Vitamin E for Intermittent Claudication

Thirty-three patients with moderately severe intermittent claudication (mean duration of symptoms, two years) received 400 IU per day of vitamin E or placebo for 3 months. The mean walking distance before onset of pain increased to a significantly greater extent in the vitamin E group than in the placebo group (148% vs. 31%; p < 0.01 for the difference in the change between groups). In the clinical experience of these investigators, patients with proximal arterial occlusions (aortic and iliac) did not improve as rapidly as those with more distal occlusions.

Comment: Several studies, mostly from the 1960s and 1970s, have found vitamin E to be beneficial for patients with intermittent claudication. The mechanism of action of vitamin E is not known, but it might work by increasing the deformability of red blood cells, thereby improving capillary blood flow. Although no head-to-head trials have been done, vitamin E appears to be about as effective as pentoxifylline, a drug that is approved by the FDA for the treatment of intermittent claudication. Of note, most textbooks of internal medicine do not mention vitamin E as a treatment for intermittent claudication.

When using 400 IU per day or more of vitamin E, it would be prudent to administer at least some of it in the form of mixed tocopherols. High doses of pure alphatocopherol (the most widely used form of supplemental vitamin E) can deplete gamma-tocopherol, one of the four naturally occurring forms of vitamin E, which appears to have cardioprotective effects.


Coenzyme Q10 for Hypertension

Eighty-three men and women (mean age, 69 years) with isolated systolic hypertension (mean, 165 mm Hg) were randomly assigned to receive, in double-blind fashion, 60 mg of coenzyme Q10 (CoQ10) twice a day or placebo for 12 weeks. The mean fall in systolic blood pressure was significantly greater in the CoQ10 group than in the placebo group (17.8 vs. 1.7 mm Hg; p < 0.01). Fifty-five percent of the patients taking CoQ10 had a reduction in systolic blood pressure of 4 mm Hg or more, whereas the other 45% were nonresponders. In the responders, mean systolic blood pressure fell by 25.9 mm Hg. Mean diastolic blood pressure, which was normal at baseline, did not change.

Comment: In this study, CoQ10 dramatically reduced systolic blood pressure in more than half of patients with isolated systolic hypertension. In previous studies, CoQ10 decreased both systolic and diastolic blood pressure in patients with essential hypertension. CoQ10 is a component of the electron-transport chain, and is therefore essential for the production of ATP, the body’s main storage form of energy. It has been hypothesized that the antihypertensive effect of CoQ10 results from an improvement in energy production by the mitochondria in the blood vessel wall, which allows blood vessels to regulate pressure more efficiently. The blood pressure-lowering effect of CoQ10 is often not apparent until the patient has been treated for one to four months. Because CoQ10 cause very few side effects (unlike most antihypertensive drugs), it should be considered for possible first-line therapy of hypertensive patients who do not respond adequately to conservative measures such as diet, exercise, and stress reduction.


Zinc for Stroke Recovery: New Treatment or Statistical Artifact?

Twenty-six patients with a subacute stroke (14 days or more from the initial event) who were consuming adequate energy and protein but less than two-thirds of the Recommended Dietary Allowance of 10 mg per day for zinc were randomly assigned to receive, in double-blind fashion, 10 mg per day of zinc (as zinc sulfate) or placebo for 30 days. After 30 days, the mean degree of neurological improvement (as assessed by the NIH stroke scale) was significantly greater in the zinc group than in the placebo group.
Comment: Zinc is a cofactor for matrix metalloproteinase-9, which is believed to play a role in neurological recovery after a stroke. The results of the new study raise the possibility that zinc supplementation could be beneficial for stroke victims. However, the difference in the degree of improvement between the zinc and placebo groups was due entirely to a worse score at baseline in the zinc group. At the end of the study, the NIH stroke scale was identical in the two groups. Therefore, this study needs to be repeated with a larger number of patients before the findings can be considered definitive.


Can Fish Oil Keep Heart Patients Younger?

The association between whole-blood levels of long-chain omega-3 fatty acids and changes in leukocyte telomere length was examined in a prospective cohort study of 608 patients with stable coronary artery disease. During an average follow-up period of 5 years, individuals in the lowest quartile of eicosapentaenoic acid plus docosahexaenoic acid had the fastest rate of telomere shortening, whereas those in the highest quartile experienced the slowest rate of telomere shortening (p for trend < 0.001 across quartiles). This association persisted after adjustment for age, gender, race, smoking, income, diabetes, blood pressure, lipids, and markers of inflammation.

Comment: Increased dietary intake of long-chain omega-3 fatty acids is associated with prolonged survival in patients with coronary heart disease. These fatty acids have a number of beneficial effects, including reducing triglyceride levels and blood pressure, inhibiting platelet aggregation, and decreasing inflammation. The results of the present study suggest that omega-3 fatty acids may prolong life by another mechanism: slowing the rate of telomere shortening. Telomeres are regions of repetitive DNA at the end of chromosomes that protect the chromosomes from damage. As people age, telomeres become progressively shorter, and telomere length is considered to be a marker of aging. The results of the present study suggest that the fatty acids in fish oil may slow the aging process in heart patients. The mechanism of this effect has not been identified.


Drinking Makes for Better Thinking

Twenty-three children (aged 6–7 years) performed various tests of cognitive function. Forty minutes later, half of the children were given a bottle of water from which they could drink as desired, whereas the others were not given water. The no-water group was not aware that the water group had been given a drink. The cognitive tests

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ResveraCaps features 500 mg of high-quality polygonum cuspidatum standardized to contain 20% (100 mg) total resveratrols. Resveratrol promotes cardiovascular health through its antioxidant action, and ongoing research is revealing that resveratrol may possess benefits that prevent the loss of vital metabolic functions required for long life.*