

Insulin, Education Key To Type 2 in Teens

BY BETSY BATES

LOS ANGELES — Adolescents newly diagnosed with type 2 diabetes rapidly achieved an improvement in their glycemic control, but they tended to backslide within about a year in a longitudinal study conducted at Indiana University.

Key factors associated with better glycemic control throughout the first 2 years of follow-up included:

- ▶ Initial treatment with insulin rather than an oral hypoglycemic agent.
- ▶ Inpatient, rather than outpatient, education at diagnosis.
- ▶ More frequent follow-up visits.

An estimated 39,000 U.S. adolescents now have type 2 diabetes. The best initial management strategy for these youth “remains unclear,” Dr. Paul S. Kim said at the annual meeting of the Society for Adolescent Medicine.

Dr. Kim and associates analyzed 13 years’ worth of medical records for patients diagnosed with type 2 diabetes before the age of 21.

Among 154 cases identified, 72% were female. The average age at diagnosis was 13 years, said Dr. Kim, a fellow in adolescent medicine at the medical school and Riley Children’s Hospital in Indianapolis.

Equal percentages of the cohort were

African American and white, at 46% each, with the remaining patients representing other racial/ethnic groups.

Their mean BMI was 36.4 kg/m²; mean hemoglobin A_{1c} value was 9%.

Among the total 154 records, 133 (86%) represented patients who were seen in the Indiana University system for at least 2 follow-up visits within a mean 2.1 years of follow-up. Only the first 8 follow-up visits of these 133 were included in the analysis.

During a mean 5.6 follow-up visits, patients’ mean HbA_{1c} values declined from a baseline value of 9% to 6.8% by follow-up visit 3, and then gradually increased to 8% by visit 8.

“Having inpatient education and insulin treatment at diagnosis was associated with a more rapid decrease in HbA_{1c} levels during [the initial postdiagnosis] time period,” Dr. Kim said.

The steady increase in HbA_{1c} values between visit 3 and visit 8 was similarly less pronounced among patients who received inpatient education, insulin at baseline, and shorter intervals between follow-up visits.

Slightly more than 20% of patients showed a significant increase in HbA_{1c} during the study period: at least a 1% increase from the lowest value they achieved. The investigators reported no relevant financial disclosures. ■

Early Use of Statins in Type 1 May Slim Carotid Thickening

BY BETSY BATES

LOS ANGELES — Treating adolescents with type 1 diabetes with statins early in the course of their disease may lead to measurable improvement in their carotid intima-media thickness, an important risk factor for stroke and heart disease, preliminary data showed.

A pilot study of 26 children with type 1 diabetes found that those randomized to receive simvastatin (Zocor) for a year demonstrated a regression from baseline of the progression of carotid intima-media thickness (IMT), while those receiving a placebo had continued worsening of their IMT, Dr. Francine R. Kaufman reported at the annual meeting of the Society of Adolescent Medicine.

Measurements by two-dimensional ultrasound of the IMT of the carotid artery is an indirect but useful way to assess the presence and progression of atherosclerosis, Dr. Kaufman explained.

An earlier, long-term study of carotid IMT in 115 adolescents with diabetes and 87 controls was conducted at Children’s Hospital Los Angeles, where Dr. Kaufman heads the center for diabetes, endocrinology, and metabolism.

In that study, adolescents (aged 12-21 years) with diabetes had significantly thicker IMT measurements than controls, and that there was an association between higher IMT and elevated levels

of LDL cholesterol, apolipoprotein B, and lysophosphatidic acid (J. Pediatrics 2004;145:452-7).

The current study explored whether early treatment of type 1 diabetes with statins might have an impact on carotid IMT. Adolescents assigned to receive statins or placebo were similar in age (15-



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DR. KAUFMAN

16 years), baseline hemoglobin A_{1c} values (8.4%-8.5%), and baseline IMT (mean 0.5510-0.5656 mm); 30% were males and 70% were females.

After a year, IMT had increased in the control group by a mean 0.0065 mm, while it regressed among statin takers by -0.0156 mm, reported Dr. Kaufman.

