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PUGOS ANTIOXIDANT NUTRITION : Nutrition for Protection against harmful effect of Pollution, tobacco, cigarette smoke, drug addiction, illness, stress, alcohol, medications, trauma, cold, infections, poor diet, toxins, radiation & other Life style disorders.

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ABSTRACT

Antioxidants are our first line of defense against free radical damage, and are critical for maintaining optimum health and wellbeing. The need for antioxidants becomes even more critical with increased exposure to free radicals. Pollution, cigarette smoke, drugs, illness, stress, and even exercise can increase free radical exposure. Because so many factors can contribute to oxidative stress, individual assessment of susceptibility becomes important. Antioxidants terminate the chain reactions by removing free radical intermediates, and inhibit other oxidation reactions. They do this by being oxidized themselves, so antioxidants are often called as reducing agents.

Antioxidants are widely used as ingredients in dietary supplements and have been investigated for the prevention of diseases such as cancer, coronary heart disease and even altitude sickness. The present paper reviews the role of Pugos Antioxidant Nutrition for Protection against Pollution, tobacco, cigarette smoke, drug addiction, illness, stress,alcohol, medications, trauma, cold, infections, poor diet, toxins, and radiation.

Keywords: Antioxidants, Oxidative stress, Pollution, Tobacco, Cigarette smoke, Drug addiction, Illness, Stress,Alcohol, Medications, Trauma, Cold, Infections, Poor diet, Toxins, Radiation.

INTRODUCTION

Oxidative stress occurs in response to excessive levels of cytotoxic oxidants and free radicals in the environment. Antioxidant is a chemical compound or substance that inhibits oxidation to protect body cells from the damaging effects of oxidation.

The term “oxidative stress” has been coined to represent a shift towards the pro-oxidants in the pro-oxidant/antioxidant balance that can occur as a result of an increase in oxidative metabolism. Increased oxidative stress at the cellular level can come about as a consequence of many factors, including exposure to alcohol, medications, trauma, cold, infections, poor diet, toxins, radiation, or strenuous physical activity. Protection against all of these processes is dependent upon the adequacy of various antioxidant substances that are derived

either directly or indirectly from the diet. Consequently, an inadequate intake of antioxidant nutrients may compromise antioxidant potential, thus compounding overall oxidative stress.

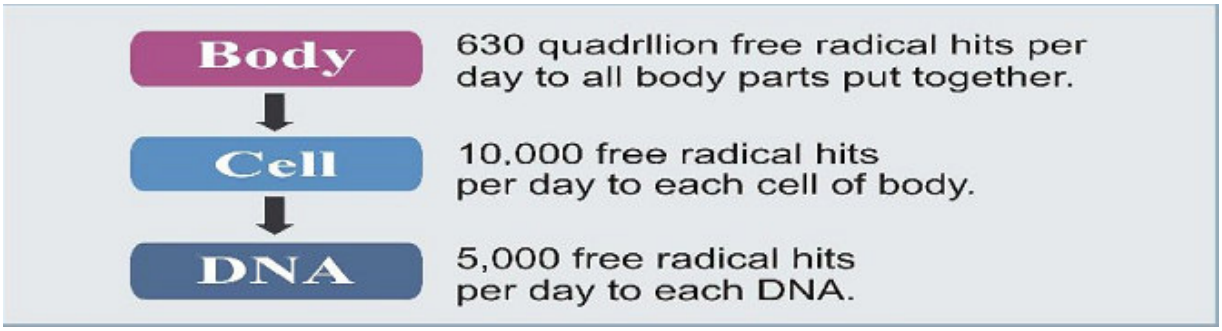

Fig.1 Oxidative stress to body, Cell & DNA

OXIDATIVE STRESS AND HUMAN DISEASE

Oxidative damage to DNA, proteins, and other macromolecules has been implicated in the pathogenesis of a wide variety of diseases, most notably heart disease and cancer.

Clinical intervention trials suggest that antioxidants may play a pivotal role in preventing or slowing the progression of wide variety of diseases, such as heart disease and some forms of cancer.

CONDITIONS ASSOCIATED WITH OXIDATIVE DAMAGE

- Atherosclerosis
- Cancer
- Pulmonary dysfunction
- Cataracts
- Arthritis and inflammatory diseases
- Diabetes
- Shock, trauma, and ischemia
- Renal disease and hemodialysis
- Multiple sclerosis
- Pancreatitis
- Inflammatory bowel disease and colitis
- Parkinson's disease
- Neonatal lipoprotein oxidation
- Drug reactions
- Skin lesion & Aging

WHAT ARE ANTIOXIDANTS?

