

ALTERNATIVE MEDICATIONS IN CARDIOVASCULAR HEALTH

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Red Wine vs. Alcohol (ETOH)

Consumption of red wine or alcohol in general has long been a disputed component of cardiovascular health. A number of epidemiologic studies have found an association of alcohol intake with a reduced risk of cardiovascular disease. Some studies have found the link with only red wine while others generalize the cardiovascular benefits to alcohol and not necessarily the antioxidants found in red wine. There are many advantages of epidemiologic studies, but they still do lack control of certain variables that can likely influence other factors and skew the results of the study.

Red wine benefits:

The studies supporting red wine suggest antioxidants in red wine called polyphenols help protect the lining of blood vessels in your heart. These antioxidants come in two main forms: flavonoids and nonflavonoids. *Flavonoids* are antioxidants naturally found in oranges, grape juice, apples, onions, tea and cocoa. Other types of alcohol, such as white wine and beer, contain small amounts of flavonoids, but red wine has higher levels. *Nonflavonoids*, most notably resveratrol, are antioxidants found mainly in red wine. Researchers believe that antioxidants such as resveratrol have promising heart-healthy benefits. Resveratrol might be the key ingredient in red wine that helps prevent damage to blood vessels, reduces LDL cholesterol, and prevent clots. Most research on resveratrol, however, has been conducted on animals, not people. Research in mice given resveratrol has indicated that the antioxidant might also help protect them from obesity and diabetes, both of which are strong risk factors for heart disease. In addition, to get the same dose of resveratrol used in the mice studies, a person would have to consume 100 to 1,000 bottles of red wine a day.

The resveratrol in red wine comes from the skin of grapes used to make wine. Because red wine is fermented with grape skins longer than is white wine, red wine contains more resveratrol. Simply eating grapes or drinking grape juice is one alternative to get resveratrol without drinking alcohol. Some studies have suggested that red and purple grape juices have some of the same heart-healthy benefits of red wine.

Red wine vs. ETOH:

It is thought that alcohol raises HDL cholesterol, reduces the formation of blood clots, and helps prevent artery damage caused by high levels of low-density lipoprotein LDL cholesterol. Of course, these benefits are only seen with moderate consumption and not excessive alcohol intake.

However, alcohol does not reliably reduce atherosclerosis in animal studies. Despite any potential benefits that alcohol may have, doctors are still wary of encouraging anyone to start drinking because alcohol still has many harmful effects on the body. Neither the American Heart Association nor the National Heart, Lung, and Blood Institute recommend that anyone start drinking alcohol just to prevent heart disease. Alcohol can be addictive and is associated with many other health issues. Although some studies do show a reduction in cardiovascular disease, they do not show an overall decrease mortality in patients who drink alcoholic beverages. Substitution of one disease for another is not a medical advance. This is especially true with respect to the prevention of cardiovascular disease, since a number of preventive therapies, such as exercise, smoking cessation, and lowering of cholesterol levels and blood pressure, do not have the undesirable effects of alcohol.

ETOH risks:

Drinking too much increases your risk of high blood pressure, high triglycerides, liver damage, obesity, certain types of cancer, accidents and other problems. In addition, even small amounts of alcohol can cause cardiomyopathy, or weakened heart muscle, causing symptoms of heart failure in some. Those with heart failure or a weak heart should avoid alcohol completely. Patients taking daily aspirin should also avoid alcohol altogether.

‘If alcohol were a newly discovered substance today, we can be sure that no pharmaceutical company would develop it to *prevent* cardiovascular disease. Nor would many physicians use a therapy that might reduce the rate of myocardial infarction by 25 to 50 percent, but that would also result in thousands of additional deaths per year due to cancer, motor vehicle accidents, and liver disease.’ – *New England Journal of Medicine*

References:

New England Journal of Medicine: www.nejm.org

Mayo Clinic: www.mayoclinic.com

Mulberry Zuccarin

The Zuccarin tablets are based on a traditional Japanese herbal recipe with extract from white mulberry leaves. The leaves contain a high content of deoxynojirimycin (DNJ), an enzyme that inhibits conversion of polysaccharides to glucose to maintain a steady glucose levels and prevent insulin spikes.¹

The product is marketed mainly to individuals who want to manage their blood sugar levels and/or lose weight. Mulberry Zuccarin is manufactured by the European pharmaceutical company *New Nordic*, a Denmark-based company that specializes in natural food supplements and states that it bases its products solely on scientifically proven research and manufactured under pharmaceutical control for purity and content of ingredients.¹

