Biannual Dietary Counseling Improves Pediatric Outcomes

BY SHERRY BOSCHERT
San Francisco Bureau

Giving families of infants and children individualized dietary counseling twice a year reduced the children’s intake of fat and improved their insulin sensitivity by age 9 in a long-term randomized study.

The ongoing Special Turku Coronary Risk Factor Intervention Project for Children, a Finnish study, randomized healthy 7-month-old infants in 1990 to an intervention group (350 infants) or a control group (322 infants). The control group received the basic health education provided at well-baby clinics. A physician and a dietitian provided individualized dietary counseling in the intervention group. Twice a year, families recorded what the child consumed for 4 days and were followed for at least 30 months. The researchers evaluated the thyroid function using T3, T4, and TSH measurements of a subset of 200 children (78 in the intervention group and 89 in the control group) in the study population.

The children in the intervention group consumed significantly less saturated fat and less saturated fat than those in the control group. Scores on the homeostasis model assessment of insulin resistance (HOMA-IR) index at age 9 were lower in the intervention children, indicating better insulin sensitivity compared with controls (Diabetes Care 2006;29:781-5).

Multivariate analyses indicated that “our finding of low HOMA-IR in intervention children is to a large extent due to their lower saturated fat intake,” Dr. Tuuli Kaitosaari and colleagues wrote. Other factors that might get measured in 11 women who were overweight and obese and had macronutrient-matched portions of bread at meal times, supplemented by standardized liquid meals, for 3 days. The women were randomized to get oat fiber-enriched white bread or regular white bread, which served as the control.

Bioavailability of fiber has been associated with increased insulin sensitivity and type 2 diabetes in animal models and humans. A recent study suggested that eating a diet high in insoluble fiber might have a beneficial impact on insulin resistance and type 2 diabetes in humans.

A sub-analysis that excluded the four women who probably did not ingest the test meals found a highly significant improvement in insulin sensitivity after 3 days of fiber-fortified bread, equivalent to a 13% improvement in insulin sensitivity.

Deficits of Gastric Acid Secretion Impair Absorption of Thyroxine

BY DOUG BRUNK
San Diego Bureau

Patients with multinoal group required a thyroxine dosage increase of 22%-34% if they had impaired secretion of stomach acids, results from a large controlled study demonstrated.

The finding suggests that “normal gastric acid secretion is important for the subsequent intestinal absorption of thyroxine,” wrote the researchers, led by Dr. Marco Centanni of the department of experimental medicine and pathology at La Sapienza University, Rome.

Although the clinical importance of these findings is fairly clear, the mechanism by which intestinal absorption of thyroxine is impaired in patients with hypochlorhydria is unknown. We may only speculate that oral thyroxine is administered as sodium salt that is less lipophilic than the native hormone, which enters target cells through passive diffusion and is aromatized, inhibited in a way that affects the uncarboxylation reaction of thyroxine and thus the efficiency of intestinal absorption of the hormone.”

The group studied 248 patients with nontoxic multinoal group disorder who were seen at a referral center for thyroid disease between 1999 and 2004. Of the 248 patients, 53 also had H. pylori-related gastritis and 60 had atrophic gastritis of the body of the stomach (31 with evidence of H. pylori infection and 29 without such evidence).

Serum thyrotropin levels rose variably in the cohort of 11 women with newly diagnosed H. pylori infection. “In some patients, a slightly higher dose of thyroxine was needed to restore thyrotropin suppression,” the researchers wrote. “Likewise, the increase in the level of serum thyrotropin was variable in patients treated with omeprazole, although the suppressive effect of thyroxine on thyrotropin disappeared in all patients and was restored only at a substantially higher dose of thyroxine.”

Metabolic Disorders

Improves Pediatric Outcomes

BY SHERRY BOSCHERT
San Francisco Bureau

A physician and a dietitian provided individualized dietary counseling to the intervention children twice a year. Families of infants and children provided dietary counseling twice a year reduced the children’s intake of fat and improved their insulin sensitivity by age 9 in a long-term randomized study.

The ongoing Special Turku Coronary Risk Factor Intervention Project for Children, a Finnish study, randomized healthy 7-month-old infants in 1990 to an intervention group (350 infants) or a control group (322 infants). The control group received the basic health education provided at well-baby clinics. A physician and a dietitian provided individualized dietary counseling in the intervention group. Twice a year, families recorded what the child consumed for 4 days and were followed for at least 30 months. The researchers evaluated the thyroid function using T3, T4, and TSH measurements of a subset of 200 children (78 in the intervention group and 89 in the control group) in the study population.

The children in the intervention group consumed significantly less saturated fat and less saturated fat than those in the control group. Scores on the homeostasis model assessment of insulin resistance (HOMA-IR) index at age 9 were lower in the intervention children, indicating better insulin sensitivity compared with controls (Diabetes Care 2006;29:781-5).

Multivariate analyses indicated that “our finding of low HOMA-IR in intervention children is to a large extent due to their lower saturated fat intake,” Dr. Tuuli Kaitosaari and colleagues wrote. Other factors that might get measured in 11 women who were overweight and obese and had macronutrient-matched portions of bread at meal times, supplemented by standardized liquid meals, for 3 days. The women were randomized to get oat fiber-enriched white bread or regular white bread, which served as the control.

A sub-analysis that excluded the four women who probably did not ingest the test meals found a highly significant improvement in insulin sensitivity after 3 days of fiber-fortified bread, equivalent to a 13% improvement in insulin sensitivity.