

Montmorency Tart Cherries – Fighting Pain, Heart Disease, Inflammation

Cherries: The Healing Fruit

The good news about the health benefits of cherries continues to increase. According to ongoing research, **Montmorency** tart cherries are a rich source of antioxidants, which can help fight cancer and heart disease. In addition, there are beneficial compounds in Montmorency tart cherries that help relieve the pain of arthritis and gout. **Other fruits and vegetable do not have the pain relief of tart cherries.** While the research on the exact mechanisms that give the pain relief is ongoing, many consumers are discovering that tart cherry juice and other cherry products can stave off pain.

Research also shows that tart cherries are a rich source of powerful antioxidants, including kaempferol, quercetin and melatonin. **Melatonin is a powerful antioxidant considered more potent than vitamins C, E, and A, because it is soluble both in fat and water.** The latest information on the health benefits of cherries is summarized in this newsletter. Read on for details on how ruby-red cherries are the healing fruit.

When Fighting Pain, Being Inhibited Is Not a Bad Thing

When pain from arthritis and gout strikes the body, most people don't care how their medicine works, as long as it does work. What many pain sufferers take for granted is the complex chemical process that allows their pain medication to work. It's the same chemistry that is making tart cherries the preferred "medication" for a booming generation of pain sufferers.

Drugs such as aspirin and ibuprofen are called non-steroidal anti-inflammatory drugs (NSAIDs). They work by inhibiting two enzymes, cyclooxygenase I and II (popularly known as COX 1 and COX 2), which are produced by the body as a response to pain. NSAIDs prevent chemical messages from binding to cyclooxygenase. The normal messages are not delivered, so the body does not feel the pain and doesn't become inflamed (1).

Unfortunately, many patients must take pain medication daily, which can cause numerous side effects, including upset stomachs, vomiting, kidney damage and, possibly, ulcers. This is because NSAIDs inhibit both COX 1 and COX 2, but the COX 1 enzyme is also important for maintaining normal cell function within several organs (2).

Tart cherries contain flavonoid compounds that function in the same manner as NSAIDs and can inhibit both COX enzymes. However, research also shows that flavonoids can protect against stomach damage, unlike their NSAID counterparts (3). It is suspected that the high levels of antioxidants found in cherries, particularly melatonin, provide a protective function and prevent unwanted symptoms. This makes concentrated cherry products superior to over-the-counter pain relief because cherries block pain in the same manner and reduce potential side-effects (4).

References

- (1) H. M. Berman, et al, "The Protein Data Bank," *Nucleic Acids Research*, 28, 2000: 235-242.
- (2) Perazella, Mark A., "COX-2 Inhibitors and the Kidney," *Hospital Practice*, September 15, 2001.
- (3) Blank, M.A., et al, "flavonoid-induced gastroprotection in rats: Role of blood flow and leukocyte adherence," *Digestion*, 58 1997: 147-154.
- (4) Wang, Haibo, "Antioxidant and anti-inflammatory Compounds in tart Cherries," doctoral dissertation, Michigan State University, East Lansing, MI 1998.

Fibromyalgia and Cherries

Some consumers have discovered that Montmorency tart cherries can help relieve the pain of Fibromyalgia, a debilitating muscle disorder. Here is more information:

What is Fibromyalgia Syndrome?

FMS (fibromyalgia syndrome) is a widespread musculoskeletal pain and fatigue disorder for which the cause is still unknown. Fibromyalgia means pain in the muscles, ligaments and tendons - the fibrous tissues in the body. Most patients with fibromyalgia say that they ache all over. Their muscles may feel like they have been pulled or overworked. Sometimes the muscles twitch and at other times they burn. More women than men are afflicted with fibromyalgia, but it shows up in people of all ages.

In 1990, the American College of Rheumatology, the official body of doctors who treat arthritis and related conditions, developed criteria for diagnosing fibromyalgia. It is diagnosed when the following symptoms are displayed:

A history of widespread pain (pain on both sides of the body and above and below the waist) that is present for at least three months. Pain in at least 11 of 18 tender-point sites.

Common Treatments

Traditional treatments are geared toward improving the quality of sleep, as well as reducing pain. Because deep level (stage 4) sleep is so crucial for many body functions, such as tissue repair, antibody production, and perhaps even the regulation of various neurotransmitters, hormones and immune system chemicals, the sleep disorders that frequently occur in fibromyalgia and chronic fatigue patients are thought to be a major contributing factor to the symptoms of this condition. Medicines that boost the body's level of serotonin and norepinephrine - neurotransmitters that modulate sleep, pain and immune system function - are commonly prescribed. In addition, nonsteroidal, anti-inflammatory drugs (NSAIDs) like ibuprofen may also be beneficial.

Can Cherries Help?

The consumption of cherries should never be considered a cure for Fibromyalgia. However, some patients with Fibromyalgia have expressed to the Cherry Marketing Institute that the consumption of Montmorency tart cherry juice has helped alleviate some symptoms when combined with a prescribed health regimen.

Why Would This Be?

It is certainly possible that tart cherries could play a role in alleviating some of the pain and discomfort brought on by Fibromyalgia. First, cherries contain significant quantities of melatonin, which help regulate the sleep cycle. One of the key treatment areas for patients with fibromyalgia is to regulate the sleep cycle. Melatonin helps do that. Further, the anthocyanins found in cherries contain some of the highest levels of Cox-1 and Cox-2 inhibitors of any known food. The anthocyanins found in cherries function in the same manner as ibuprofen, and thus, may help relieve the pain of fibromyalgia syndrome.

Gout and Cherries

Gout is a type of arthritis (inflammation of the joints) that mostly affects men age 40 and older. It is nearly always associated with an abnormally high concentration of uric acid in the blood. Uric acid is produced in the liver and enters the bloodstream. Under certain circumstances, the body produces too much uric acid or excretes too little. As uric acid concentrations increase, needlelike crystals of a salt called monosodium urate (MSU) form. In time, MSU crystals accumulate and cause inflammation and pain, symptoms typical of gout.

Cherries contain flavonoid compounds that lower uric acid and reduce inflammation. Cherry juice concentrate has demonstrated to be extremely effective in reducing the pain associated with gout.

Cherries contain flavonoid compounds that may lower uric acid and reduce inflammation, so cherry juice concentrate could be effective in reducing the pain associated with gout.

Cox Inhibition May Fight Heart Attacks

Research by scientists at the University of Pennsylvania School of Medicine has demonstrated that aspirin, ibuprofen and other COX inhibitors may aid substantially in preventing heart disease, slowing the build-up of plaque in blood vessels by more than 50 percent.

"The cyclooxygenase enzyme known as COX-1 may play a role in the gradual hardening of the arteries that precedes acute events like heart attack or stroke," said Garret A. FitzGerald, MD, chairman of Penn's Department of Pharmacology. Medicines that inhibit the COX enzyme, such as aspirin, do not speed up the development of arteriosclerosis and can help protect against heart attack and stroke.

Using mice that had been engineered to produce high levels of cholesterol, the scientists analyzed the mice's aortas at the conclusion of the 16-week study. The researchers found that lesions were reduced by 55 percent in mice exposed to the COX inhibitor, compared to lesions in the untreated mice.

Although more data is needed in support of the extrapolation, it is entirely logical that the same enzymes that make cherries effective in blocking the pain messages carried by the COX enzyme would also make cherries effective in protecting against heart attack and stroke.

David Ropa, a consultant with Thomas J. Payne Development, compiled the information on the most recent research projects on cherries.