

Enzymes can ease inflammation

Inflammation is the common precursor to many acute and chronic ailments. Acutely, the inflammatory response occurs when the body mobilizes white blood cells and specialized proteins to fight and contain an infection, injury, or exposure to allergens, such as pollen or mold, or other foreign compounds, known as antigens. It is characterized by the presence of pain, swelling and redness.

When normally regulated, inflammation is the body's natural response to invasion and injury. It has a critical role in preventing the spread of infection, limiting damage from injury, initiating the healing process, and removing offending agents from our systems.

When the body is unable to turn off this response, however, inflammation has the potential to become harmful to the body and can lead to the development of disease.

Chronic activation of the inflammatory response may be caused by repeated injury or overuse of an injured limb, as in the case of an athlete developing tendinitis from overtraining. The effects of seasonal allergies on our respiratory tracts, such as the development of rhinitis, asthma and congestion, is another example.

Chronic inflammation may also occur, on a systemic basis, from unhealthy habits such as smoking, eating excessive amounts of hydrogenated and saturated fats or processed food and avoiding healthy foods like fruits and vegetables, as well as chronic exposure to stress, obesity or inherited genetic factors.

Chronic, systemic inflammation has been implicated as a common pathway in the development of cardiovascular disease, di-

abetes, cancer, autoimmune disease and neurodegenerative disease.

I have frequently discussed various methods for calming chronic inflammation in the body. These strategies have included eating a healthy diet, exercise, stress management and the judicious use of supplements including omega-3 fatty acids (found in fish oil capsules, flax seeds and salba seeds) and certain vitamins, such as vitamin D and foliate.

Another strategy for modulating inflammation is the regular ingestion of systemic enzymes, typified by the

over-the-counter product Wobenzym.

Enzymes are proteins that are biologically active in the body. There are thousands of enzymes in the human body and they have a variety of functions, though their fundamental function is to support and promote chemical reactions that make life possible.

Systemic enzyme products, which are ingested orally, usually consist of a collection of plant- and animal-based enzymes that are active in the human body. They mainly function by regulating immune function and helping the body to normalize the inflammatory response, reducing its chronic effects on the body and promoting a normal healing effect. They do this by restoring cytokine balance (cytokines are specialized proteins that regulate the inflammatory response), clearing immune complexes formed by antibodies, decreasing the formation of fibrin (a connective tissue that contributes to scarring) and promoting normal function of immune cells.

Studies have demonstrated that regular use of systemic enzyme products, or systemic enzyme support, can decrease blood

levels of various inflammatory markers including the erythrocyte sedimentation rate (ESR) and C-reactive protein (C-RP) and normalize levels of cytokines and immunoglobulins.

Clinical research has shown that the use of systemic enzyme therapy appears to improve a range of clinical conditions. Enzyme therapy appears to decrease pain and preserve joint function in inflammatory and degenerative joint conditions. It accelerates healing and reduces pain in muscle and tendon and other soft tissue injuries and is used by some elite athletes to reduce soreness from training and to help prevent injury.

In addition, systemic enzyme support has been used as an adjunctive treatment in autoimmune disease and infection and is being studied as a complementary treatment in various forms of cancer.

Systemic enzymes also appear to support healthy tissue healing and has been used, at least anecdotally, by surgeons and other physicians, post-surgically to support wound healing. In addition, patients scarred from acne or burns have reported improved skin tone and texture, and decreased scarring, with the use of enzymes, sometimes years after the scars developed.

Systemic enzyme support also support cardiovascular health by promoting a healthy lipid profile and circulatory system.

Most patients report minimal to no side effects from the use of systemic enzyme therapy. Pregnant women should probably avoid ingesting these products, and patients on medications should check for the presence of potential interactions between their medications and systemic enzyme therapies.

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