Allergies: *Natural Relief*

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Although generally not life-threatening, allergies can ruin a perfectly good day and make you miserable. An allergy is an overreaction of the immune system to a substance called an antigen which is foreign to the body, but otherwise harmless[1] (e.g., pollen from grasses and flowers, etc.). In an allergic individual, the harmless antigen becomes an allergen; a substance that initiates an allergic reaction. The term allergy is of Greek origin and means "abnormal response."

According to the Asthma and Allergy Foundation of American[2], allergies are the 6th leading cause of chronic disease in America with an annual cost exceeding $18 billion. Allergies are believed to complicate and even handicap the lives of nearly 50 million children and adults. The symptoms, or allergic reactions, may include sneezing, watery eyes, and nasal congestion, as in hay fever and allergic rhinitis; a rash, stomach upset, and itchy swellings on the skin (hives), as in some food or drug allergies; spasms within the lungs that interfere with breathing, as in allergic asthma.

Conventional medicine offers various treatments for allergies, as does complementary and alternative medicine (CAM). This article will focus on CAM treatments. Before reviewing those treatments, however, let's first take a look at what's going on with the immune system whose overreaction causes the allergic reactions in the first instance.

The immune system and allergies

The body's immune defenses may be grouped into two broad areas: nonspecific and specific. These defenses provide you with your immunity; your ability to overcome the effects of certain harmful microorganisms (e.g., bacteria, viruses). Non-specific defenses include certain mechanical and chemical factors in the skin and mucous membranes of the body (such as in the lungs) which are involved in combating the initial attempt of a microbe to invade. The specific defenses involve the production of antibodies by certain organs of the immune system, including the thymus gland, bone marrow, the spleen, lymph nodes and the lymphatic system in general.[3] [4]

Special white blood cells called macrophages are part of the non-specific immune defenses. Macrophages are not found in the bloodstream but at locations where body organs interface with the environment or the bloodstream; for example, in the lungs, spleen, bone marrow and liver. Macrophages have special jobs including identifying foreign invaders (such as pollen or bacteria), and helping to determine if they are good guys or bad guys. If the macrophages decide the foreign invader is a harmful microbe, then they may devour it. If the macrophages wrongly identify harmless antigens as bad guys, then they set in motion inflammatory processes, including the activation of mast cells.[5] Mast cells are found in tissues, and their contents (e.g., histamines, leukotrienes) along with those of basophils (mast cells counterparts in the blood), are responsible for the symptoms of allergy.

Although this is a very simplified explanation, and the allergic process involves other immune cells and activities, for our purposes this should provide sufficient background so that we can proceed into the discussion of CAM treatments for allergies.

Echinacea

Echinacea is an herb most popularly associated with treating or preventing the common cold and/or other respiratory infections. However, a review[6] of scientific literature published between 1980 and 2003 revealed that Echinacea is one of the most common herbs used to treat upper respiratory tract allergies. These applications make sense considering the fact that Echinacea has been shown to promote innate immune response.[7] As a matter of fact, among the many pharmacological properties reported, macrophage activation has been demonstrated most convincingly.[8] It is this property of acting on non-specific immunity that suggests a positive role for Echinacea in modulating immune function in allergies,[9] and offers support to Echinacea's widespread use for this purpose. Specifically, the concept is that if macrophages can do a better job at correctly identifying harmless antigenic substances (such as pollens) as being harmless rather than identifying them as foreign invaders (allergens), then the whole allergic process may be staved off in the first instance.

At this point is should be noted that there is a popular misconception that Echinacea should only be used for a limited period of time, since it will cease its effectiveness otherwise. This misconception was based upon misinterpretations of a specific study on Echinacea which demonstrated decreased immune activity after about 10 days.[10] However, if the study is carefully read, it is clear that the Echinacea was only administered for 5 days; after which point it was discontinued. Only when it was discontinued did immune activity begin to decline; and even then is still remained elevated above normal for a few days.[11] Furthermore, other research (as well as a history of traditional use) support the effectiveness of Echinacea when used for extended periods of time.[11]

