their intensity by 75%, compared with the untreated rats. Thus, grape seed proanthocyanidins showed cardioprotective effects by reducing or removing free radicals in the heart tissue after injury due to ischemia-reperfusion.


**Lycopene and prostate cancer**

The use of lycopene has been shown to have a negative effect on prostate cancer cells. One of the oxidation products of lycopene is acyclo-retinoic acid, a form of all-trans-retinoic acid. When cultured with retinoids, acyclo-retinoic acid significantly reduced the growth and viability of two types of prostate cancer cells (PC-3, and DU 145). Thus, the use of lycopene was shown to be beneficial in helping to prevent the development of human prostate cancer.

*Anticancer Research, 2002, Vol 22, Iss 24, pp 695-695*

**Vitamin E and prostate cancer**

Vitamin E has been shown to inhibit tumor angiogenesis (development of blood vessels) in animals. A study evaluated whether long-term supplementation with vitamin E modified levels of a certain protein involved in angiogenesis. One hundred men not diagnosed with cancer received vitamin E (50 mg daily) and were followed up for four years. The results showed an 11% decrease in levels of this protein in the vitamin E group as compared with a 10% increase in the placebo group. The reduction of this protein and the subsequent inhibition of angiogenesis by vitamin E may help prevent tumor development. Thus, daily supplementation with vitamin E may reduce prostate cancer risk.

*Anticancer Research, 2002, Vol 22, Iss 1A, pp 375-378*

**Effect of taurine on atherosclerosis**

Taurine has been shown to prevent free radical attack and atherosclerosis. In a recent study, mice bred for severe high cholesterol and atherosclerosis were fed a diet containing 2% taurine for three months. Their cholesterol levels were significantly elevated after treatment. The elevation was due to increases in very low-density lipoprotein (VLDL) and low-density lipoprotein (LDL) cholesterol. However, despite these effects on blood lipoproteins, taurine reduced the area of arterial lipid accumulation by 28%. There was also a decrease in the size of lesions in the aorta. At the start, blood levels of TBARS (oxidative stress marker) were higher in mice with normal lipid levels. After three months of taurine in the diet, blood TBA levels were significantly decreased. Thus, taurine prevents the formation of atherosclerotic lesions, independently of blood cholesterol levels.

*Clinical and Experimental Pharmacology and Physiology, 2001, Vol 28, Iss 10, pp 809-815*

**Aging and calorie restriction**

A study compared profiles from aged animals on a normal diet with those on a low-calorie diet. Specific biological functions were found to be impacted by caloric restriction. The study found that caloric restriction was accompanied by a slowing of the progression of normal, age-related changes in gene transcript levels. Nearly 23% of the genome changed in gene transcript representation on the low-calorie regime. It resulted in the down-regulation of genes primarily involved in cell growth, metabolism, and reproduction. Many genes, including those associated with stress response and reproduction, showed age-dependent transcript representation. During the normal aging process, many genes undergo changes in their expression. Age and dietary conditions affect gene activity from many different biological functions and processes. Thus, caloric restriction has been shown to extend life span in animals by slowing down the rate of normal aging.

*Current Biology, 2002, Vol 12, Iss 9, pp 712-723*

**Vitamin C and the kidneys**

Vitamin C may prevent kidney inflammation caused by phospholipids. (Phospholipids are fats that form the basic structure of cell membranes.) When blood flow is restored (reperfusion) to an organ, injury can occur as an inflammatory response to free radical stress. A study examined whether vitamin C influences the a) platelet-activating factor (PAF) activity of phospholipids, b) kidney inflammatory response, and c) kidney failure. After ischemia and reperfusion in rabbit kidneys, there was a release of PAF. Accompanying the release of the phospholipids was massive DNA oxidation. However, vitamin C was able to weaken these negative DNA oxidative changes and decrease PAF. In rats, administration of vitamin C improved kidney function and structure. The study showed for the first time that phospholipids are released as part of an oxidative-inflammatory response after ischemia and reperfusion of kidneys, and that their release is significantly reduced by vitamin C.

*FASEB Journal, 2002, Vol 16, Iss 6, pp N113-N113*

**Raspberry extract and cell proliferation**

Raspberry extract has been shown to inhibit cell proliferation. Raspberries are rich in phenolic phytochemicals. The antioxidant activity of the raspberry is directly related to the total amount of phenolics and flavonoids found in it. This investigation found that raspberry extract equivalent to 50 mg of fruit significantly inhibited the proliferation of human liver cancer cells by 89%. It also found that the darkest colored juice showed the highest phytochemical content and vice versa. Thus, raspberries may potentially be beneficial for those with liver cancer.

*Journal of Agricultural and Food Chemistry, 2002, Vol 50, Iss 10, pp 2926-2930*