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In this issue

Life Extension Update Exclusive

Increased omega-3 fatty acid intake lowers type 1 diabetes risk

Health Concern

Diabetes

Featured Products

Super Omega-3 EPA/DHA with Sesame Lignans and Olive Fruit Extract

Enhanced Cinnulin PF with Glucose Management Proprietary Blend

Life Extension Vacations

Cancun

Life Extension Update Exclusive

Increased omega-3 fatty acid intake lowers type 1 diabetes risk

The September 26, 2007 issue of the *Journal of the American Medical Association* reported the discovery of researchers at the University of Colorado at Denver and Health Sciences Center, Denver that greater intake of omega-3 fatty acids has a positive effect on the prevention of the development of type 1 diabetes in children. Type 1 diabetes is caused by pancreatic islet autoimmunity, which results in destruction of beta cells in the pancreas that produce insulin, causing in an elevation in blood sugar. Cod liver oil given in infancy had previously been found to be associated with a protective effect against the development of childhood diabetes, however, it was not known whether the oil's vitamin D or fatty acid content were responsible for the benefit.

Jill M. Norris, MPH, PhD and colleagues examined the effect of omega fatty acids in 1,770 children determined to be at risk of type 1 diabetes by a genetic marker or by having a first degree relative with the disease. Dietary questionnaires concerning food consumed by the children during the previous year were completed yearly by the children's mothers and analyzed for omega-3 and omega-6 fatty acid intake. The children were followed from one year of age to an average of 6.2 years. Islet autoimmunity was determined by testing for insulin, glutamic acid decarboxylase, or insulinoma-associated antigen-2 autoantibodies on two consecutive study visits, and being positive for autoantibodies or having diabetes at the last visit.

At the end of the study, 58 children had developed pancreatic islet autoimmunity. After adjusting for factors such as calorie consumption, the research team found a significantly lower risk of developing islet autoimmunity associated with increased total omega-3 fatty acid intake. When islet autoimmunity was limited to those with two or more autoantibodies, the risk was further lowered. Omega-6 intake was not associated with islet autoimmunity risk.

In a separate study of 244 children whose erythrocyte (red blood cell) membrane fatty acid content was measured, in which 35 participants developed diabetes, higher omega-3 content was also found to be associated with a lower risk of islet autoimmunity.

"Our data suggest that ingestion of omega-3 fatty acids throughout childhood may decrease the risk of islet autoimmunity," the authors write. Commenting on the recent establishment of a clinical trial designed to evaluate the hypothesis that supplementation with the omega-3 fatty acid DHA in utero and infancy will help prevent the development of islet autoimmunity in infants at risk for diabetes, they conclude, "If this trial confirms this hypothesis, dietary supplementation with omega-3 fatty acids could become a mainstay for early intervention to safely prevent the development of type 1 diabetes."

Health Concern

Diabetes

Type 1 diabetes, formerly known as insulin-dependent diabetes, is an autoimmune condition that occurs when the body attacks

and destroys the cells (called beta cells) that make insulin. Type 1 diabetes accounts for about 5 to 10 percent of cases. Because type 1 diabetics can no longer make insulin, insulin replacement therapy is essential.

Type 2 diabetes, formerly known as non-insulin-dependent diabetes, occurs when the body is no longer able to use insulin effectively and gradually becomes resistant to its effects. It is a slowly progressing disease that goes through identifiable stages. In the early stages of diabetes, both insulin and glucose levels are elevated (conditions called hyperinsulinemia and hyperglycemia, respectively). In the later stages, insulin levels are reduced, and blood glucose levels are very elevated. Although few people are aware of this crucial distinction, therapy for type 2 diabetes should be tailored to the stage of the disease.

In human experiments, omega-3 fatty acids lowered blood pressure and triglyceride levels, thereby relieving many of the complications associated with diabetes. In animals, omega-3 fatty acids cause less weight gain than other fats do; they have also been shown to have a neutral effect on LDL, while raising HDL and lowering triglycerides (Petersen M et al 2002).

http://www.lef.org/protocols/metabolic_health/diabetes_01.htm

Featured Products

Super Omega-3 EPA/DHA with Sesame Lignans and Olive Fruit Extract

Super Omega-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract contains pharmaceutical-grade fish oil with a unique 35%/25% ratio of EPA/DHA. Research demonstrates that the addition of sesame lignans to fish oil enhances its beneficial effects. Sesame lignans inhibit an enzyme (delta-5-desaturase) that causes dietary fats to be converted into arachidonic acid, a precursor to the toxic inflammatory factors prostaglandin E2 and leukotriene B4.

<http://www.lef.org/newshop/items/item00982.html>



Enhanced Cinnulin PF with Glucose Management Proprietary Blend

High blood sugar is implicated in the development of numerous health problems. New studies reveal that even active, health-conscious adults can experience higher than desired blood sugar levels as they age. In addition to a proper diet and regular exercise, certain minerals and plant-based nutrients can help support healthy blood sugar levels in aging adults. Chief among these are pharmaceutical extracts found in cinnamon, coffee berry, green tea, and banaba leaf, a new form of chromium, and water-soluble quercetin.

<http://www.lef.org/newshop/items/item00967.html>



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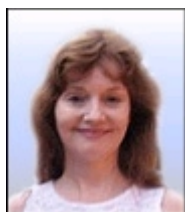
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If you have questions or comments concerning this issue or past issues of *Life Extension Update*, send them to ddye@lifeextension.com or call 954 202 7716.

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