Abstract

Evid Based Complement Alternat Med. 2007 Dec;4(4):455-462.

Juice Powder Concentrate and Systemic Blood Pressure, Progression of Coronary Artery Calcium and Antioxidant Status in Hypertensive Subjects: A Pilot Study.

Houston MC, Cooil B, Olafsson BJ, Raggi P.

Hypertension Institute of Nashville, Vanderbilt University School of Medicine and Saint Thomas Hospital, Owen Graduate School of Management, Vanderbilt University, The Heart Group, Saint Thomas Heart Institute and Saint Thomas Hospital, Nashville, TN and Department of Medicine and Division of Cardiology, Emory University School of Medicine, Atlanta, Georgia, USA.

BACKGROUND: Because micronutrients from plants may have beneficial cardiovascular effects, the hypothesis that an encapsulated juice powder concentrate might affect several measures of vascular health was tested in free living adults at low cardiovascular risk.

METHODS: Blood pressure, vascular compliance, lipid and antioxidant markers, and serial electron beam tomography (to calculate a coronary artery calcium score as a measure of atherosclerosis burden), were monitored in 51 pre-hypertensive and hypertensive subjects over 2 years.

RESULTS: By the end of follow-up, systolic and diastolic blood pressure decreased significantly (-2.4 +/- 1.0 mmHg, P < 0.05 and -2.2 +/- 0.6 mmHg, P < 0.001), and large artery compliance improved significantly (1.9 +/- 0.6 ml mmHg(-1) x 100, P < 0.01). The progression of coronary artery calcium score was smaller than expected compared with a historical database (P < 0.001). Laboratory testing showed a significant decrease in homocysteine (P = 0.05), HDL cholesterol (P = 0.025) and Apo A (P = 0.004), as well as a significant increase in beta-carotene, folate, Co-Q10 and alpha-tocopherol (all P < 0.001).

CONCLUSION: The phytonutrient concentrate we utilized induced several favorable modifications of markers of vascular health in the subjects. This study supports the notion that plant nutrients are important components of a heart healthy diet.

PMID: 18227913

FREE FULL TEXT