MedicalXpress

Diabetes, poor glucose control associated with greater cognitive decline in older adults

June 18 2012

Among well-functioning older adults without dementia, diabetes mellitus (DM) and poor glucose control among those with DM are associated with worse cognitive function and greater cognitive decline, according to a report published Online First by *Archives of Neurology*, a JAMA Network publication.

Findings from previous studies have suggested an association between diabetes mellitus and an increased risk of cognitive impairment and dementia, including Alzheimer disease, but this association continues to be debated and less is known regarding incident DM in late life and cognitive function over time, the authors write as background in the study.

Kristine Yaffe, M.D., of the University of California, San Francisco and the San Francisco VA Medical Center, and colleagues evaluated 3,069 patients (mean age, 74.2 years; 42 percent black; 52 percent female) who completed the Modified Mini-Mental State Examination (3MS) and Digit Symbol Substitution Test (DSST) at baseline and selected intervals over 10 years.

At study baseline, 717 patients (23.4 percent) had prevalent DM and 2,352 (76.6 percent) were without DM, 159 of whom developed DM during follow-up. Patients who had prevalent DM at baseline had lower 3MS and DSST test scores than patients without DM, and results from analysis show similar patterns for 9-year decline with participants with prevalent DM showing significant decline on both the 3MS and DSST

compared with those without DM.

Also, among participants with prevalent DM at baseline, higher levels of hemoglobin A1c (HbA1c) were associated with lower 3MS and DSST scores. However, after adjusting for age, sex, race and education, scores remained significantly lower for those with mid (7 percent to 8 percent) and high (greater than or equal to 8 percent) HbA1c levels on the 3MS but were no longer significant for the DSST.

"This study supports the hypothesis that older adults with DM have reduced cognitive function and that poor glycemic control may contribute to this association," the authors conclude. "Future studies should determine if early diagnosis and treatment of DM lessen the risk of developing cognitive impairment and if maintaining optimal glucose control helps mitigate the effect of DM on cognition."

More information: *Arch Neurol*. Published online June 18, 2012. doi:10.1001/archneurol.2012.1117

Provided by JAMA and Archives Journals