Quercetin

Quercetin is a plant flavonoid with antihistamine and has anti-inflammatory properties.[12] In fact, flavonoids like quercetin have some of the most well-documented evidence published to date of natural compounds with regard to inhibitory action on mast cells and allergic symptoms;[13] and quercetin is thought to be the most effective antihistaminic and antiallergic flavonoid.[14] In a Japanese study of mast cells from nasal mucosa of individuals with perennial allergic rhinitis, quercetin significantly inhibited histamine release. Quercetin's effect was almost twice that of the drug sodium cromoglycate at the same concentration.[15] Quercetin acts by inhibiting the release of histamine and other inflammatory molecules from mast cells.[14]

Stinging Nettles

In a double-blind randomized study of 98 individuals with allergic rhinitis, 300 mg of freeze dried Stinging Nettles was rated higher than placebo by a significant degree in reducing allergic symptoms after taking it for one week. Among the subjects, 58% rated it moderately or highly effective, and 48% indicated it was equally or more effective than previously used medicines.[16] [17] At least 600 mg daily is recommended.

Aller-7®

Aller-7®, a botanical formula consisting of seven medicinal plant extracts (*P. emblica, T. chebula, T. Bellerica, A. lebbeck, P. nigrum, Z. officinale* and *P. longum*) was developed to help counter the common symptoms of hay fever such as sneezing, running nose, itchy and watery eyes. Research has demonstrated the ability of Aller-7® to intervene in key processes that underlie the allergic response. It exhibits potent anti-histiminic, anti-inflammatory, anti-spasmodic (bronchial artery relaxation) and antioxidant activity, as well as the capacity to stabilize histamine-releasing mast cells. Broad spectrum safety has also been shown. Double-blind, placebo-controlled studies were subsequently conducted to assess its effectiveness. In the first study of 42 subjects, nasal symptom scores significantly improved over a 3-month period in those receiving Aller-7®. Finally, a multi-center clinical trial involving 545 patients was conducted for a 12-week period. Compared to those in the placebo group, patients taking Aller-7® experienced significant improvement in nasal congestion,

sneezing, runny nose, peak nasal flow rate and mucocilliary clearance. These clinical findings support the safety and effectiveness of Aller-7®[18].

Picrorhiza

Picrorhiza kurroa is a well-known herb in the Ayurvedic (i.e., East Indian) system of medicine; used traditionally to treat disorders of the liver and upper respiratory tract, as well as other disorders.[19] Research on bronchial obstruction has shown that constituents of Picrorhiza prevented allergen- and platelet activating factor-induced bronchial obstruction when given to guinea pigs; and other research shows that Picrorhiza inhibited histamine release.[20] When given to mice and rats, Picrorhiza extract resulted in a decrease in mast cell activity.[21] It is interesting to note that Picrorhiza has also been shown to have immunomodulating properties[22 23], which may be another mechanism by which it is beneficial for allergies.

Scutellaria

Scutellaria baicalensis, or Baikal Scullcap, is an herb used combinations in traditional Chinese medicine to treat allergies, and has been documented in research as such to treat allergic rhinitis.[24] In *in-vitro* or test tube research anti-allergy actions have been documented with Scutellaria.[25] In addition, Scutellaria has been shown to have an immunomodulating effect on certain cells in allergic individuals.[26] Anti-allergenic components of Scutellaria have been shown to inhibit the release of inflammatory leukotrienes.[27] Components of Scutellaria have also been shown to allergic contractions in the lungs of sensitized animals.[20]

Butterbur

As an extract, the herb Butterbur has been shown to be clinically efficient in the treatment of allergic rhinitis (hay fever).[28] Research has demonstrated that Butterbur is effective in reducing allergic symptoms, as well as significantly reducing histamine and leukotrienes levels after only five days of use.[29] As a matter of fact, the clinical efficacy of Butterbur extract was compared with an established antihistamine drug (cetirizine) in a double-blind study[30] to evaluate its effectiveness in the treatment of allergic rhinitis. The results were that the Butterbur was equally as effective as the drug for this purpose, but without the sedative effects of the antihistamine.

Conclusion

If you think you're bothered by allergies, but aren't sure to what, you might want to get professionally evaluated and tested by an allergist. In addition, the use of any or all of the aforementioned natural substances may help to provide you with significant relief from your allergic symptoms.

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