Mulberry Zuccarin contains the Mulberry leaf, which is claimed to be clinically proven to regulate glucose levels in the blood². The product is free from sugar, salt, gluten, yeast soy and dairy products. It is formulated without use of preservatives, flavors or coloring agents of any kind. It claims to be suitable for vegetarians/vegans and diabetics.¹ It also claims to “Block carbohydrate digestion and regulate your blood sugar with this new unique and highly concentrated Mulberry leaf extract.”²

Advertisements state Mulberry Zuccarin prevents food cravings, namely sweets. The pills contain 400mg of White Mulberry leaf extract. It claims to be 100% natural and safe. Mulberry leaves have been consumed as a tea for more than 700 years in Japan. It is well known for its anti-hyperglycemic properties that reduces the absorption of sugars in the blood and better regulates insulin spikes. Mulberry leaves also contain phytosterols, touting to be clinically proven to lower cholesterol. The claim doesn't mention how much phytosterols are in the tablets or cite which studies support the statement. Mulberry Zuccarin is not FDA-approved.²

References:

¹ New Nordic Company website: www.newnordic.com

² Canadian Consumer Advisory Service: <http://www.dietpillreview.ca/mulberry-zuccarin-review-canada/>

Selenium

Selenium is a trace mineral that is essential to good health but required only in small amounts. The antioxidant properties of selenoproteins help prevent cellular damage from free radicals. Free radicals are natural by-products of oxygen metabolism that may contribute to the development of chronic diseases such as cancer and heart disease. Other selenoproteins help regulate thyroid function and play a role in the immune system. Selenium has been indicated as a supplement in various disease processes such as cancer, arthritis, HIV/AIDS, and heart disease.¹

Selenium is one of a group of antioxidants that may help limit the oxidation of LDL cholesterol and thereby help to prevent coronary artery disease. Currently there is insufficient evidence available to recommend selenium supplements for the prevention of coronary heart disease. The Recommended Dietary Allowances (RDA) for Selenium, however, is 55 µg/day for adults 19 and older.¹

A meta-analysis of “Selenium and CAD” was conducted from 1966 to 2005 by the Departments of Epidemiology at Johns Hopkins University. They hypothesized that “*low selenium concentrations are associated with an increased risk of cardiovascular disease and that selenium supplements prevent coronary heart disease*”. Their objective was to perform a meta-analysis on the “*association of selenium biomarkers with coronary heart disease endpoints in observational studies and on the efficacy of selenium supplements in preventing coronary heart disease endpoints in randomized trials*”. They concluded that “*Selenium concentrations were inversely associated with coronary heart disease risk in observational studies. Because observational studies have provided misleading evidence for other antioxidants, the validity of this association is uncertain. Few randomized trials have addressed the cardiovascular efficacy of selenium supplementation, and their findings are still inconclusive. Evidence from large ongoing trials is needed to establish low selenium concentrations as a cardiovascular disease risk factor. Currently, selenium supplements should not be recommended for cardiovascular disease prevention.*”²

Human selenium deficiency is rare in the U.S. but is seen in other countries, most notably China, where soil concentration of selenium is low. There is evidence that selenium deficiency may contribute to development of a form of heart disease, hypothyroidism, and a weakened immune system. There is also evidence that selenium deficiency does not usually cause illness by itself. Rather, it can make the body more susceptible to illnesses caused by other nutritional,

biochemical or infectious stresses. Three specific diseases have been associated with selenium deficiency:¹

1) Keshan Disease, which results in an enlarged heart and poor heart function, occurs in selenium deficient children

2) Kashin-Beck Disease, which results in osteoarthropathy

3) Myxedematous Endemic Cretinism, which results in mental retardation

Selenium deficiency has also been seen in people who rely on total parenteral nutrition (TPN) as their sole source of nutrition. TPN is a method of feeding nutrients through an intravenous line to people whose digestive systems do not function. Muscular weakness, muscle wasting, and cardiomyopathies have been observed in these patients.¹

Severe gastrointestinal disorders may also decrease the absorption of selenium, resulting in selenium depletion or deficiency. In the U.S., most cases of selenium depletion or deficiency are associated with severe gastrointestinal problems, such as Crohn's disease, or with surgical removal of part of the stomach. People with iodine deficiency may also benefit from selenium supplementation.¹

High blood levels of selenium (greater than 100 µg/dL) can result in a condition called selenosis. Symptoms of selenosis include gastrointestinal upsets, hair loss, white blotchy nails, garlic breath odor, fatigue, irritability, and mild nerve damage.¹

References:

¹ The Office of Dietary Supplements: National Institutes of Health
<http://ods.od.nih.gov/factsheets/selenium/>

² Pubmed.gov: <http://www.ncbi.nlm.nih.gov/pubmed/17023702>