

Your AntiOxiDense™ Product Science–Vit. A, Beta Carotene, C, & E

{Note: the underlined sections within the text of the abstracts are highlighted for emphasis by us, not the authors}

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Nutritional Supplement Could Improve Clinical Situation Of ICU Patients

ScienceDaily (Jun. 5, 2008) — UGR News Scientists from the University of Granada and the Virgen de las Nieves University Hospital have found out that some critical patients could improve their oxide stress and, consequently, their clinical situation by taking a simple exogenous antioxidant treatment through food. This study suggests that the oxide stress increase during patients stays in the Intensive Care Unit (ICU) is due to the low levels of antioxidant food consumption.

The oxide stress is caused by the imbalance between the reactive oxygen substances production and the organism defence mechanisms which acts rapidly in the detoxification of these substances or repairs the damage. The oxide stress is involved in many diseases like atherosclerosis, Parkinson, Alzheimer, and it is also significant in the aging process.

This study made by the University of Granada has been carried out by Jimena Abilés, and headed by doctor Elena Planells (Departament of Physiology of the University of Granada), doctor Antonio Pérez de la Cruz (head of the Nutrition and Dietetics Unit of the Ruiz de Alda Hospital in Granada) and doctor Eduardo Aguayo (specialist in the Intensive Cure Unit of this same hospital).

The scientists worked on 60 patients that, for at least a week, had stayed at the Intensive Cure Unit (ICU) of the Virgen de las Nieves Hospital, analyzing their oxide stress levels. They determined, for the first time in Spain, the exact quantity of each type of vitamins (A, E and C) and minerals that patients needed to take through diet for proper antioxidant defences.

The researchers hope the study will be useful to establish new recommendations for critical patients in Spain. The results of this investigation have been recently published in the medical journal Critical Care.

University of Granada (2008, June 5). *Nutritional Supplement Could Improve Clinical Situation Of ICU Patients. ScienceDaily*

(2)

Long-term Beta Carotene Supplementation May Help Prevent Cognitive Decline, Study Suggests

ScienceDaily (Nov. 14, 2007) — Men who take beta carotene supplements for 15 years or longer may have less cognitive decline, according to a new report.

Decreases in cognitive ability--thinking, learning and memory skills--strongly predict dementia, a growing public health issue, according to background information in the article. Long-term cellular damage from "oxidative stress" may be a major factor in cognitive decline. Some evidence suggests that antioxidant supplements may help preserve cognition, although previous studies have been inconclusive, the authors note.

Francine Grodstein, Sc.D., of Brigham and Women's Hospital (BWH) and Harvard Medical School, Boston, and colleagues studied the antioxidant beta carotene and its effect on cognitive ability in two groups of men. The long-term group included 4,052 men who in 1982 had been randomly assigned to take placebo or 50 milligrams of beta carotene every other day.

Between 1998 and 2001, an additional 1,904 men were randomly assigned to one of the two groups. Both groups were followed through 2003, completing yearly follow-up questionnaires with information about their health and their compliance with taking the pills. The men were assessed by telephone for cognitive function at least once between 1998 and 2002.

The long-term participants were treated for an average of 18 years and the short-term participants for an average of one year. Men in the short-term group displayed no differences in cognition regardless of whether they took beta carotene or placebo, but men in the long-term group who took beta carotene had significantly higher scores on several of the cognitive tests compared with men who took placebo.

"In this generally healthy population, the extent of protection conferred by long-term treatment appeared modest; nonetheless, studies have established that very modest differences in cognition, especially verbal memory, predict substantial differences in eventual risk of dementia; thus, the public health impact of long-term beta carotene use could be large," the authors write.

Beta carotene is not without risks--for example, it may increase the risk of lung cancer in smokers, the authors note. However, its benefits against dementia surpassed those of other medications tested in healthy older people. "Thus, the public health value of beta carotene supplementation merits careful evaluation,"

the authors conclude. "Moreover, as these data support the possibility of successful interventions at early stages of brain aging in well-functioning subjects, investigations of additional agents that might also provide such neuroprotection should be initiated."

