

Fighting the ‘Disease’ of Aging

by L. Stephen Coles, M.D., Ph.D.

While *aging* may not be technically classified as a disease—at least not by conventional medicine—the process itself is certainly unpleasant; yet, there is a great deal we can do, nutritionally speaking, to stem the tide.

While some people have opted for human growth hormone (hGH) injections à la Barry Bonds and other athletes and anti-aging enthusiasts, a more holistic and better approach, we think, would be to use an integrative or complementary and alternative medicine (CAM) approach. We want to address major organ systems that typically decline with age, such as the brain, kidneys, liver, cardiovascular, and sexual, among others. And we want to do so safely and with good evidence of efficacy.

PROTECT MITOCHONDRIAL FUNCTION

One of the key methods to fight aging is to protect mitochondria, the body’s cellular energy factories. Anti-aging researchers have identified a group of nutrients that can directly or indirectly protect mitochondria from oxidative damage and improve mitochondrial function, and they named them “mitochondrial nutrients.”

The direct protection includes preventing the generation of oxidants, scavenging free radicals or inhibiting reactive oxidant species, and elevating cofactors of defective mitochondrial enzymes (with an increased Michaelis-Menten Constant) to stimulate enzymatic activity, and also protect enzymes from further oxidation; the indirect protection includes repairing oxidative damage by enhancing antioxidant defense systems either through activation of Phase-2 enzymes or through increases in mitochondrial biogenesis.

Writing in the January 2008 issue of *Neurochemical Research*, researcher Jie Liu of the Institute for Brain Aging and Dementia, University of California, notes that the use of alpha-lipoic acid (ALA) with acetyl-L-carnitine (ALC) and coenzyme Q10 (CoQ10) can “...improve the age-associated decline of memory, improve mitochondrial structure and function, inhibit the age-associated increase of oxidative damage,

elevate the levels of antioxidants, and restore the activity of key enzymes.” In fact, the use of all three “...appears more effective in improving cognitive dysfunction and reducing oxidative mitochondrial dysfunction. Therefore, administering mitochondrial nutrients, such as ALA and its derivatives in combination with other mitochondrial nutrients to aged people and patients suffering from neurodegenerative diseases, may be an effective strategy for improving mitochondrial and cognitive dysfunction.”

Interestingly, it is probably best to supplement with ALC and the closely related L-carnitine. Both are adept at transporting fatty acids into cellular mitochondria.

BRAIN ENERGETICS

Dr. Paris Kidd, writing in the December 2005 issue of *Alternative Medicine Review*, discusses brain energetics, noting, “Degenerative brain disorders (neurodegeneration) can be frustrating for both conventional and alternative practitioners. A more comprehensive, integrative approach is urgently needed. One emerging focus for intervention is brain energetics.”

He says that electron leakages inherent to mitochondrial energetics generate reactive oxygen free radical species that may place the ultimate limit on lifespan. Exogenous toxins, such as mercury and other environmental contaminants, exacerbate mitochondrial electron leakage, hastening their demise and that of their host cells.

Orthomolecular nutrients involved in mitochondrial metabolism provide clinical benefit. Among these are the essential minerals of the B vitamin group, vitamins E and K, and the antioxidant and energetic cofactors ALA, CoQ10, and nicotinamide adenine dinucleotide, reduced (NADH). He says that ALC provides mitochondrial support, conserves growth-factor receptors and has improved cognition in double-blind trials. The omega-3 fatty acid docosahexaenoic acid (DHA) is also beneficial. He recommends “...integrating these safe and well-tolerated orthomolecular nutrients into a comprehensive dietary supplementation program for brain vitality and productive lifespan.”



