Infection Control at Fault?

Hepatitis *from page 1*

tional Health and Nutrition Examination Surveys (NHANES), which showed that overall prevalence of hepatitis B among adults older than 18 years of age with diabetes is 8.3%, compared with 5.2% in those without diabetes, Dr. Dale Hu reported at the meeting.

The odds ratio and prevalence ratio for hepatitis B in diabetic patients based on those survey data were 1.66 and 1.61, respectively, said Dr. Hu of the CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP).

In one CDC investigation of 13 outbreaks involving serosurveys of 1,278 patients, 30.5% of 338 diabetic patients vs. 1.0% of 940 nondiabetic patients had acute infection, and 6.3% vs. 0.4% of the groups, respectively, had chronic infection, Dr. Hu said.

Numerous reports of outbreaks of hepatitis B infection in diabetic patients suggest that poor infection control practices involving the use of glucose meters may play a role in the increased risk in this population.

For example, a study published earlier this year showed that 46 of 68 (68%) ambulatory care centers had at least one lapse in infection control, and that 21% of the 68 centers used single-use lancing penlets for blood glucose monitoring in multiple patients; 32% failed to clean and disinfect glucose meters after each use (JAMA 2010;303:2273-9).

Since the increased prevalence of hepatitis B infection in adults with diabetes is comparable to the historical prevalence in certain groups of health care workers, the working group is recommending a similar vaccination program to that used for health care workers. That will include improved infection control practices, and innovations in labeling, cleaning, and design of blood glucose monitoring devices to prevent transmission of all bloodborne pathogens, in addition to vaccination of all adults with diabetes.

"Hepatitis B vaccine, coupled with universal precautions and increased infection control, has been very effective in reducing the prevalence and incidence among health care personnel, and has the potential to do the same among adults with diabetes," Dr. Hu said.

The working group is planning a cost-effectiveness analysis to be presented to ACIP in October in regard to their recommendations, along with proposals for implementing the policies, said Dr. Sawyer, professor of clinical pediatrics in the division of pediatric infectious disease, University of California, San Diego.

ACIP members who commented on the proposals generally agreed with the working group regarding the need for vaccination of adults with diabetes, with multiple members suggesting that such policy would move the committee a step closer to recommending universal hepatitis B vaccination.

Dr. Sawyer said he had no conflicts of interest. ■

Intensive Glycemic Control Did Not Reduce Microvascular End Point

BY MIRIAM E. TUCKER

FROM THE ANNUAL SCIENTIFIC SESSIONS OF THE AMERICAN DIABETES ASSOCIATION

ORLANDO — Intensive glycemic control did not reduce the risk for developing advanced measures of microvascular outcomes, although it did delay the onset of albuminuria and some measures of eye complications and neuropathy among patients with longstanding type 2 diabetes at high cardiovascular risk.

The mixed results, from a subanalysis of the Action to Control Cardiovascular Risk in Diabetes (ACCORD) trial, suggest that the microvascular benefits of intensive therapy should be weighed against the increase in total disease-related mortality, increased weight gain, and high risk for severe hypoglycemia that emerged with the main findings of the trial 2 years ago, said Dr. Faramarz Ismail-Beigi said of Case Western Reserve University, Cleveland. The findings were released simultaneously online in the Lancet (doi:10.1016/S0140-6736(10)60576-4).

The ACCORD trial randomized 10,251 adults with type 2 diabetes to either intensive glycemic control with a target hemoglobin A_{1c} of less than 6.0%, or standard therapy aiming for HbA_{1c} values of 7.0%-7.9%. The intensive arm was stopped early in February 2008—after a median follow-up of 3.7 years—because of a 22% higher all-cause mortality in the intensive group. They were then transitioned to standard therapy for the rest of the trial, which also included blood pressure and lipid control arms (N. Engl. J. Med. 2008;358:2545-59).

At the time of that transition and at study end, the two groups did not differ in the prespecified primary composite outcome of advanced nephropathy and diabetic eye complications (development of renal failure or retinal photocoagulation or vitrectomy to treat retinopathy), nor in a second composite end point that added a peripheral neuropathy outcome (score of greater than 2.0 on the Michigan neuropathy screening instrument or the first composite outcome). At the end of the study, 10.9% of the intensive group and 11.5% of the standard treatment group met the first composite end point, and 38.2% and 40.0%, respectively, met the second.

