Type 2 Diabetes Overtakes Type 1 in Hispanic Girls

BY SHERRY BOSCHERT
San Francisco Bureau

SAN FRANCISCO — From age 15 years onward, Hispanic females in the United States are significantly more likely to be diagnosed with incident type 2 diabetes than type 1 diabetes, according to an analysis of data from the Search for Diabetes in Youth study.

In addition, at ages 10-14 years, Hispanic females in the United States had twice the incidence of type 2 diabetes in 2002-2005, compared with Hispanic males. The study looked at youths less than 20 years old in populations from six states, Jean M. Lawrence and her associates reported at the annual scientific sessions of the American Diabetes Association.

During that period, 635 youths were diagnosed with diabetes out of a population of more than 3 million, with incidence rates peaking for females at ages 5-9 years and for males at ages 10-14 years, said Ms. Lawrence of Kaiser Permanente Southern California, in Pasadena. She had no conflicts of interest related to the study.

Incidence rates for type 1 diabetes in girls were 9/100,000 in ages 0-4 years, 20/100,000 in ages 5-9 years, 16/100,000 in ages 10-14 years, and 7/100,000 in ages 15-19 years. For boys, incidence rates for type 1 diabetes were 11/100,000 in ages 0-4 years, 16/100,000 in ages 5-9 years, 20/100,000 in ages 10-14 years, and 9/100,000 in ages 15-19 years.

Type 2 diabetes rarely was diagnosed in children less than 10 years old. For ages 10-14 years, the incidence of type 2 diabetes was 15/100,000 for girls and 7/100,000 for boys. For ages 15-19 years, the incidence was 13/100,000 for girls and 11/100,000 for boys.

The study identified prevalent diabetes in the year 2001 in 781 out of more than 641,000 Hispanic youths—most of it type 1. Prevalence rates did not differ significantly by sex in any of the age groups for either type of diabetes.

The prevalence increased with age for both diabetes types in both sexes. In those aged 15-17 years, the prevalence of type 1 diabetes was 1.6/1,000 for girls and 1.8/1,000 for boys, and the prevalence of type 2 diabetes was 0.8/1,000 for girls and 0.6/1,000 for boys.

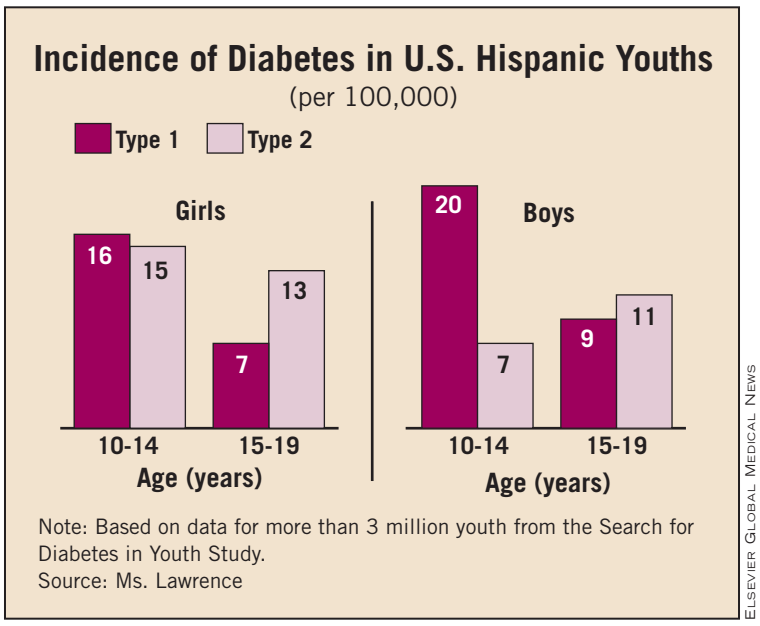
Data from two other studies presented during the same session at the meeting showed steep increases in the incidence and prevalence of diabetes in Canadians and a faster than predicted rise in type 1 diabetes in Finland, which has long held the record for having the highest national incidence of type 1 diabetes.

In the Canadian study, data on diabetes in residents younger than 20 years of age in the province of Alberta showed 2,301 prevalent cases in 840,000 children and adolescents, for a rate of 28/10,000. About 80% of cases were in 10- to 19-year-olds, said Jeffrey A. Johnson, Ph.D., of the University of Alberta, Edmonton, and his associates. The prevalence of diabetes increased by 47% between 1995 and 2006, from 19/10,000 to 28/10,000, said Dr. Johnson, who had no conflicts of interest related to the study.

The annual incidence rate in Alberta increased from 2/10,000 in 1995 to 3/10,000 in 2006, with most of that in patients younger than 10 years. The researchers weren't "able to separate diabetes types" in their study, but Dr. Johnson noted that other epidemiologic data suggest "this is likely an increase in type 1 diabetes."

Incidence rates increased 68% for ages 1-4 years, 68% for ages 5-9 years, 43% for ages 10-14 years, and 3% for ages 15-19 years. The annual incidence rate rose about 5% annually through 2002, then hit a plateau or declined in subsequent years. It's not clear if the declines were real or artifacts related to changes in the Canadian health system, he said.