TAKING CARE OF YOUR HEART

In the January-February 2006 issue of the *Journal of Cardiovascular Nursing*, B. S. Kendler says that conditionally essential nutrients (CENs) such as ALA, ALC, and CoQ10 "...have demonstrated favorable clinical effects in...chronic heart failure, myocardial infarction, angina pectoris, and in [cardiovascular disease] risk factors, such as hypertension, hyperlipidemia, and Lipoprotein(a) [LP(a)]. Limited research has pointed to possible benefits in CVD therapy accruing from supplementation with several CENs in combination. Additional controlled clinical studies of CENs in CVD are urgently needed. In view of the efficacy and safety of appropriate supplementation with CENs, it is strongly suggested that health care professionals become knowledgeable about these potentially important additions to the CVD therapeutic armamentarium."

PRESERVE KIDNEY HEALTH

Although we often think of environmental pollution as a cause of cancer, intake of lead and mercury also affects kidney and cognitive function, as well as being a contributor to high blood pressure. In the December 2007 issue of *Nature Clinical Practice Nephrology*, researchers from the Division of Nephrology and Poison Center, Chang Gung Memorial Hospital, Taipei, Taiwan, found that chelation therapy with ethylene diamine tetracetic acid (EDTA) was extremely helpful. They note that, "Previous research suggests that repeated lead-chelation therapy decelerates progression of renal insufficiency in non-diabetic (non-DM) patients with high-normal Body Lead Burden (BLB)." In their most recent study, a total of 116 non-DM patients with chronic kidney diseases were randomly assigned to a chelation or control group in this four-year clinical trial. During the ensuing 48 months, repeated chelation therapy was administered weekly to chelation group patients. Their conclusion? "Repeated chelation therapies can, over a four-year period, slow progression of renal insufficiency in non-DM patients with high-normal BLB." Fortunately, for preventive and health-maintenance purposes, we also know that oral EDTA use can reduce mercury and lead body burdens.

THE DOCTORS' PRESCRIPTION

Do you want to stay healthy for as long as possible and fight the aging process? If you do, seek out these important nutrients. They're available to help you maintain great health for as long as possible.

Quality and scientific validation are a priority, but if you can combine these with value, then you have a great anti-aging line. That's what we found with Metabolic Response Modifiers (MRM), one of our favorite companies, which combines quality with value. They also just happen to have one of the most fantastic lines of anti-aging nutrients we have yet discovered.

Let's start with MRM's liquid Acetyl L-Carnitine. Not only is ALC one of the most important trophic and anti-aging nutrients, its liquid form is probably the most body-ready and bioavailable.

Combine Liquid ALC with MRM's Alpha-Lipoic Acid 300 milligram (mg) capsules for superb anti-aging benefits.

Similar to ALC, as mentioned, l-carnitine also helps to transport fatty acids into cellular mitochondria for energy production, and works closely with ALC to amplify its benefits. MRM has combined l-carnitine with CoQ10 in another excellent liquid supplement known, not surprisingly, as Co-Q 10 100 mg with L-Carnitine 1000 mg.

For fighting environmental toxicity, Cardio-Chelate™ with EDTA is another excellent supplement. The Food and Drug Administration approved its use 50 years ago for the treatment of lead, mercury, aluminum, and cadmium toxicity. This is due to its ability to bind to, or "normalize," the distribution of metallic elements within the body.

Besides these important anti-aging supplements, you should also know about their LiverX™ with highly absorbable silymarin for liver health, Bone Maximizer™ III with microcrystalline hydroxyapatite concentrate and other vital bone and joint nutrients, and Neuro-Max™ II, a "state of the art" brain-enhancing formula with phosphatidylserine and other phospholipids, *Ginkgo biloba* extract, ashwagandha, *Bacopa monnieri*, cytidine diphosphate choline, vinpocetine, and niacin. Each of these will help you to address additional age-related conditions.

It's true that pharmaceutical companies would benefit financially by developing a whole host of anti-aging drugs for you to spend your money on. But for now, the nutritional approach is smart, economic, safe, and proven to provide real health benefits. As an anti-aging expert, I use these nutrients myself. They're the best that Nature has to offer. ■

Resources

MRM's cutting-edge supplements are available nationwide at health food stores and natural product supermarkets. MRM is one of the top nutrition companies, recognized for combining value and quality. For more information or to find a store near you, call 800-948-6296, or visit at www.mrm-usa.com.

