Nearly Half of Diabetics Fail to Reach Targets

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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%. 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%, 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% 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.

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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% 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. ■