In Finland, the most recent analysis of nationwide data shows an even steeper increase in incidence than expected, said Dr. Jaako Tuomilehto of the University of Helsinki. The incidence of type 1 diabetes rose from 34/100,000 residents in 1984 to 64/100,000 in 2005. A 2% annual increase in diabetes incidence before the 1990s doubled in more recent years, with the greatest relative increase in ages 0-4 years. He has been an adviser, speaker, or board member for, or received research funds from, Novo Nordisk, Merck & Co., and other makers of diabetes drugs or equipment. ■



Note: Based on data for more than 3 million youth from the Search for Diabetes in Youth Study.
Source: Ms. Lawrence

Glucose Monitoring in Type 2 Diabetics Is Often Inadequate

BY ROBERT FINN
San Francisco Bureau

SAN FRANCISCO — Only about 40% of patients who were newly prescribed oral antidiabetes drugs received a fasting plasma glucose test, according to findings in a recent study.

In addition, only about half of patients received any hemoglobin A_{1c} monitoring during the period beginning 90 days before the drug regimen started and lasting through the regimen's full course. And of the 50% whose HbA_{1c} was monitored, 39% showed evidence of inadequate glycemic control, reported Shanthy Krishnarajah of Bristol-Myers Squibb at the annual scientific sessions of the American Diabetes Association.

The study population was derived from the Integrated Health Care Information Services National Managed Care Benchmark Database, a compilation of data from 40 million people enrolled in health plans in the United States.

Ms. Krishnarajah and her colleagues identified 53,772 patients, aged 18 years and older, with type 2 diabetes who received their first prescription for an oral antidiabetes drug between 2000 and 2006. Patients with any prior experience with oral antidiabetes drugs and those who weren't continuously enrolled in their health plans during treatment were excluded.

The patients were followed beginning 90 days before their initial prescription through any change in that initial drug regimen, which took place about 1 year after starting therapy.

ADA guidelines state that patients with type 2 diabetes have their glycemic control monitored at least twice a year, and as often as four times yearly if their glucose levels are not well controlled. Despite that, about 50% of the patients in this cohort did not have their HbA_{1c} measured even once. "Fewer than 3% are getting their A_{1c} tested [at the quarterly visit]," she said.

In patients whose glycemic control was measured, the average declines in HbA_{1c} ranged from 0.91% for patients on sulfonylureas to 1.69% for those on thiazolidinediones. In those who had HbA_{1c} levels recorded, however, 39% never demonstrated glycemic control during the oral antidiabetes drug regimen.

In a multivariate logistic regression analysis that controlled for all relevant variables, the only factors independently associated with a greater likelihood of HbA_{1c} testing were female gender, membership in a point-of-service health plan, and total health care utilization. A lower likelihood of HbA_{1c} testing was associated with Medicaid or Medicare patients and those aged 65 years or older.

Ms. Krishnarajah acknowledged the data set didn't capture self-monitoring of blood glucose or tests done in practices and that some newer classes were excluded. ■

Hyperglycemia Postpartum May Flag Metabolic Syndrome Risk

BY ROBIN TURNER
Senior Editor

Gestational impaired glucose tolerance, defined by a single abnormal value at 1 hour during the oral glucose tolerance test, is associated with many of the same adverse outcomes as gestational diabetes mellitus, including postpartum glycemia, insulin resistance, and β-cell dysfunction.

Investigators evaluated the obstetric outcomes of postpartum metabolic function in a cohort of more than 360 women stratified by glucose tolerance status during pregnancy. The women underwent an antepartum glucose challenge test (GCT) and a 3-hour oral glucose tolerance test (OGTT), an assessment of obstetric outcome at delivery, and a metabolic characterization by OGTT at 3 months post partum.

Five study groups were identified: those with gestational diabetes mellitus (GDM), 1-hour gestational impaired glucose tolerance (GIGT), 2- or 3-hour GIGT, abnormal glucose challenge test (GCT) with normal glucose tolerance (NGT), and normal GCT with NGT (Diabetes Care 2008;31:1275-81).

There were no significant differences among the groups with respect to mean age, smoking status, and parity.

The researchers noted the 1-hour GIGT group had adverse outcomes similar to the group with gestational diabetes mellitus, although the GIGT group did not have increased infant birth weight. The c-section rate was highest in the 1-hour GIGT group, but there were no significant differences among the four non-GDM groups, wrote Dr. Ravi Retnakaran of the Leadership Sinai Centre for Diabetes, Mount Sinai Hospital, Toronto, and the division of endocrinology and metabolism at the University of Toronto, and his colleagues. There were also no significant differences among the four non-GDM groups with respect to length of gestation, infant sex, or Apgar scores.

At 3 months post partum, glycemic parameters progressively increased from normal glucose challenge test with normal glucose tolerance to abnormal glucose challenge test with normal glucose tolerance to 2- or 3-hour gestational impaired glucose tolerance to 1-hour GIGT to gestational diabetes mellitus. Insulin sensitivity and β-cell function progressively decreased across the groups in the same manner.

Participants in the normal GCT NGT group underwent the 3-hour oral glucose tolerance test at a median of 32 weeks' gestation, compared with a median of 29 weeks' gestation for the other four groups.

One limitation of the current study was the small number of subjects with GIGT (28). Still, the authors said further investigation is warranted to determine the risk of type 2 diabetes and to conduct a cost-benefit evaluation of postpartum care strategies.

The study was supported by a grant from the Canadian Institutes of Health Research. ■