeting and improved early dementia prevention," the authors write.

Several authors disclosed financial ties to the biopharmaceutical industry.

More information: et al, Genetic Associations Between Modifiable Risk Factors and Alzheimer Disease, *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2023.13734](https://doi.org/10.1001/jamanetworkopen.2023.13734)

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