

# Diabetes may be associated with increased risk of mild cognitive impairment

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Individuals with diabetes may have a higher risk of developing mild cognitive impairment, a condition that involves difficulties with thinking and learning and may be an intermediate step toward Alzheimer's disease, according to a report in the April issue of *Archives of Neurology*, one of the JAMA/Archives journals.

"Among cardiovascular risk factors, type 2 diabetes mellitus has been consistently related to a higher risk of Alzheimer's disease," the authors write as background information in the article. Mild cognitive impairment-particularly a type known as amnesic mild cognitive impairment, which affects memory more significantly than non-amnesic mild cognitive impairment-is increasingly recognized as a transitional state between normal functioning and Alzheimer's disease.

José A. Luchsinger, M.D., and colleagues at Columbia University Medical Center, New York, studied 918 individuals older than 65 years (average age 75.9) who did not have mild cognitive disorder or dementia when they enrolled between 1992 and 1994. At the beginning of the study and again every 18 months through 2003, each participant underwent an in-person interview and standard assessment, which included a medical history, physical and neurological examination, and a battery of neurological tests that measured learning, memory, reason and language skills, among others. Of the participants, 23.9 percent had diabetes, 68.2 percent had hypertension, 33.9 percent had heart disease and 15 percent had had a stroke.

During an average of 6.1 years of follow-up, 334 individuals developed mild cognitive impairment, including 160 amnesic cases and 174 non-amnesic cases. Diabetes was related to a significantly higher risk of mild cognitive impairment overall and of amnesic mild cognitive impairment specifically after controlling for other factors that may affect risk, including age, ethnic

group, years of education and heart and blood vessel disease. "The risk of mild cognitive impairment attributable to diabetes was 8.8 percent for the whole sample, 8.4 percent for African-American persons, 11 percent for Hispanic persons and 4.6 percent for non-Hispanic white persons, reflecting the differences in diabetes prevalence by ethnic group," the authors write.

Diabetes could be related to a higher risk for amnesic mild cognitive impairment by directly affecting the build-up of plaques in the brain, a hallmark characteristic of Alzheimer's disease, the authors note. In addition, cerebrovascular disease-diseases such as stroke that affect the vessels supplying blood to the brain-is related to both diabetes and Alzheimer's disease.

"Our results provide further support to the potentially important independent role of diabetes in the pathogenesis of Alzheimer's disease," the authors conclude. "Diabetes may also be a risk factor for non-amnesic forms of mild cognitive impairment and cognitive impairment, but our analyses need to be repeated in a larger sample."

Source: JAMA and Archives Journals

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