**More evidence on the cardiovascular benefits of tea**

Black tea has protective effects on the blood vessels according to a new study published in the journal, Nutrients, this week. [[1]](#footnote-1)

The lining of the blood vessels, known as the endothelium, is important for cardiovascular function in that dysfunction of the epithelium is linked with cardiovascular disease, including coronary heart disease and high blood pressure. As a consequence, the reversal of endothelial dysfunction might improve cardiovascular risk.

Black tea consumption is increasingly linked with reduced incidence of cardiovascular events.[[2]](#footnote-2) [[3]](#footnote-3) It is the polyphenol flavonoids in black tea that are thought to be responsible for this beneficial effect. Epidemiological studies have shown an inverse correlation between flavonoid-rich diets and cardiovascular disease. [[4]](#footnote-4) [[5]](#footnote-5) Tea accounts for a major proportion of total flavonoid intake in a number of Western countries, including the UK [[6]](#footnote-6) [[7]](#footnote-7) [[8]](#footnote-8)

Previous research has indicated that the impact of black tea flavonoids could partly be the result of these substances improving endothelial function. Some dietary intervention studies have reported that both acute and chronic black tea consumption increases flow-mediated dilation (FMD) of the blood vessels in healthy volunteers as well as in patients with cardiovascular disease.[[9]](#footnote-9) [[10]](#footnote-10) Another previopus study has shown that the daily consumption of even a single cup of tea (100 mg tea flavonoids) per day increased the FMD of healthy volunteers, and improving further with escalating dose.[[11]](#footnote-11)

In this newly published study researchers from Italy and the Netherlands investigated the effect of black tea on circulating angiogenic cells (CACs), a marker of endothelial function. CACs maintain and repair the endothelium regulating its function by improving the dilation of the blood vessels and hence improving blood flow.

This was a randomized, double-blind, controlled, cross-over study in which 19 patients with high blood pressure were assigned to black tea (150 mg polyphenols) or a placebo twice a day for eight days. Measurements were taken from the patients when fasting and also after a dose of fat in the form of whipping cream. A meal high in fat reduces FMD and endothelial function, and the aim of this study was to see if black tea could revert this dysfunction.

FMD of the blood vessels was measured at baseline and after consumption of the black tea. Compared with the placebo, black tea ingestion increased functionally active CACs and FMD. Black tea further increased FMD 1, 2, 3, and 4 hours after consumption, with maximal response 2 hours after consumption. Consuming cream (fat) decreased FMD, while tea consumption counteracted FMD impairment.

Overall black tea increased the number of CACs and prevented the endothelial dysfunction induced by an acute oral fat load of cream in patients with high blood pressure.

Considering that black tea is the most consumed beverage after water in the UK, these findings are of potential clinical significance and add to earlier findings that black tea can improve endothelial function.[[12]](#footnote-12) This improvement in endothelial function may explain further beneficial findings from other studies that black tea can help maintain healthy blood pressure. [[13]](#footnote-13)

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