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JAMA and Archives Journals (2007, November 14). *Long-term Beta Carotene Supplementation May Help Prevent Cognitive Decline, Study Suggests.* ScienceDaily.

(3)

[Arch Ophthalmol.](#) 2008 Jan;126(1):102-9.

Dietary carotenoids, vitamins C and E, and risk of cataract in women: a prospective study.

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OBJECTIVE: To examine in prospective data the relation between dietary intake of carotenoids and vitamins C and E and the risk of cataract in women. **DESIGN:** Dietary intake was assessed at baseline in 39,876 female health professionals by using a detailed food frequency questionnaire. A total of 35,551 women provided detailed information on antioxidant nutrient intake from food and supplements and were free of a diagnosis of cataract. The main outcome measure was cataract, defined as an incident, age-related lens opacity responsible for a reduction in best-corrected visual acuity in the worse eye to 20/30 or worse based on self-report confirmed by medical record review. **RESULTS:** A total of 2031 cases of incident cataract were confirmed during a mean of 10 years of follow-up. Comparing women in the extreme quintiles, the multivariate relative risk of cataract was 0.82 (95% confidence interval, 0.71-0.95; test for trend, $P = .04$) for lutein/zeaxanthin and 0.86 (95% confidence interval, 0.74-1.00; test for trend, $P = .03$) for vitamin E from food and supplements. **CONCLUSION:** In these prospective observational data from a large cohort of female health professionals, higher dietary intakes

of lutein/zeaxanthin and vitamin E from food and supplements were associated with significantly decreased risks of cataract.

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Carotenoids and flavonoids contribute to nutritional protection against skin damage from sunlight.

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The concept of photoprotection by dietary means is gaining momentum. Plant constituents such as carotenoids and flavonoids are involved in protection against excess light in plants and contribute to the prevention of UV damage in humans. As micronutrients, they are ingested with the diet and are distributed into light-exposed tissues, such as skin or the eye where they provide systemic photoprotection. beta-Carotene and lycopene prevent UV-induced erythema formation. Likewise, dietary flavanols exhibit photoprotection. After about 10-12 weeks of dietary intervention, a decrease in the sensitivity toward UV-induced erythema was observed in volunteers. Dietary micronutrients may contribute to life-long protection against harmful UV radiation.

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[Ann Clin Lab Sci.](#) 2007 Winter;37(1):89-95.

Antioxidant vitamin supplementation in cardiovascular diseases.

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Cardiovascular disease is the most important adult health problem in wealthy countries, where biological factors such as obesity,

hypertension, dyslipidemia, diabetes, inappropriate diet, cigarette smoking, and sedentary life-style have contributed to its dissemination. Research concerning nutritional regimens has shown that persons who consume large amounts of fruit and vegetables have lower incidences of cardiovascular diseases, stroke, and tumors, although the precise mechanisms for this protective effect are elusive. Possible explanations include (a) increased consumption of dietary fiber, (b) reduced consumption of dietary cholesterol and other lipids, and (c) increased intake of the antioxidant vitamins (A, C, and E). Numerous studies have raised the question whether vitamin supplements help to prevent cardiovascular diseases. Results of randomized controlled trials of antioxidant vitamin supplements in large numbers of participants has been ambiguous or contradictory. This minireview examines the relevant clinical reports on dietary supplements of vitamins A, C, and E to determine whether they support the premise that patients at risk of cardiovascular disease may be candidates for this therapeutic option.

(6)

[Expert Opin Investig Drugs](#). 2007 Jan;16(1):25-32.

The role of the antioxidant vitamin supplementation in the prevention of cardiovascular diseases.

