

Regular intake of tart cherry reduces risk of Type II Diabetes and Heart Disease as well as assists with abdominal fat and inflammation

J Med Food. 2009 Oct;12(5):935-42.

Regular tart cherry intake alters abdominal adiposity, adipose gene transcription, and inflammation in obesity-prone rats fed a high fat diet.

[Seymour EM](#), [Lewis SK](#), [Urcuyo-Llanes DE](#), [Tanone II](#), [Kirakosyan A](#), [Kaufman PB](#), [Bolling SF](#).

Michigan Integrative Medicine Program and Section of Cardiac Surgery, University of Michigan Health System, Ann Arbor, Michigan 48109, USA.

Obesity, systemic inflammation, and hyperlipidemia are among the components of metabolic syndrome, a spectrum of phenotypes that can precede the development of type 2 diabetes and cardiovascular disease.

Animal studies show that intake of anthocyanin-rich extracts can affect these phenotypes. Anthocyanins can alter the activity of tissue peroxisome proliferator-activated receptors (PPARs), which affect energy substrate metabolism and inflammation. However, it is unknown if physiologically relevant, anthocyanin-containing whole foods confer similar effects to concentrated, anthocyanin extracts. The effect of anthocyanin-rich tart cherries was tested in the Zucker fatty rat model of obesity and metabolic syndrome. For 90 days, rats were pair-fed a higher fat diet supplemented with either 1% (wt/wt) freeze-dried, whole tart cherry powder or with a calorie- and macronutrient-matched control diet. Tart cherry intake was associated with reduced hyperlipidemia, percentage fat mass, abdominal fat (retroperitoneal) weight, retroperitoneal interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF-alpha) expression, and plasma IL-6 and TNF-alpha. Tart cherry diet also increased retroperitoneal fat PPAR-alpha and PPAR-gamma mRNA (P = .12), decreased IL-6 and TNF-alpha mRNA, and decreased nuclear factor kappaB activity. **In**

conclusion, in at-risk obese rats fed a high fat diet, physiologically relevant tart cherry consumption reduced several phenotypes of metabolic syndrome and reduced both systemic and local inflammation. Tart cherries may reduce the degree or trajectory of metabolic syndrome, thereby reducing risk for the development of type 2 diabetes and heart disease.

PMID: 19857054 [PubMed - indexed for MEDLINE]