

To Print: Click your browser's PRINT button.

NOTE: To view the article with Web enhancements, go to:
<http://www.medscape.com/viewarticle/587909>



Midlife Diabetes Increases Dementia Risk

Marlene Busko

Medscape Medical News 2009. © 2009 Medscape

February 5, 2009 — Diabetes increases the risk for dementia, including vascular dementia and Alzheimer's disease (AD), especially if onset is in midlife, a population-based study in twins suggests.

Analysis of data from the Swedish Twin Registry revealed that onset of diabetes before the age of 65 years was associated with a 125% increased risk for AD.

"The study suggests that maintaining a healthy lifestyle during adulthood may help reduce risk of later dementia," author Margaret Gatz, PhD, from the University of Southern California, Los Angeles, told *Medscape Psychiatry*.

The study is published in the January issue of *Diabetes*.

Twin Studies Offer An Advantage

Population-based longitudinal studies have shown dementia risk in general is increased in individuals with diabetes. However, understanding of the mechanisms behind this association is limited.

The researchers point out that studies in twins allow for the elimination of confounding factors such as genetics and childhood environment.

Although diabetes is a known risk factor for cognitive impairment and dementia, previous studies have been inconclusive about whether this applies only to vascular dementia or also includes AD.

To verify the association between diabetes and dementia subtypes in twins and examine how this association is affected by genetic factors, early-life environmental factors, and age of diabetes onset, the researchers analyzed data from 13,693 twins listed in the Swedish Twin Registry. Subjects enrolled in the HARMONY dementia study in 1998 when they were 65 years old or older.

A total of 467 participants were diagnosed with dementia: 292 with AD, 105 with vascular dementia, and 70 with another type of dementia. Another 120 participants were diagnosed with questionable dementia. The mean age of dementia onset was 76.8 years.

Type 2 diabetes was identified in 1396 subjects by self-report and from hospital discharge records beginning in the 1960s. The mean age of diabetes onset was 63.8 years, and 643 subjects had midlife onset of this illness.

Diabetes, Vascular Damage, and Brain Changes

Diabetes was associated with a moderately increased risk for dementia, AD, and vascular dementia, with a stronger risk for vascular dementia (OR, 2.17; 95%CI, 1.36 – 3.47).

"These findings add to the growing evidence of a link between diabetes, vascular damage, and neurodegenerative changes in the brain," the authors write.

"Genetic and early-life environmental factors might contribute to the association between late-life diabetes and dementia, but adulthood environments might be responsible for midlife diabetes-dementia association," they add.

According to the authors, since diabetic individuals have a higher mortality rate, and since 30% of older individuals with diabetes are not diagnosed with this disease, the study findings likely underestimate the diabetes-dementia link.

This research is at an early stage, and more studies are needed to elucidate which early-life and adulthood environmental factors as well as genes might be involved in the diabetes-dementia association, said Dr. Gatz.

However, the authors note, the results of the study highlight the role of exercise, diet, and smoking as well as glycemic control in patients with diabetes in affecting the dementia risk for AD.

The study was supported by the National Institute on Aging, the American Alzheimer's Association, the Swedish Research Council in Medicine, and Swedish Brain Power.

Diabetes. 2009; 58:71-77. Abstract
