Nearly Half of Diabetes Patients Short of Tx Goals

BY PATRICE WENDLING
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CHICAGO — Despite significant gains in disease control over the last 6 years, nearly half of patients with diabetes failed to reach national treatment goals in 2006.

An analysis of 22.7 million hemoglobin A_{1c} tests performed on 4.8 million patients with diabetes mellitus revealed that as of December 2006, 55% of patients had reached the American Diabetes Association (ADA) treatment target of hemoglobin A_{1c} levels less than 7 percent. This compares with 37.8% in 2001.

The analysis revealed that despite these overall gains, the decline in A_{1c} values has slowed since 2003, leaving 45% of Americans with diabetes short of ADA targets in 2006.

"For this 45 percent, we are going to need new approaches to control their diabetes," coauthor Dr. Richard W. Furlanetto said at a press briefing during the annual scientific sessions of the ADA. "We'll need new medications certainly, but I think we'll need intensive education for these people and new ways of allowing them to live with their disease."

Roughly 28% of patients with type 1 diabetes reached an A_{1c} level below 7 percent in 2001, compared with 35% in 2006. In contrast, 45% and 57% of patients with type 2 diabetes reached the target A_{1c} over the same time period, said Dr. Furlanetto, a pediatric endocrinologist and medical director of endocrinology at Quest Diagnostics Nichols Institute in Chantilly, Va.

In patients with type 2 diabetes, the overall mean A_{1c} values declined from 7.6% in 2001 to 7.3% in 2003, but then slowed significantly and stabilized at 7.2% in 2006, according to the analysis of data from the Quest Diagnostics Informatics Data Warehouse, a large private reference laboratory database.

The authors suggest that this HbA_{1c} plateau mirrors the clinical progression of the disease as well as treatment patterns. Longitudinal analysis indicates that A_{1c} values for individual patients decreased in the first 1-2 years, and then trended slowly upward. This could be a result of aggressive therapy and strict compliance in the early years, followed by worsening of the disease, which limits therapy, and less diligent treatment compliance, Dr. Furlanetto said.

One of the more striking findings in the study, which was presented as a poster at the meeting, was that A_{1c} levels show significant seasonal fluctuations, with A_{1c} levels peaking in the winter between January and March and falling between July and October.

The magnitude of the variation depended on patient age, diabetes type, and winter A_{1c} value. The variations were most apparent in those aged 80 years and older and those with the highest A_{1c} levels (9% or more).

HbA_{1c} measurements taken in late spring and late fall may be more representative of the annual mean A_{1c} level, Dr. Furlanetto suggested.

While the number of tests reported in the study is more than 50 times that of other published reports on diabetes health, reporters questioned how applicable the findings are to the average patient, given that the sample represents a fraction of the roughly 21 million Americans with diabetes.

Dr. Furlanetto acknowledged that the study was limited by its reliance on ICD-9 billing codes, but countered that the size of the database was substantial; that it covered all 50 states, the District of Columbia, and Puerto Rico; and that it may actually underrepresent the number of patients under the care of endocrinologists.

Session moderator Martha M. Funnell, a registered nurse and certified diabetes educator at the University of Michigan, Ann Arbor, said one of the strengths of the study was its size. "I realize it's not 100 percent of people with diabetes, but it's a very, very robust representation," she said. Additionally, the patient population was a random sample, and the study underrepresented endocrinologists, who would presumably provide better diabetes management, she added. ■

Link Between Antipsychotics and Type 2 Diabetes Risk 'Unclear'

BY HANNAH BROWN
Contributing Writer

BARCELONA — It remains unclear whether people with psychiatric problems taking atypical antipsychotic medicines develop diabetes more frequently than do other people, according to the results of a systematic evidence review presented at an international congress on prediabetes and the metabolic syndrome.

Several previously published case reports and cross-sectional studies have suggested that there is an association between atypical antipsychotic agents and type 2 diabetes, said Jeffrey Johnson, Ph.D., of the Institute of Health Economics at the University of Alberta, Edmonton. So Dr. Johnson and a colleague, Lauren Brown, set out to do a systematic review of available evidence on this issue to examine whether the risk of type 2 diabetes in people with psychotic illnesses who are taking atypical antipsychotic agents is actually raised compared with individuals not taking these medications.

Dr. Johnson and Ms. Brown searched several electronic literature databases, including the Cochrane Library and Medline, to collect evidence for their study. The researchers identified 228 studies relating to this issue, of which 22 matched the inclusion criteria. The studies included those looking at populations of individuals diagnosed with schizophrenia or schizoaffective disorder who had been treated with clozapine, olanzapine, quetiapine, or risperidone, with type 2 diabetes diagnosis as an outcome. Selected studies were restricted to case-control trials or those with randomized controlled or cohort design.

