

The benefits of green tea in reducing an important risk factor for heart disease

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More evidence for the beneficial effect of green tea on risk factors for heart disease has emerged in a new study reported in the latest issue of *European Journal of Cardiovascular Prevention and Rehabilitation*. The study found that the consumption of green tea rapidly improves the function of (endothelial) cells lining the circulatory system; endothelial dysfunction is a key event in the progression of atherosclerosis.

The study, performed by Dr Nikolaos Alexopoulos and colleagues at the 1st Cardiology Department, Athens Medical School in Greece, was a randomised trial involving the diameter measurement (dilatation) of the brachial artery of healthy volunteers on three separate occasions - after taking green tea, caffeine, and hot water (for a placebo effect). The measurements were taken at 30, 90 and 120 minutes after consumption. Dilatation of the brachial artery as a result of increased blood flow (following a brief period of ischaemia of the upper limb) is related to endothelial function and is known to be an independent predictor of cardiovascular risk.

Results showed that endothelium-dependent brachial artery dilatation increased significantly after drinking green tea, with a peak increase of 3.9 per cent 30 minutes after consumption. The effect of caffeine consumption (or hot water) was not significant.

While black tea has been associated with improved short and long-term endothelial performance, this is the first time that green tea has been shown to have a short-term beneficial effect on the large arteries.

Another study has already shown that green tea reverses endothelial dysfunction in smokers.

Green tea, which originates in China but is now consumed throughout the world, is made with pure leaves, and has undergone little oxidation during processing. The cardiovascular benefits of all teas - as well as dark chocolate and red wine - are attributed to the flavonoids they contain and their antioxidant activity. However, says investigator Dr Charalambos Vlachopoulos, flavonoids in green tea are probably more potent antioxidants than in black tea because there has been no oxidation.

"These findings have important clinical implications," says Dr Vlachopoulos. "Tea consumption has been associated with reduced cardiovascular morbidity and mortality in several studies. Green tea is consumed less in the Western world than black tea, but it could be more beneficial because of the way it seems to improve endothelial function. In this same context, recent studies have also shown potent anticarcinogenic effects of green tea, attributed to its antioxidant properties."

Source: European Society of Cardiology

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