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Industrial and technological revolutions have resulted in dramatic shifts in the diseases that are responsible for illness and death. In particular, cardiovascular disease (CVD) has emerged as the dominant chronic disease in many parts of the world. Diet, tobacco smoking, physical inactivity, obesity, lipid levels, hypertension and diabetes mellitus have contributed to their wide diffusion. Oxidative damage and the production of free radicals in the endothelium are two of the main factors involved in the pathogenesis of the atherosclerotic process that causes CVD. One of the more important results of basic research on dietetic regimes has shown that people who consume large amounts of fruits and vegetables have a lower incidence of CVD, stroke and tumours, but the specific mechanisms of these foods (which have an apparently protective effect) are still not completely clear. Possible reasons could include a greater consumption of fruit and

vegetables, and an increased consumption of dietetic fibres. Recently, it been proposed that micronutrients with an antioxidant activity could be responsible for the reduction of chronic diseases. Research supplies a hypothetical mechanism by which antioxidant substances may be reducing the risk of atherosclerosis through the inhibition of oxidative damage. Appropriate nutritional practices are of central importance in managing risk and treatment of CVD; in fact, many current guidelines for a healthy general population contain nutritional recommendations to reduce the risk of these diseases. A large number of descriptive and case-control studies suggests that the consumption of many antioxidant vitamins (A, C and E) reduces the risk of CVD. Such data raises the following problem of whether supplementation of vitamins A, C and E emerges as being useful in the primary prevention of CVD. Many important studies involving a great number of participants have not confirmed this hypothesis and the results are often contradictory. This review examines the studies published in the literature that document the effect of supplementation with antioxidant vitamins (A, C and E) in the primary and secondary prevention of CVD due to an atherosclerosis process.

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Vitamin E and cardiovascular disease: observational studies.

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Basic research suggests that oxidative stress may play an important role in many chronic diseases and provides plausible mechanisms by which natural antioxidants such as vitamin E may delay or prevent steps in atherogenesis. Dietary research has shown that those who consume higher amounts of fruits and vegetables have lower rates of heart disease and stroke, raising the possibility that antioxidants are protective. Results from large-scale human observational studies suggest that antioxidant consumption reduces the risk of developing cardiovascular disease (CVD). Both case-control and prospective cohort studies have carefully explored the relationship between vitamin E intake and plasma and tissue vitamin E levels and the risk of CVD. In many, but not all, of these studies vitamin E intake over an extended period was associated with decreased risk of cardiovascular events. Results from studies of blood levels are more limited and less consistent. This presentation summarizes data from the major

observational studies. Overall, they support the possibility that vitamin E intake either from food or supplements may reduce risk of CVD; however, these studies have important limitations. For example, uncontrolled confounding can be similar in magnitude to the observed health effects, and antioxidant consumption may be merely a marker for a different cardioprotective factor (such as exercise or diet) that is responsible for these effects. In the search for small to moderate effects, randomized trials may be helpful, although to date, data from large-scale trials have been inconsistent. Several large-scale trials currently under way will help identify the potential benefits of vitamin E in the primary prevention of CVD and other chronic illness. Some are designed to test vitamin E alone as well as in combination with other antioxidant supplements because it is possible that antioxidants may be most effective if taken in particular combinations. Currently, the American Heart Association maintains that there are insufficient efficacy data from completed randomized trials to justify population-wide recommendations for use of vitamin E supplements in disease prevention.

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[Rev Invest Clin.](#) 2008 Jan-Feb;60(1):58-67.

[Alpha-tocopherol and alpha-lipoic acid. An antioxidant synergy with potential for preventive medicine]

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Reactive oxygen species (ROS) have been involved in the induction and progression of damage of many human disorders, such as: heart infarction, cerebral ischemia, diabetic neuropathy, Alzheimer's disease, etc. In several studies, the synergism between alpha-lipoic acid and vitamin E has been described and potent antioxidant effects can be obtained when both antioxidants are simultaneously used. This review highlights recent findings showing that the combination of alpha-lipoic acid plus vitamin E effectively reduces oxidative damage in brain and cardiac ischemia as well as in other pathological events related to ROS increasing. These antioxidants are present in a broad variety of foods, are also available in several dietary supplements and their side effects are very rare. Therefore, alpha-lipoic acid and vitamin E may play an important role in clinical preventive medicine and human nutrition.

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