Literature Review & Commentary
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**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.