Carrot juice consumption augments antioxidant capacity and lowers lipid peroxidation in humans

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Background: The current worldwide obesity epidemic is at least partially attributable to a diet high in fat and refined carbohydrates with a minimal intake of fruits and vegetables. Epidemiological evidence has demonstrated that low consumption of fruits and vegetables is associated with higher risks of certain types of cancers and cardiovascular disease. The purpose of this pilot study was to evaluate whether drinking fresh carrot juice influences total antioxidant capacity and cardiovascular risk indicators in human participants continuing their customary respected diets.

Methods: A pilot experiment was performed to assess the effects of daily ingestion of 16 fluid ounces of freshly squeezed carrot juice for three months on cardiovascular risk markers, blood pressure, C-reactive protein, interleukin-1 alpha, insulin, leptin, bodyfat percentage, body mass index, antioxidant status, and malondialdehyde production. Fasting blood samples were collected pre-test and 90 days afterward to conclude the study.

Results: Carrot juice consumption did not affect plasma cholesterol or triglyceride concentrations, apolipoproteinA, apolipoprotein B, C-reactive protein, interleukin-1 alpha, insulin, leptin, body fat percentage, or body mass index. A trend (p-value = 0.06) was observed in lowering systolic blood pressure from drinking carrot juice, though decreases in diastolic blood pressure were non-significant. Ingestion of carrot juice did significantly increase (p-value < 0.05) total antioxidant capacity and significantly decrease (p-value < 0.05) malondialdehyde plasma levels.

Conclusion: Carrot juice consumption may provide cardiovascular protection by increasing total antioxidant capacity and decreasing lipid peroxidation independent of any of the cardiovascular risk indicators assessed in the pilot study.

Biography
Alexis Stamatikos is currently a PhD student and teaching assistant at Texas Tech University (TTU). Alexis completed his undergraduate studies at Southern Illinois University Carbondale (SIUC), while also receiving an MS in nutritional sciences at SIUC as well. Alexis decided to further his education at Texas A&M University-Kingsville (TAMUK), by finishing his second MS while completing a dietetic internship at TAMUK. At TTU, Alexis conducts research under the guidance of Dr. Jamie Cooper and Dr. Chad Paton, with the primary research focus being related to de novo lipogenic pathways in mouse models.

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