# Diabetes, Hypoglycemia Could Point to Dementia

BY NEIL OSTERWEIL

FROM THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR GERIATRIC PSYCHIATRY

SAN ANTONIO – Older adults with diabetes who frequently have hypoglycemia may be especially vulnerable to the development of cognitive impairment or dementia, suggest data from a study of nearly half a million veterans.

The study findings also suggest that patients aged 65 years and older with diabetes should have cognitive screening, and that there should be increased overall surveillance in this population, according to Dr. Denise G. Feil, a geriatric psychiatrist at the VA Greater Los Angeles Healthcare System, and her colleagues.

An examination of the association of antidiabetic treatment with rates of control in older patients with diabetes of longer duration showed a lack of benefit and higher rates of hypoglycemia, macrovascular events, and death," Dr. Feil and her colleagues wrote.

The investigators hypothesized that they would find that diabetic patients with dementia or cognitive impairment would be managed less aggressively than would cognitively healthy diabetes patients of the same age, but that they would still have similar rates of hypoglycemia after adjustments.

The investigators tested this idea by conducting a cross-sectional analysis of data on veterans who were treated at Department of Veterans Affairs facilities in fiscal years 2002 and 2003, stratified by coded dementia and cognitive impairment, age, antiglycemic medications, and $HbA_{1c}$ values.

Dr. Feil and her colleagues found that 18% of the population had a diagnosis of either dementia or cognitive impairment, and that the proportion and distribution of antidiabetic prescriptions were similar among patients with dementia, cognitive impairment, or neither condition.

The investigators also found that hypoglycemia rates rose with both increasing cognitive impairment and the complexity of the diabetes regimen, yet

**Hypoglycemia rates rose with both increasing cognitive impairment and the complexity of the diabetes regimen, yet mean hemoglobin $A_{1c}$ levels stayed nearly the same.**

ICD-9-CM–coded hypoglycemia in 497,900 veterans aged 65 years and older with diabetes revealed that veterans who had cognitive impairment or dementia showed significantly higher rates of hypoglycemia than did their cognitively intact peers in both adjusted and unadjusted analyses, the researchers reported.

"The risk of hypoglycemia is higher even when their medication regimen is the same and their [hemoglobin $A_{1c}$] levels are the same as those of patients without dementia, which suggest that there are social factors that might be different in this patient population," said Dr. Feil in an interview at the meeting.

"There may be other issues that are neurological, such as whether neuroglycopenia from repeat hypoglycemia is having some kind of effect," added Dr. Feil.

Dietary changes that occur as cognitive impairment progresses into dementia may also make cognitively impaired patients with diabetes more susceptible to hypoglycemia, and memory problems may make medication compliance difficult, especially when patients have complicated or intensive antidiabetic regimens, she added.

Diabetes is associated with a doubling of the risk of cognitive impairment and dementia, and intensive glycemic control has been shown to significantly decrease the risk of diabetes-associated complications.

But the risk/benefit trade-off of intensive glycemic control in cognitively impaired patients has not been studied, the authors stated.

"Recent trials of intensive glycemic

VITALS

**Major Finding:** Despite having similar hemoglobin $A_{1c}$ levels, older diabetic patients with dementia were more than twice as likely as cognitively healthy patients with diabetes to have hypoglycemia (OR, 2.4), and those with cognitive impairment were likely to have a nearly twofold greater risk of hypoglycemia (OR, 1.7).

**Data Source:** Cross-sectional analysis of data on 497,900 veterans aged 65 years and older.

**Disclosures:** The study was funded by the VA's Health Services Research and Development Service. Dr. Feil received a VA Career Development Award.

the mean $HbA_{1c}$ levels were nearly identical among all three cognitive groups: 7.0% for those with dementia, 6.9% for patients with cognitive impairment, and 7.0% for those with neither dementia nor cognitive impairment.

But when the authors looked at the unadjusted odds of hypoglycemia, they found that the patients with dementia were more than twice as likely as cognitively normal patients to have hypoglycemia (odds ratio, 2.4), and the patients with cognitive impairment were likely to have a nearly twofold greater risk of hypoglycemia (OR, 1.7).

Adjustment for potential confounders resulted in slight lowering – but not elimination – of the excess hypoglycemia in patients with dementia and cognitive impairment (OR, 1.8 and 1.2, respectively). ■

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