Taurine reverses damage done by smoking and protects against heart disease

Smokers may want to increase their intake of fish to reduce their risk of heart disease and stroke. This advice comes as a result of a study finding taurine, an amino acid present in fish, able to restore normal blood vessel function in smokers.

Proper vessel function is key to preventing hardening of the arteries. Cigarette smoke produces changes in blood vessels, causing them "to behave like a rigid pipe rather than a flexible tube," explains Dr. David J. Boucher-Hayes, principal investigator of the study. Such rigidity prevents the vessels from dilating in response to increased blood flow, resulting in a condition called endothelial dysfunction, an early sign of atherosclerosis and a primary cause of heart attacks and stroke.

The study investigators recruited 15 healthy smokers and 15 healthy nonsmokers. Initially, the smokers' blood vessel diameter was smaller than non-smokers'. After taking 1.5 grams per day of taurine for five days, the smokers' blood vessel diameter increased, equaling that of nonsmokers. Study results were published in the January 7, 2003 issue of Circulation.

This is not the first study to associate taurine with a decreased risk of heart disease. Researchers at the University of South Alabama found that congestive heart failure responds favorably to taurine therapy [Amino Acids 2000; 18(4):305–18]. A large-scale study in Japan drawing from 24 populations in 16 countries revealed a strong, inverse association between levels of taurine excretion and ischemic heart disease [Hypertens Res 2001 Jul;24(4):453–7]. An Australian study discovered taurine to be one of the key properties in fish that protect against cardiovascular disease [Asia Pac J Clin Nutr 2001;10(2):134–7]. Individuals seeking to boost their taurine intake can choose from all types of fish, including fatty fish, mild fish, white fish and/or taurine supplements. Other supplements that help to protect against endothelial dysfunction are vitamin C and folic acid.

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