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Super FOODS

Cherries

By Steve Goodman

POWERFUL PAIN RELIEF, CANCER DEFENSE, AND NEUROPROTECTION

Growing concerns about the gastrointestinal and cardiovascular risks of common pain-relieving drugs are leading many health-conscious adults to avidly seek safe, effective ways of beating inflammation and pain. Exciting evidence suggests that delicious tart cherries offer powerful pain relief and may also safeguard against cancer and neurodegenerative conditions.



Whether consumed fresh, frozen, or in canned or juiced forms, tart cherries are rich in nutritive compounds and powerful flavonoids. Flavonoids—colorful compounds found in many fruits and vegetables—are attracting growing attention for their antioxidative activity, free-radical scavenging capacity, and anticancer effects.¹ A special class of flavonoids called anthocyanins provides tart cherries with their characteristic flavor, deep color, and diverse health benefits.² Anthocyanins also confer dark pigmentation and strong antioxidant properties to blueberries, raspberries, and bilberries, but tart cherries offer novel anthocyanins not found in these other deeply colored fruits,³ as well as being a rich source of antioxidants including quercetin, genistein, naringenin, and chlorogenic acid.⁴

RELIEVING PAIN AND INFLAMMATION

Strong evidence from several studies has revealed that cherry anthocyanins offer powerful relief against inflammation and pain.

Scientists at Johns Hopkins Hospital in Baltimore found that tart cherry anthocyanins provided effective reduction of painful inflammation comparable to that obtained with the non-steroidal anti-inflammatory drug, indomethacin, in an experimental animal model. The researchers believe that this remarkable effect may be derived from the anthocyanins' ability to counter oxidative stress following an inflammatory insult.⁵

Tart cherry anthocyanins may also help prevent muscle pain related to intensive exercise, according to another report. Young men who incorporated tart cherry juice into their daily diet experienced reduced muscle pain following an exercise challenge, suggesting a role for tart cherries in decreasing the symptoms of exercise-induced muscle damage.⁶

Furthermore, cherries may offer protection against gout, a painful inflammatory condition characterized by the accumulation of sharp urate crystals in the joints. The risk of developing gout increases with high levels of urate in the blood, which can be averted with the help of cherries.⁷ Women who consumed just two servings of Bing cherries experienced a significant reduction in their serum urate levels together with a modest decline in two other markers of inflammation.⁸

PREVENTING AND FIGHTING CANCER

In addition to providing welcome relief from inflammation, antioxidant-rich tart cherries also hold a lot of promise in protecting against cancer.

Research has shown that a diet containing cherries is beneficial in reducing the risk of colon cancer. When scientists fed a diet containing tart cherries, anthocyanins, or cyanidin (a non-sugar breakdown product of anthocyanins) to mice with a genetic susceptibility to colon cancer, the animals developed significantly fewer and smaller colon tumors. This study also revealed that these compounds effectively reduced the growth of two human colon cancer cells lines.⁹

The cancer-protective benefits of this fruit were validated in another experimental study, in which cherry fruit extract reduced the growth of both human colon cancer cells and human breast cancer cells in a dose-dependent fashion.¹⁰

Researchers have suggested that a possible mechanism by which cherries may confer benefits is through shutting down the growth of cancer cells by depriving them of the proteins they need to grow.¹¹



SUPPORTING MELATONIN LEVELS, BRAIN HEALTH

Tart cherries are one of the few food sources of melatonin, a chemical released in the body by the pineal gland that is intimately connected with circadian rhythms, or the regulation of the sleep-wake cycle. Melatonin also acts as a powerful antioxidant, providing neuroprotective and immune-modulating effects.^{12,13} As tart cherries provide a substantial amount of melatonin, they may constitute an important dietary source of this essential substance.¹⁴

Cherries are also rich in phenolic compounds, especially anthocyanins, which have strong neuroprotective activity. In the laboratory, cherry phenolics protected neuronal cells from cell-damaging oxidative stress in a dose-dependent manner.¹⁵ Cherry compounds may thus find important applications in protecting aging adults against neurodegenerative conditions such as memory loss, senile dementia, and perhaps even Alzheimer's disease.

ENJOYING TART CHERRIES

Tart cherries may well be the ultimate super food. But remember we are talking about tart cherries here, which usually come frozen, canned, dried, or juiced. Fresh tart cherries are seldom available at the grocery store, but may occasionally be found at a farmer's market. Sweet cherries, which are usually consumed fresh, are nutritious, but don't contain nearly enough anthocyanins and phenols as found in the tart varieties.

Tart cherries can be enjoyed whole, used in a variety of recipes, or juiced. A tempting dessert can be made by taking the frozen variety directly from the freezer and stirring it into yogurt to create a healthy frosty treat that defeats a craving for ice cream. Tart cherries are also a delicious addition to main courses, salads, jams and jellies, and beverages.

