Health Science News Page

Exclusive Information from the Dr. Rath Research Institute

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HEALTH PROTECTIVE EFFECTS OF PHYTONUTRIENTS: CURCUMIN

Curcumin is the most abundant natural phenol (curcuminoid) present in the Indian curry spice, turmeric, and it gives turmeric its yellow color. Turmeric powder is obtained from the rhizomes of the Curcuma longa plant. Turmeric powder is used extensively in South-Asian cooking and food preservation. Due to its various medicinal properties, turmeric is still used in Ayurvedic medicine for skin, respiratory, and gastrointestinal ailments, liver disorders, muscle sprains, joint pains, and wound healing. In the past few decades, curcumin has been studied to evaluate its anti-oxidant, anti-inflammatory, and immune modulation properties.

As anti-oxidants, curcuminoid compounds help maintain a healthy cardiovascular system by improving the viscosity of blood and reducing plaque formation in the arteries, both of which obstruct proper blood circulation. Recent studies show that curcumin helps maintain cholesterol levels by reducing low-density cholesterol (LDL) and triglyceride levels[1]. In addition, it can reverse insulin resistance in the early stages of diabetes and support the action of some antidiabetic prescription drugs.

By acting as a free radical scavenger curcumin can prevent oxidative DNA damage. This damage to cellular DNA is known to initiate cancer by converting a normal cell into a cancer cell. The anti-cancer properties of curcumin include various cellular mechanisms such as reduction in cancer cell growth, initiation of apoptosis (cancer cell death), inhibition of collagen digesting matrix metalloproteinase (MMP) enzymes and prevention of angiogenesis. By inducing the enzymes involved cell death, curcumin can selectively eliminate cancer cells formed in the organ systems. Moreover, curcumin demonstrates actions very similar to the most recently developed anti-cancer drugs such as Herceptin, Humira, Avastin, etc., that have dangerous short- and long-term side effects[2]. While these drugs are immune suppressors, curcumin has potent immune modulator properties as it can activate the white blood cells (WBCs, or "police cells") and natural killer cells that help in fighting infections.

We studied the efficacy of the combination of curcumin, quercetin, resveratrol and other natural plant derived compounds in melanoma (skin cancer) cells[3]. This specific mixture had significant anti-cancer effects by inhibiting cancer cell growth by 80% and completely blocking the MMP enzymes, which are responsible for the growth and spread of cancer. This combination also induced apoptosis in melanoma cells and the number of dead cells increased with increasing the dose of the mixture.

Another most commonly researched aspect of curcumin is its anti-inflammatory potential. Curcumin helps reduce inflammation by regulating inflammatory markers, such as cyclooxygenases (COX) enzymes and cytokines. COX-2 enzyme inhibitors are the most frequently prescribed non-steroidal anti-inflammatory drugs (NSAID) for symptomatic relief of arthritic pain. However, clinical trials have proven that using curcumin supplementation is equally effective in reducing the symptoms of arthritis as that of other NSAID painkillers like ibuprofen. In addition, curcumin possibly reduces cartilage degradation, which is responsible for painful joints.

Due to its unique ability to cross the blood-brain-barrier (a protective mechanism to maintain a constant environment around our brain), curcumin is being studied extensively in many types of dementia including Alzheimer's disease. It has been shown that in synergy with vitamin D it can reduce the amyloid plaques that are characteristic of Alzheimer's disease.

With such multi-faceted health promoting actions, curcumin is more than a "curry spice" and should be included in our daily regimen.

1. Yi-Sun Yang, et al., Phytoth Res, Vol 28:12, p. 1770–1777, (2014)

2. Aggarwal BB et al., Adv Exp Med Biol. 2007; 595:1-75.

3. MW Roomi et al., Proceedings of the 102nd Annual Meeting of the AACR, Vol 52, Abstract #1503, p.361

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This information is provided to you by the Dr. Rath Research Institute a leader in the breakthrough of natural health research in the field of cancer, cardiovascular disease and other common diseases. The Institute is a 100% subsidiary of the non-profit Dr. Rath Foundation.

The ground-breaking nature of this research poses a threat to the multi-billion dollar pharmaceutical "business with disease". It is no surprise that over the years the drug lobby has attacked Dr. Rath and his research team in an attempt to silence this message. To no avail. During this battle, Dr. Rath has become an internationally renowned advocate for natural health. Says he: "Never in the history of medicine have researchers been so ferociously attacked for their discoveries. It reminds us that health is not given to us voluntarily, but we need to fight for it."