



By Emmanuel Quaye, MD

Coenzyme Q10: A therapy for hypertension and statin-induced myalgia?

A review article that appeared in the Cleveland Clinic Journal of Medicine of July 2010 reviewed the evidence on using Coenzyme Q10 (coQ10) to treat hypertension and statin-induced myalgia (muscle pain). CoQ10, also known as ubiquinone is a naturally occurring compound found in all human cells. Its highest concentration is found in heart, liver, kidney and pancreas. It is a very important compound that functions as a membrane stabilizer and potent antioxidant. A stable membrane is important in how our cells “talk” to each other, and in a way how healthy we are. Antioxidants remove cell damaging free radicals, and also help determine how healthy we are. CoQ10 is also involved in mitochondrial oxidative phosphorylation, the process by which the body converts the food we eat to useful energy. It is also thought to regulate the genes involved in energy production. Supplementation with coQ10 has been studied, used and recommended in various illnesses, including heart disease and hypertension, Parkinson’s disease, and other illnesses.

More than 30% of Americans have hypertension, and in some populations, the number of people with hypertension may reach close to 40%. Many hypertensive patients require more than one drug, and may suffer side effects of drugs used to treat hypertension. CoQ10 appears to lower blood pressure by a process (mechanism) which scientists do not yet fully understand. Some researchers believe that supplementation with coQ10 may reduce the need of some patients to take so many drugs for hypertension, and in some cases, any drugs at all.

Statin drugs are drugs used for the treatment of lipid (cholesterol) disorders. They include common drugs such as Lipitor, Crestor, Zocor, Pravachol and others. They have been shown to have benefits to health beyond just the lowering of cholesterol. Yet statin drugs have side effects, a notable one being muscle pain (or myalgia). Statin drugs deplete serum levels of coQ10 by inhibiting a precursor that is used in the production of both cholesterol and coQ10. Because coQ10 is involved in energy production, depletion of coQ10 by statin drugs also affects the body’s ability to produce energy from the food we eat. Statin drugs cause myopathy, which can range from muscle pain to muscle break down. Some scientists believe that supplementation with coQ10 will help reduce some of the side effects of statin drug therapy.

The authors in this study reviewed several papers on the use of coQ10 for treatment of hypertension. One review paper they looked at found that some studies showed coQ10 had benefits in reducing diastolic and systolic blood pressure or both, while some others showed little or no benefit. One small study showed a rise in blood pressure in patients using coQ10. Several very well performed studies showed that use of coQ10 was beneficial in reducing blood pressure. Meanwhile, the side effects of coQ10 were minor, limited to gastrointestinal side effects and headaches.

The authors looked at three studies about the use of coQ10 to treat myalgia in patients taking statins. One study involving the use of high dose statins to treat cancer found a benefit in reducing muscle pain. Another study showed benefit, while the third did not show any benefit in reducing muscle pain.

Is coQ10 safe? That is a question worth asking for any drug or supplement we take. Issues of safety will be concerned with purity and quality of the product, since coQ10 is a naturally occurring substance. It is contraindicated in patients who are allergic to it or any of its components. Studies that used coQ10 found no side effects that warranted stopping the trial. Abdominal discomfort, nausea, vomiting and diarrhea, as well as loss of appetite have occurred. It is broken down in the liver, and removed through the bile, so patients with liver or gall bladder disease may have a buildup of coQ10. CoQ10 may cause bleeding in patients taking aspirin or plavix, and reduce the effects of Coumadin (it acts like vitamin K).

CoQ10 is slowly absorbed and slowly eliminated from the body. It is described as fat soluble (dissolves in fat) so absorption is better it is when taken with a fatty meal. There are some formulations that are better absorbed than others, although these better absorbed forms are more expensive.

Would I recommend coQ10 for blood pressure? Yes. Several small studies have shown it to be beneficial for lowering blood pressure. It is safe. Even though there are no large clinical trials, it seems reasonable to recommend coQ10 for treating blood pressure in some patients. The only problem I see is that insurance companies do not pay for supplements. It will be out of pocket for patients. Over the years, I have had many patients express a desire not to take blood pressure medication. For them coQ10 is a good option, at least as an add-on so they can reduce the number of medications they have to take for blood pressure.

Would I recommend coQ10 for muscle pain in statin drug therapy? Yes. Even though the studies are more limited here, the science makes sense, and the supplement is safe. Moreover statins are very beneficial in patients with heart disease in reducing heart attacks. So rather than stop the statin, I would add coQ10. Here is the citation for this article I have reviewed here: Citation: [Cleve Clin J Med](#). 2010 Jul;77(7):435-42.

For those who want to read it for themselves, the full text link of the article is at <http://www.ccjm.org/content/77/7/435.full.pdf+html>. Enjoy.