Of the 22 studies selected for evaluation in the systematic review, 17 were retrospective cohort design and 5 were case-control studies. According to the researchers, the resulting group of investigations included a heterogeneous mix of psychotic illnesses, drugs, dosages, and comparison treatments, making the analysis of underlying effects difficult to ascertain. Heterogeneity between studies was related to study design, length of study, the stage at which the illness was diagnosed, medication dose, age of study population, and study quality.

By pooling the results of the studies with all treatments, Dr. Johnson and Ms. Brown calculated that the odds ratio for a diagnosis of diabetes in people taking any atypical antipsychotic agent compared with controls was 1.16 (95% confidence interval 1.01-1.33) in favor of the treatment, suggesting that the treatment slightly increased the risk of type 2 diabetes. But when Dr. Johnson and Ms. Brown did a separate analysis looking at diagnoses of type 2 diabetes in people taking just two drugs—risperidone or olanzapine—the odds ratio was 1.10 (95% CI 0.96-1.27), with the effect slightly bigger with olanzapine.

"Based on inconsistent results of the available observational studies, it is unclear whether atypical antipsychotic agents increase risk of diabetes compared with controls," Dr. Johnson said. He also cautioned that the overall effect sizes must be interpreted with care "due to a significant heterogeneity between studies, and because the overall effect sizes were calculated based on unadjusted odds ratios."

Dr. Johnson added that "Until more information regarding the relationship between atypical antipsychotic agents and diabetes is available, individuals taking atypical antipsychotics should have baseline and follow-up metabolic evaluations." ■

Diabetes With Artery Disease Raises Risk of Cardiac Events

BY HANNAH BROWN
Contributing Writer

BARCELONA — Patients with type 2 diabetes who have detectable coronary artery disease at diagnosis are at higher risk for cardiac events than are their counterparts in whom there is no evidence of atherosclerosis, Dr. Christoph Säly said at an international congress on prediabetes and the metabolic syndrome.

Current guidelines consider all patients with type 2 diabetes to have equivalent risk for developing a cardiac event. However, existing epidemiologic studies on the risk conferred by type 2 diabetes do not include data on the state of coronary arteries at baseline.

Dr. Säly and his colleagues from the Vorarlberg Institute for Vascular Investigation and Treatment, Feldkirch, Austria, reasoned that because "type 2 diabetes often represents a state of evolving coronary atherosclerosis," coronary artery disease may be present in many patients but may not yet have caused clinical symptoms, and that this damage may underlie the increased cardiac risk of some patients.

"Previously undiagnosed CAD among patients with diabetes therefore may account largely for their increased cardiovascular risk, which thus is erroneously attributed to diabetes per se," Dr. Säly said.

To test the effect of CAD on cardiovascular risk in patients with type 2 diabetes, the researchers studied 756 patients who were undergoing coronary angiography for the evaluation of CAD between October 1999 and October 2000. Of the sample, 244 had neither CAD nor type 2 diabetes at baseline, 50 had diabetes with no CAD, 342 had CAD with no diabetes, and 114 had both conditions. Six patients were excluded because they had type 1 diabetes. All study participants were followed for an average of 3.9 years, and cardiovascular events were identified through interviews and patient records.

Event-free survival was significantly lower in patients with both type 2 diabetes and CAD than in all other groups, but patients with type 2 diabetes in whom there was no coronary artery stenoses at baseline survived longer than patients who had CAD but no diabetes. Furthermore, patients with both diabetes and CAD had an event rate of 43%, which was significantly higher than all other groups, and patients with diabetes but no CAD had a significantly lower event rate than did patients with no diabetes but with detectable CAD.

"Type 2 diabetes in the absence of significant coronary stenoses carries a much better prognosis than previously assumed," said Dr. Säly, adding that as long as the development of significant CAD can be prevented, patients with type 2 diabetes could have much better outcomes.

However, he cautioned, "patients with diabetes who at the baseline angiography of our study did not have significant coronary stenoses of course may develop such stenoses over time and then be at a high risk of vascular events. We therefore intend to perform follow-up examinations over a longer time period."

The conclusion Dr. Säly and colleagues drew from their work is that "a combination of an angiographic and prospective study thus appears necessary to discern between the risk inherent to diabetes per se and that of evolving atherosclerosis.

"With this approach, the question should be answered whether an increased prevalence of CAD at baseline accounts for the high risk of diabetic patients or, alternatively, whether diabetes per se determines the risk." ■