Reduced Choline and Betaine Levels Linked with Inflammation

High dietary intake of the B vitamins choline and betaine, found in various plant and animal foods, is linked with lower blood levels of inflammatory markers, according to a recent report. Inflammatory markers have been associated with cardiovascular event risk. More than 3,000 healthy adults in Greece provided information regarding their dietary intake of choline and betaine, and fasting blood samples were tested for levels of interleukin-6, C-reactive protein (CRP), tumor necrosis factor-alpha (TNF-alpha), and homocysteine.

Subjects whose choline intake was in the top one-third of participants had CRP levels that were 22% lower, interleukin-6 levels that were 26% lower, and TNF-alpha levels that were 6% lower than those whose intake fell in the bottom one-third. Similarly, for those whose betaine levels were in the top third, homocysteine levels were 10% lower, CRP levels were 19% lower, and TNF-alpha levels were 12% lower, compared with participants in the bottom third.

If further studies confirm these results, "an interesting new dietary approach may be available for reducing chronic diseases associated with inflammation."

Calcium Supplements Benefit Adolescent Bone

Supplementing adolescent girls with calcium significantly increases their bone mineral content over the course of 18 months, according to a new report from the American Journal of Clinical Nutrition.

Researchers enrolled 96 girls aged 11-12 years, whose calcium intake averaged 363 mg/day. The girls received a drink containing 792 mg calcium from calcium citrate malate or a placebo for 18 months, followed by a two-year period during which they received no supplements.

At the end of the 18-month period, girls who received supplemental calcium experienced significantly greater gains in bone mineral content at all sites except the hip. Furthermore, bone mineral density also increased at all sites in the supplemented group compared with placebo; however, by the end of the study at 42 months, these differences were no longer observed.

The scientists concluded that calcium supplementation is effective in enhancing bone mineralization during growth, and suggests that calcium needs to be taken continually for its benefits to be maintained.

These findings suggest that supplementing with calcium may provide an early start to preventing osteoporosis.

DHEA Supplementation Improves Cardiovascular Markers in Men

Supplementation with dehydroepiandrosterone (DHEA) improves blood markers of cardiovascular disease risk in men, according to a recent report. Scientists have previously proposed that DHEA may thwart atherosclerosis development by increasing nitric oxide production, which promotes relaxation of the smooth muscle cells lining blood vessels.

Twenty-four men, average age 65 years, were randomly assigned to blindly receive either 50 mg DHEA per day, or placebo, for two months. Numerous variables were assessed at baseline and following treatment, including blood lipid levels, testosterone, and platelet cyclic guanosine-monophosphate (cGMP) concentration (a marker of nitric oxide production).

Placebo group parameters remained unchanged. But DHEA supplemented subjects experienced significant increases in testosterone and cGMP, and significant decreases in low-density lipoprotein (LDL) and a marker of inflammation. "These findings...suggest that chronic DHEA supplementation would exert antiatherogenic effects, particularly in elderly subjects who display low circulating levels of this hormone," investigators concluded.

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