Antioxidants are found in many foods. They work to keep our cells healthy by protecting them from damage by free radicals (molecules responsible for aging, tissue damage, and some disease). Free radicals damage cells in a process called oxidation. Oxidation results from everyday body functions such as breathing or walking, but certain processed and fatty foods, toxic substances, and sunlight can increase its effects. Antioxidants help repair damaged cells, which can prevent diseases, including cancer. A diet rich in a variety of plant-based foods provides all of the antioxidants the body needs. Research shows that vitamins, minerals, and phytochemicals from whole foods interact to boost their disease-fighting effects. These nutrients benefit both healthy people and those fighting disease. This is why it is important to focus on eating nutrient-rich foods rather than focusing on a single nutrient in supplement form.

HOW DO ANTIOXIDANTS OPERATE?

Fig.2

NATURAL ANTIOXIDANTS TO NEUTRALIZE FREE RADICALS

To protect the cells and organ systems of the body against reactive oxygen species, humans have evolved a highly sophisticated and complex antioxidant protection system. It involves a variety of components, both endogenous and exogenous in origin, that function interactively and synergistically to neutralize free radicals.

CLINICAL STUDY REPORTS OF ASTAXANTHIN IN ASTASHINE CAPSULES

Clinical studies has shown that Astashine capsules has the strongest quenching effect against singlet oxygen, and a strong scavenging effect against free radicals. Astaxanthin was found to be at least 10 times stronger antioxidant thanzeaxanthin, lutein, tunaxanthin, canthaxanthin, and beta-carotene, and 100times stronger than Vitamin E.

Supplement	How many times Weaker than Astaxanthin	How many mg to equal 4mg of Astaxanthin
Astaxanthin		
Alpha Lipoic Acid	75 times weaker	300 mg
Green Tea Catechins	550 times weaker	2200 mg
CoQ10	800 times weaker	3200 mg
Vitamin C	6000 times weaker	24,000 mg

Fig.3

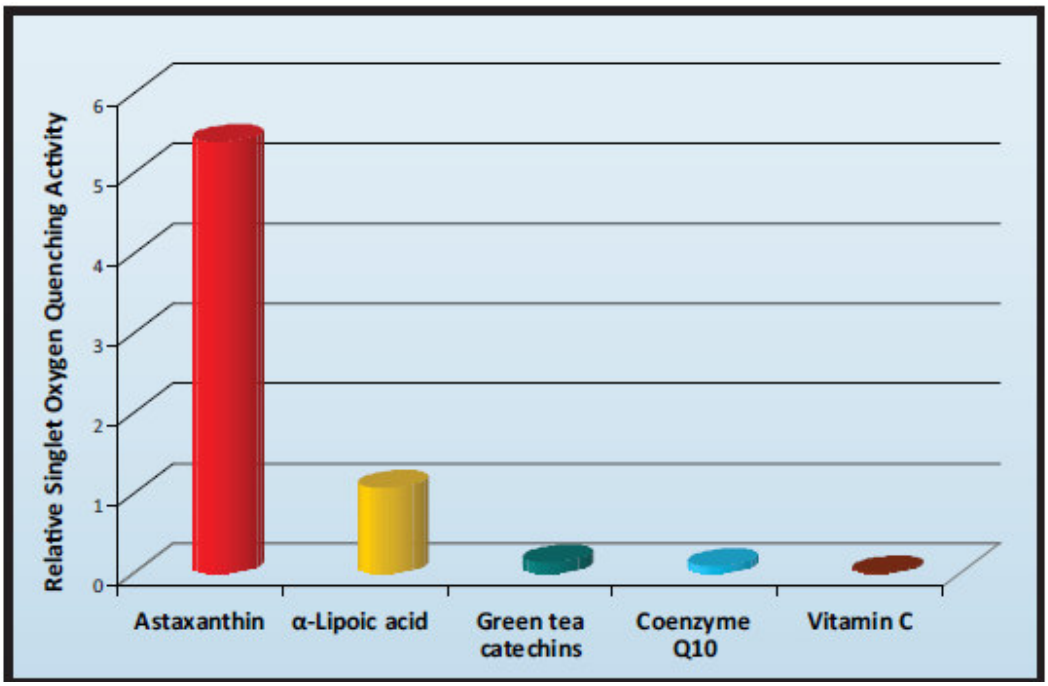

Fig.4

Astaxanthin is a potent antioxidant nutrient with a wide variety of health benefits. Three recent studies demonstrate excellent anti-aging potential, especially to help preserve the efficiency of energy production during aging.

Mitochondria are cell's Power house. They need to function well in order to maintain efficient energy production, especially to offset the common decline in mitochondrial function that occurs during aging. Astaxanthin improves the mitochondrial function. Astaxnhthin improves antioxidant status and decreases the levels of nitric oxide that is linked to inflammatory states in the circulation. Under the influence of astaxanthin, not only did mitochondria Organelle function better, they grew in physical size and demonstrated superior enzyme activity. When mitochondria grow in size, a process called mitochondrial biogenesis is taking place, a key anti-aging event that is helping body energy production become more youthful [1].

