Inadequate Vitamin D in Infants Ups Type 1 Risk

BY MARY ELLEN SCHNEIDER
Senior Writer

RENO, NEV. — Infants—especially breast-fed infants—at an increased risk for type 1 diabetes aren’t getting the recommended levels of vitamin D in their diets, despite efforts to publicize the relationship between type 1 diabetes and insufficient vitamin D, according to a poster presented at the annual meeting of the American College of Nutrition.

The researchers reported a correlation between low intake of vitamin D and higher risk for type 1 diabetes, researchers with the Environmental Determinants of Diabetes in the Young (TEDDY) study decided to assess the vitamin D intake of children aged 3-12 months who possess a genetic predisposition to the autoimmunity associated with type 1 diabetes.

The dietary intake of the infants was compared with recommendations for vitamin D intake from the American Academy of Pediatrics (AAP).

The researchers analyzed vitamin D intake for 342 infants from the TEDDY centers in Colorado, Georgia, and Florida. Fewer than half of the children in the study (49%) met AAP guidelines for vitamin D intake at 3 months, and 56% met guidelines at 6 months. But compliance with the AAP recommendations increased over time. By 9 months of age, the percentage of infants meeting AAP recommendations for vitamin D intake increased to 73% and continued to rise to 79% by 12 months.

The current AAP recommendation calls for infants to receive 200 IU of vitamin D daily within the first 2 months of life. Infants and children who consume at least 500 mL per day of vitamin D-fortified formula or milk should meet the recommended intake, but vitamin D supplementation is necessary in breastfed infants, according to the AAP (Pediatrics 2003;111:908-10).

The TEDDY researchers found that infants with very low intakes of vitamin D were generally those infants who were predominantly breast fed. Many infants who were breast fed at birth and had vitamin D intakes that were twofold higher than the AAP recommendations. And some formula-fed infants with very large energy intakes were receiving three- to fourfold more than the AAP’s recommended daily intake of vitamin D, the researchers wrote.

These preliminary results are based on dietary intake data collected between September 2004 and July 2006. The researchers collected 24-hour diet recall and 3-day food diaries from the primary caretakers. The 3-day records were averaged to obtain daily intake, and nutrient values were calculated. The data collection is ongoing.

The TEDDY study is funded by the National Institutes of Health, the Centers for Disease Control and Prevention, and the Juvenile Diabetes Research Foundation.

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Home Blood Pressure Monitoring Redirects Diabetes Patients

BY PATRICE WELDING
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TUCSON, ARIZ. — Home blood pressure monitoring may have a role in changing diet and exercise habits in adults with type 2 diabetes mellitus, according to results from a small analysis presented at the annual meeting of the North American Primary Care Research Group.

Daily blood pressure monitoring was considered helpful in increasing awareness of blood pressure (BP) and making lifestyle changes in 21 of 24 patients. Over all, 77% of the patients reported making changes in their diet, and 50% exercised more as a result of daily blood pressure monitoring. Of the total, 54% of patients reported that their health status was “much better” or “somewhat better” after 6 months and may account for some benefit of monitoring, said Dr. Lauren DeAlleaume and colleagues at the University of Colorado Health Sciences Center, in Denver.

At baseline, 17 patients (71%) had hypertension, 4 (17%) had a history of myocardial infarction, 2 (8%) had suffered transient ischemic attacks, and 19 (79%) had increased cholesterol, 13 of whom were on cholesterol-lowering medications.

The self-reported finding of improved health status was unexpected, given that the average age was 62 years in patients with diabetes and other health problems, Dr. DeAlleaume noted in an interview. “We think it’s a matter of em- powerment, but there need to be more studies.”

When asked, 92% of patients said they felt empowered to make lifestyle changes to control their blood pressure. However, 21% reported that checking their blood pressure makes them feel anxious and that day-to-day BP variations worried them.

“Variations are not uncommon in practice, but patients tend to think their BP should be rock steady, whereas variability is normal and healthier,” said Dr. DeAlleaume of the department of family medicine at the university.

The analysis was part of the Future Revascularization Evaluation in Patients With Diabetes Mellitus: Optimal Management of Multivessel Disease (FREEDOM) trial, an ongoing trial examining cardiovascular risk factors in 34 patients with type 2 diabetes. Of those, 14 were young, 12 Hispanic, and 71% have prescription coverage. Overall, 24 patients agreed to monitor their BP daily with an automatic wrist cuff validated by the German Hypertension Society and to report their readings monthly via phone, mail, or the Internet. Feedback was provided to both the patients and their physicians. The target BP was a goal of less than 125 mm Hg/75 mm Hg.

The patients submitted an average of six reports; the average interval between reports was 40 days, and the preferred method of reporting was by mail.

There is evidence to suggest that home BP monitoring correlates better with ambulatory BP monitoring and target-organ damage than does office BP monitoring. Although the data are consistent, the number of studies is limited, Dr. DeAlleaume said.

“The reason everyone hasn’t jumped on this is that there are major [home] blood pressure studies, but I think home monitoring is going to be the wave of the future,” she said.