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Green tea extract shows extensive health benefits for obese hypertensives: Human study

By Stephen DANIELLS, 26-Jun-2012

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Extracts from green tea may lead to improvements in blood pressure, blood sugar levels and markers of inflammation, says a new study from Poland with obese hypertensives.

Three months of supplementation with the green tea extract led to significant reductions in levels of C-reactive protein (CRP), a marker of inflammation, as well as significant decreases in both systolic and diastolic blood pressure in 56 obese people with hypertension.

“Three months of green tea extract supplementation had a significant influence on cardiovascular risk factors such as insulin resistance, blood pressure, inflammation, and oxidative stress in patients with obesity-related hypertension and was a novel finding demonstrated in our study,” wrote researchers from Poznan University of Medical Sciences.

“To the best of our knowledge, this is the first clinical trial performed on obese, hypertensive patients.”

The study adds to the ever-growing body of evidence supporting the potential health benefits of green tea and its extracts.

Tea

The majority of science on tea has looked at green tea, with benefits reported for reducing the risk of Alzheimer's and certain cancers, improving cardiovascular and oral health.

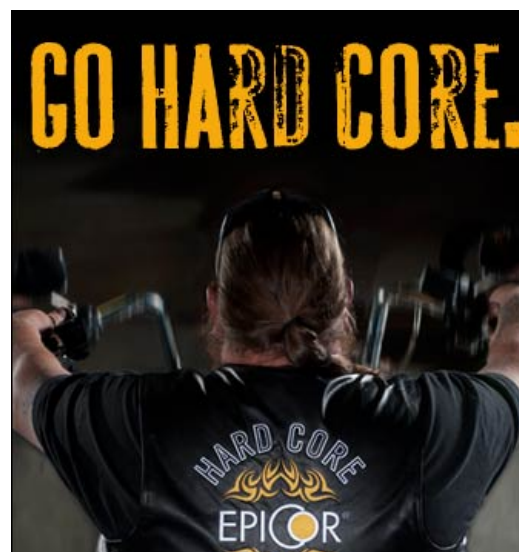
Green tea contains between 30 and 40 per cent of water-extractable polyphenols, while black tea (green tea that has been oxidized by fermentation) contains between 3 and 10 per cent. Oolong tea is semi-fermented tea and is somewhere between green and black tea. The four primary polyphenols found in fresh tealeaves are epigallocatechin gallate (EGCG), epigallocatechin (EGC), epicatechin gallate (ECG), and epicatechin (EC).

The new Polish study used daily dose of green tea extract of 379 milligrams, providing 208 mg of EGCG.

The Poznan-based researchers recruited 56 obese, hypertensive people to participate in their double-blind, placebo-controlled trial.

Participants consumed either 379 mg per day of green tea extract (GTE) or placebo for 3 months.

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Results showed that green tea extract consumption was associated with an average decrease in systolic and diastolic blood pressure of 4.9 and 4.7 mmHg, respectively, compared to decreases of only 0.8 and 0.6 mmHg, respectively, in the placebo group.

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In addition, significant improvements in LDL and HDL cholesterol levels was observed in the green tea group, compared with placebo.

Statistically significant improvements in insulin levels and blood sugar (glucose) levels were also observed after three months of supplementation with the green tea extract, but no such improvements were observed in the placebo group.

Finally, CRP levels decreased by 0.9 mg/L in the green tea extract group, but increased by 0.11 mg/L in the placebo group.

Commenting on the potential mechanism, the researchers said that the antioxidant and anti-inflammatory action of the extract may explain the blood pressure lowering activity, the cardioprotective effects, and the reductions in markers of oxidative stress and inflammation.

"The present findings demonstrate strong evidence for a beneficial influence of green tea extracts supplementation on blood pressure, carbohydrate metabolism, and lipid profile, as well as on inflammation and oxidative stress, in patients with obesity-related hypertension," wrote the researchers.

"Because the subjects represented in the groups are overrepresented in the modern population, the potential advantages of GTE should be carefully evaluated in future studies," they concluded.

Source: [Nutrition Research](#)

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"Green tea extract reduces blood pressure, inflammatory biomarkers, and oxidative stress and improves parameters associated with insulin resistance in obese, hypertensive patients"

Authors: P. Bogdanski, J. Suliburska, M. Szulinska, M. Stepien, D. Pupek-Musialik, A. Jablecka

Keywords: [green tea](#), [EGCG](#), [hypertension](#), [inflammation](#)

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