However, microvascular renal outcomes based on urinary measures were significantly reduced in the intensive glycemic therapy group. Intensive glycemia therapy led to a 21% reduction in the development of microalbuminuria at the time of transition. This effect was attenuated to 15% at study end, but remained statistically significant, Dr. Ismail-Beigi reported.

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Weigh the risks vs. benefits of intense therapy, said Dr. Faramarz Ismail-Beigi (right).

For diabetes-related eye events, three-line worsening of visual acuity was more common in the standard group than in the intensive group at both transition and study end (20.7% vs. 19.1%). Peripheral neuropathy (MNSI greater than 2.0) was less common in the intensive group than in the standard group at study end (55.6% vs. 58.6%).

The ACCORD trial was funded by the National Heart, Lung, and Blood Institute, with contributions of medications, equipment, or supplies from several manufacturers.

Several coauthors declared financial relationships with many manufacturers of diabetes-related products. ■

Community-Based Intervention Cut Blood Glucose Levels

BY MIRIAM E. TUCKER

FROM THE ANNUAL SCIENTIFIC SESSIONS OF THE AMERICAN DIABETES ASSOCIATION

ORLANDO — A community-based lifestyle intervention program significantly reduced body weight and waist circumference and lowered fasting blood glucose levels at 1 year compared with usual care in a study of 301 adults with prediabetes.

Results of the Healthy Living Partnerships to Prevent Diabetes (HELP PD) study were presented by Dr. David C. Goff, chair of the department of epidemiology and prevention at Wake Forest University. The intervention was modeled after the landmark Diabetes Prevention Program (DPP) study, in which individuals at high risk for type 2 diabetes who received individual lifestyle counseling had a 58% reduction in the development of diabetes over a 3-year period (N. Engl. J. Med. 2002;346:393-403). Both studies were funded by the National Institute of Diabetes, Digestive and Kidney Diseases.

"In the 7 years since publication of the DPP, there has been great interest in developing and testing ways to translate those behavioral weight loss approaches to community settings in ways that can reach the large population of people with prediabetes," Dr. Goff said during a press briefing held at the American Diabetes Association meeting.

In HELP PD, the DPP intervention was modified to a group-based counseling session with about 10-14 people per group. In another difference, specially trained lay community health workers who had brought their diabetes under control delivered the intervention, which included encouragement to change eating behaviors and to exercise for up to 180 minutes per week, with an emphasis on walking.

In the intervention group, sessions were held weekly for the first 6 months and monthly for the next 18 months. The usual-care group received two individual sessions with a registered dietician during the first 3 months of the study and a monthly newsletter throughout the 2 years. Telephone calls were also included.

The subject population was about 40% male, about 75% white, and slightly less than a 25% African-American. They had a mean age of 58 years, a mean body weight of 94 kg, the mean BMI was 33 kg/m^2, and mean fasting blood glucose was 105 mg/dL.

Subjects in the intervention group lost an average of 7 kg in the first intervention year, compared with a loss of 1.5 kg in the usual care group. Waist circumference was reduced by 5.9 cm in the intervention group, compared with less than 1 cm with usual care.

The primary end point, fasting glucose, dropped by 4.2 mg/dL in the first year, compared with 0.3-mg/dL in the usual-care group. All of these comparisons are highly statistically significant. Fasting insulin levels also declined, Dr. Goff said.

Neither overall nor serious adverse events differed between the two groups. Although the sample size wasn't large enough to assess the development of diabetes with statistical significance, there have been fewer cases among the intervention group participants, consistent with the 4-mg/dL reduction in fasting glucose. Monitoring for diabetes will be continued into a second year along with the other parameters, he said.

There are currently approximately 3,000 diabetes education programs around the country that are recognized by the ADA.

Dr. Goff stated that he has received funding for diabetes-related research from Merck and has served on a safety monitoring board for Takeda. ■