A Blood Sugar Test Also Predicts Memory Problems

Elevated blood sugar levels measured using a glucose tolerance test predicted poor memory a decade later.

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There are several tests that measure glucose levels for diabetes, a blood sugar disorder known to increase the risk for cognitive decline and memory problems. Now, new study findings published in the journal Diabetes Care show that one of these tests—the glucose tolerance test—can predict a decrease in individuals' ability to recall memories related to previous personal experiences, according to a press release from the University of Turku in Finland.

For the study, researchers from the university and the Finnish Institute for Health and Welfare reviewed data collected from 961 participants ages 45 to 74 involved in three health surveys in 2000, 2001 to 2002 and 2011.

The goal was to see whether blood sugar levels recorded from the fasting blood glucose test and blood sugar level measurements from the glucose tolerance test were linked with changes in cognitive function after a 10-year period.

Researchers measured memory and other cognitive functions using three standard tests: verbal fluency, word-list learning and word-list delayed recall.

In addition, investigators considered key known risk factors for memory disorders, such as age, education, elevated blood pressure, elevated cholesterol level, obesity, type 2 diabetes and smoking.

Results showed that elevated blood sugar level measurements generated by a glucose tolerance test in 2001 to 2002 were linked to poorer performance in the memory tests they took in 2011. (This contrasted with a prior review of the 2000 survey that showed the fasting blood glucose test did not forecast a decline in memory.)

"The glucose level measured in the two-hour glucose tolerance test was also associated with a greater decline in the results of the test during the follow-up period," said Sini Toppala, a doctoral candidate from the university and the first author of the inquiry.

“The study shows that [the] glucose tolerance test helps identify patients with impaired glucose tolerance who have a heightened risk of cognitive decline,” he explained. “This is important for targeting interventions.”

To learn about the connection between another chronic illness and cognitive decline, read “High Blood Pressure Can Accelerate Cognitive Decline No Matter the Age of Onset.”

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