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HerbClip™

File: ■ Hibiscus (*Hibiscus sabdariffa*)
■ Tea (*Camellia sinensis*)
■ Lipid Profile

HC 121121-439

Date: December 30, 2011

RE: Hibiscus Tea and Black Tea Each Elevated High-density Lipoprotein but also Total Cholesterol after Discontinuation

Mohagheghi A, Maghsoud S, Khashayar P, Ghazi-Khansari M. The effect of *Hibiscus sabdariffa* on lipid profile, creatinine, and serum electrolytes: a randomized clinical trial. *ISRN Gastroenterol*. 2011;2011:976019. doi:10.5402/2011/976019.

Hibiscus (HS; *Hibiscus sabdariffa*) is used in many countries as a medicinal plant. Initial studies have investigated its cardiovascular benefits, but the effects on the serum lipid profile have been ambiguous. This randomized, controlled study examined the effect of HS on the serum lipid profile in hypertensive patients.

Patients with high blood pressure (n=90) had to have been hypertensive for at least 3 months; of these, 6 dropped out before the study ended and were not included in the data analysis. The patients were randomly assigned to receive HS tea (n=42; from an herbal medicine store in Tehran, Iran) or black tea (n=42; Ahmad Tea [*Camellia sinensis*]; Hampshire, England) for 15 days. Patients were given 500 mg of 1 of the teas and instructed to add 15 mg (described as "about 2 spoons") of tea to 2 glasses (exact volume unspecified) of boiling water for 10-15 minutes while boiling and to drink the tea within 20 minutes after preparation. This was done twice a day. At baseline and day 30 (no explanation as to the 15-day interval), blood was collected and assessed for fasting blood sugar (FBS), total cholesterol (TC), low-density lipoprotein cholesterol (LDL-C), high-density lipoprotein cholesterol (HDL-C), triglyceride (TG), serum sodium, potassium, creatinine, and blood urea nitrogen (BUN).

The numbers of females in each group were uneven, with more females in the black tea group (15 or 36%) than in the HS group (23 or 55%). There was a small but significant increase after 30 days in TC and HDL-C in both HS and black tea groups (2.9% and 1.5%, respectively, for TC; 3.8% and 5%, respectively, for HDL-C), compared to their baselines (both $P<0.05$). The groups were said to not be significantly different compared to each other, though no P values were given to verify this. There were no other significant differences from baseline values in either group.

The authors note that HS can be "quite helpful" for hypertensive patients by increasing HDL-C levels.

Aside from including a 15-day interval after the 15-day treatment but before the final biochemical assessments were made, a peculiar feature of the study was the dosage of the preparations as described. The HS used was identified as the dry calyx, and the black tea was a commercial source, so both were unconcentrated plant material; however, only 15 mg of each were decocted 2 times daily according to the description under "Material and Methods," providing a total of 30 mg/day. Normal teabags of herbal or black tea are typically about 2000 mg each, whereas after 15 days of this study a total of only 450 mg of each type of dried herb had been consumed. It also seems odd that the hibiscus tea and black tea were decocted. In contrast, a 2009 study on lipid profiles in 53 type II diabetes patients, comparing the effects of black tea and hibiscus tea, used each in doses of 2 g ("about 2 spoons") steeped in 240 ml of boiled water twice daily for 30 days; both significantly lowered HDL-C after 30 days (P=0.002 for both), but hibiscus tea also significantly lowered TC, LDL-C, and TG from baseline, though only LDL-C was significantly different than the black tea value (P=0.003).[1]

—Risa Schulman, PhD

Reference

[1]Oppel-Sutter M. Hibiscus tea vs. black tea effects on lipid and lipoprotein levels in type 2 diabetes. *HerbClip*. January 15, 2010 (No. 090693-392). Austin, TX: American Botanical Council. Review of Effects of sour tea (*Hibiscus sabdariffa*) on lipid profile and lipoproteins in patients with type II diabetes by Mozaffari-Khosravi H, Jalali-Khanabadi BA, Afkhami-Ardekani M, Fatehi F. *J Altern Complement Med*. Aug 2009;15(8):899-903.

Referenced article can be found at
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3168576/pdf/GASTROENTEROLOGY2011-976019.pdf.