

Clinical Update

Vitamin D pills may protect kids from type-1 diabetes

Meta-analysis indicates vitamin D supplements protect against the development of type-1 diabetes

(Archives of Disease in Childhood, March 2008)

According to data from five observational studies, infants who received vitamin D supplements were 29 per cent less likely to develop type-1 diabetes than non-supplemented infants.

Type-1 diabetes occurs when people are not able to produce any insulin after the cells in the pancreas have been damaged, thought to be an autoimmune response. The disease is most common among people of European descent, with around two million Europeans and North Americans affected.

In addition, the incidence of the disease is on the rise at about 3% per year. The number of new cases is estimated to rise 40% between 2000 and 2010.

The meta-analysis used data from five observational studies, including four case-control studies and one cohort study. In total, data was available for 6455 infants, of which 1429 were cases and 5026 controls. No randomized controlled trials were found in the literature, and the conclusions were drawn only from the five observational studies.

They also noted that timing of the supplementation could also be a factor in the type-1 diabetes risk, with supplementation of vitamin D-rich cod liver oil between the ages of seven and 12 months at a 45% lower risk, compared to infants supplemented between 0 and six months of age.

The mechanism by which vitamin D supplementation may protect against the development of the disease is unclear, said the researchers, but evidence does exist that vitamin D may play a role in the immune system. There are also suggestions that vitamin D may prevent dysfunction in beta-cells (cells in the pancreas) caused by a class of proteins called cytokines.

Omega-3 benefits

(Journal of the American Medical Association, September 2007)

In September 2007, researchers from the University of Colorado at Denver reported that an increased intake of omega-3 fatty acids from marine sources may reduce a child's risk of developing type-1 diabetes by 55 per cent.

The study looked at 1770 children at high risk of developing type-1 diabetes.

Interestingly, a newly established clinical trial, called "*The Nutritional Intervention for the Prevention of Type 1 Diabetes*," is testing if dietary supplementation with anti-inflammatory doses of DHA during pregnancy and infancy could inhibit early islet inflammatory events key to the development of type-1 diabetes.