If available, fresh tart cherries should be stored in a plastic bag in the refrigerator and consumed within three days. Unopened canned cherries, on the other hand, will keep in a cool, dark cupboard for up to one year.

CONCLUSION

Cherries can help adults maintain an active lifestyle by countering painful inflammation. By averting cancer and protecting the nervous system, a diet containing tart cherries may help ensure a future free from debilitating illness.

Flavorful and nutritious, tart cherries thus offer important benefits for individuals seeking to live long, healthy lives.

If you have any questions on the scientific content of this article, please call a Life Extension Health Advisor at 1-800-226-2370.

NUTRITIONAL CONTENT OF TART CHERRIES

Tart cherries are an excellent source of beta-carotene, containing 25 times the beta-carotene of blueberries. They are also rich in vitamin C and provide potassium, magnesium, iron, folate, and fiber.

One cup (155 g) of tart cherries without pits provides:¹⁶

Calories: 77

Calories from fat: 4

Total carbohydrate: 19 g

Dietary fiber 2 g

Sugars 13 g

Protein 2 g

Beta-carotene 1193 mcg

Vitamin C 15.5 mg

Lutein and zeaxanthin 132 mcg

Folate 12.4 mcg

Calcium 24.8 mg

Magnesium 13.9 mg

Potassium 268 mg

Iron 0.5 mg



References

1. Yao LH, Jiang YM, Shi J, et al. Flavonoids in food and their health benefits. *Plant Foods for Hum Nutr.* 2004;59(3):113-122.
2. Blando F, Gerardi C, Nicoletti I. Sour cherry (*Prunus cerasus* L) anthocyanins as ingredients for functional foods. *J Biomed Biotechnol.* 2004;2004(5):253-8.
3. Seeram NP, Momin RA, Nair MG, Bourquin LD. Cyclooxygenase inhibitory and antioxidant cyanidin glycosides in cherries and berries. *Phytomedicine.* 2001 Sep;8(5):362-9.
4. Wang H, Nair MG, Strasburg GM, Booren AM, Gray JI. Antioxidant polyphenols from tart cherries (*Prunus cerasus*). *J Agric Food Chem.* 1999 Mar;47(3):840-4.
5. Tall JM, Seeram NP, Zhao C, Nair MG, Meyer RA, Raja SN. Tart cherry anthocyanins suppress inflammation-induced pain behavior in rat. *Behav Brain Res.* 2004 Aug 12;153(1):181-8.
6. Connolly DA, McHugh MP, Padilla-Zakour OI, Carlson L, Sayers SP. Efficacy of a tart cherry juice blend in preventing the symptoms of muscle damage. *Br J Sports Med.* 2006 Aug;40(8):679-83; discussion 683.
7. Schlesinger N. Dietary factors and hyperuricaemia. *Curr Pharm Des.* 2005;11(32):4133-8.
8. Jacob RA, Spinozzi GM, Simon VA, et al. Consumption of cherries lowers plasma urate in healthy women. *J Nutr.* 2003 Jun;133(6):1826-9.

9. Kang SY, Seeram NP, Nair MG, Bourquin LD. Tart cherry anthocyanins inhibit tumor development in Apc(Min) mice and reduce proliferation of human colon cancer cells. *Cancer Lett.* 2003 May 8;194(1):13-9.
10. Olsson ME, Gustavsson KE, Andersson S, Nilsson A, Duan RD. Inhibition of cancer cell proliferation in vitro by fruit and berry extracts and correlations with antioxidant levels. *J Agric Food Chem.* 2004 Dec 1;52(24):7264-71.
11. Available at: <http://www.nationalcherries.com/healthy.html>. Accessed September 19, 2007.
12. Tan DX, Manchester LC, Hardeland R, et al. Melatonin: a hormone, a tissue factor, an autocoid, a paracoid, and an antioxidant vitamin. *J Pineal Res.* 2003 Jan;34(1):75-8.
13. Cuzzocrea S, Reiter RJ. Pharmacological action of melatonin in shock, inflammation and ischemia/reperfusion injury. *Eur J Pharmacol.* 2001 Aug 24;426(1-2):1-10.
14. Burkhardt S, Tan DX, Manchester LC, Hardeland R, Reiter RJ. Detection and quantification of the antioxidant melatonin in Montmorency and Balaton tart cherries (*Prunus cerasus*). *J Agric Food Chem.* 2001 Oct;49(10):4898-902.
15. Kim DO, Heo HJ, Kim YJ, Yang HS, Lee CY. Sweet and sour cherry phenolics and their protective effects on neuronal cells. *J Agric Food Chem.* 2005 Dec 28;53(26):9921-7.
16. Available at: <http://www.nutritiondata.com/facts-C00001-01c20U1.html>. Accessed September 19, 2007.

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