Several medical societies agree that children with type 1 diabetes should be screened for dyslipidemia. “We should start thinking about treatment when LDL is over 100 [mg/dL], and we should treat when LDL is in the 130 range,” said Dr. Kaufman who disclosed having no conflicts of interest. ■

Depression Associated With Mortality in Diabetic Patients

BY ROBERT FINN

LONG BEACH, CALIF. — People with diabetes have far higher scores on a depression scale than do those without diabetes, according to a large epidemiologic study.

Furthermore, depression also is associated with increased 10-year mortality in people with diabetes, but not in those without the condition.

The mortality risk goes up 54% in diabetic patients with clinical depression, compared with those without depression, after adjustment for a large number of covariates, according to Xuanping Zhang, Ph.D., of the Centers for Disease Control and Prevention, Atlanta, and his colleagues. Dr. Zhang presented the results at a conference on diabetes sponsored by the CDC.

The study used data collected between 1982 and 1992 by the National Health and Nutrition Examination Survey I Epidemiologic Follow-Up Survey (NHEFS).

The investigators compared 558 people with diabetes to 7,063 people without the disease, and included all individuals for whom they had complete

survival data and scores on the Centers for Epidemiologic Studies Depression (CES-D) scale. Scores of 16 and above indicate clinical depression, scores of 16-21 indicate moderate depression, and scores of 22 or greater indicate severe depression.

Among people with diabetes, the mean CES-D score was 26.3, compared with 15.8 among those without diabetes, a significant difference.

In a multivariate analysis that adjusted for age, gender, race, marital status, education, working status, smoking status, physical activity, alcohol consumption, body mass index, self-rated health, and the presence of other serious diseases, people with diabetes who also had a CES-D score of 16 or above were 54% more likely to die over 10 years than were those with lower depression scores, a statistically significant increase in risk.

Among people who did not have diabetes, high depression scores conferred a 3% increase in mortality risk, and that increase was not statistically significant.

Dr. Zhang stated that he had no conflicts of interest to disclose regarding his presentation. ■

Too Little and Too Much Sleep Tied to Type 2 Diabetes Risk

BY ELIZABETH MEHCATIE

Sleeping more or less than 7-8 hours a night was associated with a significantly greater risk of developing type 2 diabetes or impaired glucose tolerance, in a 6-year study of 276 adults.

The results “concur with a growing body of epidemiological evidence showing a U-shaped relationship between sleep duration and body weight, type 2 diabetes, coronary heart disease, and all-cause mortality,” wrote Dr. Jean-Philippe Chaput of Laval University, Quebec City, and his associates. The study is in press at Sleep Medicine (doi:10.1016/j.sleep.2008.09.016).

Among the 276 men and women (aged 21-64) in the current cohort study, 21% who slept an average of 6 hours or less a night and 19% of those who slept an average of 9 hours or more a night developed type 2 diabetes or impaired glucose tolerance (IGT) over a mean of 6 years, compared with 7% of those who slept an average of 7-8 hours a night.

After adjustment for confounding factors associated with sleep duration and/or type 2 diabetes/IGT, such as age, smoking habits, shift work, and vigorous physical activity, those who slept 6 hours or less a night had a 2.78 times greater

risk of developing diabetes and those who slept 9 or more hours a night had a 2.54 times greater risk, compared with those who slept 7-8 hours; the differences were significant.

After adjustment for waist circumference, the increased relative risk for the groups who slept more or less than 7-8 hours remained significant. There were no sex differences in risk.

Previous data have suggested that prolonged partial sleep deprivation could predispose people to abnormal metabolic regulation, including clinical diabetes, and that partial sleep restriction can cause changes in metabolic and endocrine functions, such as insulin resistance and reduced carbohydrate tolerance.

The mechanism underlying the impact of too much sleep is more speculative, they wrote. One possible explanation is that sleep disorders associated with more sleep, such as sleep-disordered breathing, are also associated with obesity, insulin resistance, and diabetes.

The subjects in the study were part of the Quebec Family Study, a study on the influence of genetics on the etiology of obesity, fitness, and cardiovascular and diabetes risk factors, in 1,650 people from 375 families. ■