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The effect of 100% tart cherry juice on serum uric acid levels, biomarkers of inflammation and cardiovascular disease risk factors

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Gout is a common inflammatory arthritis and is a risk factor for CVD and mortality. Obesity, a co-morbidity, is strongly correlated with hyperuricemia, a precipitating factor. Tart cherry juice (TCJ) has been used by some for gout for decades based largely on anecdotal evidence. In this randomized, placebo-controlled crossover study, we tested in overweight and obese participants the effect of TCJ on serum uric acid (sUA), biomarkers of inflammation and risk factors for CVD. Ten participants (38.1 ± 12.5 yr; BMI 32.2 ± 4.6 ; 5 obese, 5 overweight) consumed 8 oz/d of either 100% TCJ or placebo beverage, for 4 weeks each with a 2 week intervening washout period. Baseline sUA levels were 289.3 ± 23.1 μ M (4.9 ± 0.4 mg/dL) and 278.4 ± 25.0 μ M (4.7 ± 0.4 mg/dL) for placebo and TCJ groups, respectively, and $r=0.37$ when sUA was compared with BMI. Although normouricemic, 70% (7/10) of participants displayed reduced sUA, 20% (2/10) displayed slight increases and 10% (1/10) remained unchanged after TCJ consumption. The erythrocyte sedimentation rate (ESR), an indicator of chronic inflammation, was significantly ($p < 0.05$) lower with TCJ treatment than with the placebo control. We also observed marked reductions in TNF- α and monocyte chemotactic protein (MCP-1), both inflammatory markers. TCJ also significantly reduced mean serum triglycerides from 168 to 139 mg/dL in those that started the trial with TCJ. We also noted a significant reduction in VLDL and, as expected, the TG/HDL risk ratio. Collectively, these pilot data suggest that 100% TCJ may reduce sUA levels, biomarkers of inflammation and risk factors for CVD.