Another study looked at the ability of bovine embryos to maintain normal growth and development under varying levels of heat stress. After disruptive stress was induced upon the embryos, astaxanthin was provided to the embryos, which recovered their normal function and growth pattern. Astaxanthin specifically localized with the mitochondria, rejuvenating normal energy production capability [2].

In Another study, Japanese researchers from the Department of Aging Control, Junten do University, provided doses of either 6 mg or 12 mg per day of astaxanthin in a randomized, double-blind, placebo-controlled study to test cognitive function in middle aged and elderly patients. Over a 12-week period both groups improved on learning tests, and the 12 mg per day group improved on cognitive testing. The researchers concluded that astaxanthin "improves cognitive function in the healthy aged individuals." Of course, the brain requires efficient mitochondrial energy production in order to perform and is also helped by a reduction in free radical damage – two of the key mechanisms of astaxanthin benefit. Astaxanthin makes sense as part of an anti-aging nutritional program wherein a variety of nutrients help reduce free radical damage and excess inflammation while helping to improve the efficiency of energetic function [3].

SAFETY OF ASTASHINE CAPSULES

Astaxanthin has demonstrated safety in numerous human clinical trials. In one open-label clinical study on subjects with metabolic syndrome (n=17) .Astaxanthin (16 mg/day, for three months) significantly raised blood bilirubin ($p \leq 0.05$),

potassium ($p \leq 0.05$), and creatinekinase ($p \leq 0.01$), although all three values remained within normal range. Also, astaxanthin significantly lowered the liver enzyme gamma-glutamyltrans peptidase (GGTP; $p \leq 0.05$). Since the researchers noted this enzyme was abnormally elevated in 11 of the 17 subjects at baseline, this astaxanthin effect may have been beneficial. Animal experiments have investigated astaxanthin at levels well over 120 mg/day in human equivalents, without causing apparent harm. Hoffman-La Roche confirmed its safety with extensive tests, including acute toxicity, mutagenicity, teratogenicity, embryo toxicity, and reproductive toxicity.

Suggested Dosage

The doses of astaxanthin used in clinical trials have ranged from 1 mg/day to 40 mg/day (with the majority in the 6-12 mg range); single-dose pharmacokinetic studies used up to 100 mg per dose. As a dietary supplement, astaxanthin should be taken along with fats, with or immediately prior to meals, to ensure its optimal absorption.

Summary and Conclusion

Astaxanthin,s antioxidant activity has been demonstrated in several studies. In some cases, astaxanthin has up to several-fold stronger free radical antioxidant activity than vitamin E and b-carotene . The antioxidant properties of astaxanthin are believed to have a key role in several other properties such as protection against UV-light photooxidation, inflammation, cancer, ulcers Helicobacterpylorii infection, aging and age-related diseases, or the promotion of the immune response, liver function and heart, eye, joint and prostate health.

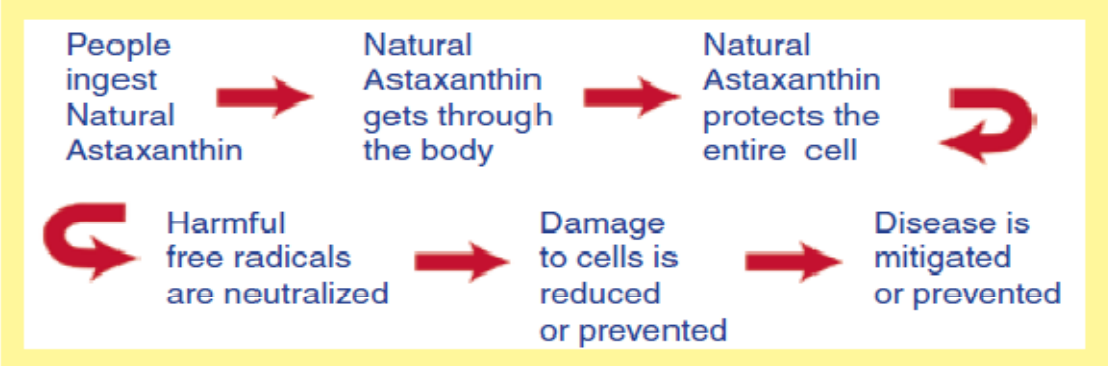

Fig.5

Recommended Pugos Supplements

- ASTASHINE (World's Most powerful Antioxidant)
- Nutrease shake also recommended as it contains blend of natural fibres, natural sweetener stevia & perfect nutrition for Antioxidant support.

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