Beneficial Effects of CoEnzyme Q₁₀

Appear to Be Dose Dependent

Clinical Trials Show Faster and Greater Regression of Disease with High Doses of CoEnzyme Q₁₀

A clinical trial published in 1994 states, clearly shows a dose dependent relationship in the effects of CoQ₁₀ treatment for women with high-risk breast cancer. (¹)

In one patient, during therapy for about one year with 90 mg. of CoQ₁₀, the tumor had seemingly “stabilized” at 1.5-2 cm. The dosage of CoQ₁₀ was increased to 390 mg. In one month the tumor was no longer palpable and in another month, mammography confirmed the tumor was no longer present. (¹)

Encouraged by these results, doctors treated another patient with 300 mg. of CoQ₁₀. The patient had a verified breast tumor and, after non-radical surgery, still had verified residual tumor in the tumor bed. After 3 months of CoQ₁₀ treatment at 300 mg., the patient was in excellent clinical condition and there was no residual tumor tissue. (¹)

CoQ₁₀ Deficiency in Patients with Heart Disease, Cancer, Etc.

Research has confirmed deficiencies of CoQ₁₀ in significant numbers of patients with:
- Heart Disease
- Hypertension
- Cancer
- Periodontal Disease
- Diabetes Mellitus
- AIDS and ARC
- Obesity

When supplemental CoQ₁₀ has been given to deficient patients, symptoms have improved; however, in most studies, relatively low doses (30-100 mg. daily) have been used. (⁹) It will be interesting to see what effect higher doses of the nutrient could have on these conditions.

Bioavailability Is Also a Factor

Bioavailability is also a factor in effectiveness of CoQ₁₀ supplements. CoQ₁₀ is a large fat soluble nutrient that may not be well absorbed when taken in regular gelatin capsules or tablets produced by standard methods. Absorption can be enhanced by taking the nutrient along with an oily substance.

To increase bioavailability of the active substances, Progressive Laboratories adds fat soluble vitamin E to its 100 mg. capsules. Chewing also enhances bioavailability. The 200 mg. chewable wafers are made by a special process which emulsifies the CoQ₁₀ in vitamin E oils and mixed vegetable oils. This oily preparation encourages absorption through the lymphatic system.

Enhanced absorption allows blood levels of the nutrient to normalize and beneficial effects to be seen much faster.

Significant CoQ₁₀ Deficiency Is Seen in Most Heart Patients

More CoQ₁₀ is found in the heart tissue than in any other muscle in the body. According to Dr. Karl Folkers, the “father” of CoQ₁₀ research in the United States, most heart patients show a significant deficiency of CoQ₁₀. Research conducted by Dr. Folkers and confirmed by numerous other researchers around the world has shown remarkable improvement in patients suffering from congestive heart failure, myocardial ischemic disorder and angina pectoris when given CoQ₁₀. (³,⁸,⁹)

CoQ₁₀ has also been shown to have a stabilizing effect on heart rhythm. Dr. Folkers believes CoQ₁₀ deficiency may even be a major cause of heart disease and prophylactic use of the nutrient could prevent many human heart problems. (⁷)
An eight year study (1985-1993) confirmed the success of CoQ\textsubscript{10} therapy for 424 cardiac patients with various forms of cardiovascular disease. The dosage range of 75-600 mg daily was primarily guided by clinical response of patients and increase in blood levels of CoQ\textsubscript{10} to 2 mg/ml and higher. Normal is considered to be 2.97 mg/ml.\(^{(1)}\) A distinct connection has been observed between CoQ\textsubscript{10} deficiencies and the elevated ratio of sodium to potassium in blood and tissues of high blood pressure patients. With CoQ\textsubscript{10} therapy, the ratio of sodium to potassium decreases. This action is much like the beneficial effect seen when patients remove salt (sodium) from their diets. Supplemental CoQ\textsubscript{10} has no effect on normal blood pressure levels.\(^{(2,6)}\)

### Anti-Aging/Life Extension Seen with CoQ\textsubscript{10} Supplementation

Although the body can absorb CoQ\textsubscript{10} from the foods we eat or synthesize the nutrient from other co-enzymes (Q\textsubscript{1} through Q\textsubscript{9}), that ability declines through the normal process of aging as do body levels of CoQ\textsubscript{10}. Restoration of youthful CoQ\textsubscript{10} levels through supplementation has been shown to correct many diseases associated with the aging process.\(^{(2)}\)

Animal studies by Dr. Emile Bliznakov, scientific director of the Lupus Research Institute in Ridgefield, CT, have shown that mean life span can be increased by as much as 50% through CoQ\textsubscript{10} supplementation. More importantly, the longer living animals remained more active and younger looking with bright eyes, glossy coats and healthy skin. And their more youthful appearance lasted right up to the end of their lives.\(^{(2)}\)

### Revitalizing the Immune System

Scientist now attach crucial importance to the link between the immune system and aging. A series of experiments by Bliznakov and others show that CoQ\textsubscript{10} supplementation can: \(^{(2,5)}\)

- Double the immune system’s ability to clear invading organisms from the blood.
- Double antibody levels.
- Protect against chemically induced cancer (fewer and smaller tumors and increased survival times).
- Increase resistance to viral infections.
- Reduce the toxicity of immunosuppressive drugs used in cancer treatment.
- Quench free radicals associated with arthritis and other chronic degenerative diseases.

CoQ\textsubscript{10} is essential to life. Projections based on autopsies of deceased human hearts and biopsies from healthy hearts and other organ and tissue samples indicate that, once internal levels of CoQ\textsubscript{10} drop below 25% of normal, disease is likely to ensue. If levels drop to a 75% deficiency, death will probably follow as a natural course.\(^{(2)}\)

CoQ\textsubscript{10} resembles vitamin E and vitamin K in chemical structure. Biochemically it functions much like vitamin E in that it participates in antioxidant and free radical reactions. However, CoQ\textsubscript{10} has a special biochemical role of major importance...it plays a critical role in the production of ATP, the basic energy molecule of all cells.\(^{(2)}\)

### REFERENCES