

Seasonal Allergies and Histamine Response

By Tami Wilken



What causes seasonal allergies?

When histamine is released, the allergic response is activated. Histamines are immune system mediators, or chemical messengers. They act as a vehicle for communication between different parts of the immune system. They are released from mast cells¹ and basophils² when IgE³ binds to an allergen that has entered the body.

The release of histamine causes several allergic symptoms such as:

Inflammatory response, smooth muscle to constrict, dilating blood vessels, making the vessel walls abnormally permeable and inhibiting the production of neurotransmitters like serotonin and dopamine. Inside the brain, histamines cause our tears to flow, determines pain sensitivity, and sexual libido.

Some different types of responses to histamine seen in ASD children

If histamines become too high, you can see hyperactivity, compulsive behaviors, depression, abnormal fears, intense mood swings, runny nose, itchy eyes, sneezing, perfectionism, strong wills, explosive anger, anxiety, hair pulling, lack of focus, scripting (repeating commercials or television programs, etc.), high libido, giggling (which can be a sign of yeasty behaviors), aggression, change in bowel movements, a craving for salt, frequent urination and rashes. Those who have seasonal allergies tend to see a worsening of these symptoms during spring time.

Decreasing high histamine

One supplement is not always effective in decreasing histamine levels. A combination of supplements is typically required to help keep the behavioral, mental and physical symptoms of high histamines in check. While it is sometimes necessary to use western OTC's such as: Singulair, Claritin, Benadryl, or other medications, many people see more benefits by including natural supplements. Improving the liver and adrenal function with the supplements below will over time decrease the need for over the counter anti-histamines.

The natural supplements below work on the whole person best due to their synergistic formulation, but we have highlighted their active ingredients known to address histamine issues.

Loving Energy

- Licorice Root - Encourages the production of certain hormones by the adrenal glands and reduces inflammation.
- Dendrobium is used to balance hot, dry conditions, replace damaged or lost fluids and relieve thirst, depression and deficiency fever as a result an illness.
- Schizandra berry extract has cortisone-like effects on the immune system.

Adrenal Cortex Organic Glandular

- Adrenal glands play an important role in mediating the histamine release and inflammatory reactions.

NDF Plus

- Chlorella Pyrenoidosa in NDF Plus produces anti-inflammatory effects.
- Chlorella extract decreases the release of mast cells decreasing inflammatory response.

Liver Life - Researchers in Japan have found that Lanostan, a compound found in Reishi mushroom, controls the release of transmitting chemicals in the body, thereby inhibiting the release of histamine.

¹ A **mast cell** (or *mastocyte*) is a resident cell of several types of tissues and contains many granules rich in histamine and heparin. Although best known for their role in allergy and anaphylaxis, mast cells play an important protective role as well, being intimately involved in wound healing and defense against pathogens.¹

² Mast cells are very similar to **basophil granulocytes** (a class of white blood cells) in blood; the similarities between mast cells and **basophils** have led many to speculate that mast cells are basophils that have "homed in" on tissues. Both mast cells and basophils are thought to originate from bone marrow precursors expressing the CD34 molecule.

³ **Immunoglobulin E (IgE)** is a class of antibody (or immunoglobulin "isotype") that has only been found in mammals. It plays an important role in allergy, and is especially associated with type 1 hypersensitivity.

Liver Life Con't

-Since Reishi also promotes the adrenal function and immune reaction, it has added effectiveness in controlling the body's reaction to an allergen.

-Medicinal mushrooms like agaricus blazei and maitake are well known for decreasing the histamine response.

Singular substances and their rationale for supporting healthy histamine levels

Vitamin C breaks down and inhibits histamine release.

sAMe histamine are de-activated (eliminated) by receiving a methyl group from sAMe. If there is low methylation, there is low sAMe, and the histamine levels are higher because of the lack of methyl groups to deactivate it. If there is high methylation, there will be higher amounts of sAMe, and histamine is quickly deactivated.

Methionine is the precursor to sAMe and can provide the same effects.

Aloe vera inhibits the release of histamine from mast cells and inhibits the production of pro-inflammatory leukotrienes by mast cells.

Magnesium low levels of magnesium in the blood contribute to the rise in histamine.

Vitamin B6 helps to break down histamine.

Calcium appears to have a regulatory role, limiting the secretion. Removal of cell surface calcium enhances histamine secretion.

Quercetin is a flavonoid which effectively inhibits leukotriene and histamine release.

TMG increases methylation increasing the deactivation of histamine.

No Phenol Enzymes break down phenols. Impaired PST (phenol sulfur transference) function can increase histamine release.

Epsom salt baths improve PST function.

Secretin inhibits the histamine releasing action of gastrin⁴ and pentagastrin⁵.

Histamine restrictive diet

Foods such as meat are high in protein and increase histamine release. For a list of high histamine foods, go to:

http://sun1.awardspace.com/Conditions/Solar_Urticaria/histamine_diet.htm

References:

Inhibitory effects of Agaricus blazei on mast cell-mediated anaphylaxis-like reactions. PMID: 16819170 [PubMed - indexed for MEDLINE]

Anti-allergic constituents in the culture medium of Ganoderma lucidum. (I) Inhibitory effect of oleic acid on histamine release. K Tasaka, M Akagi, K Miyoshi, M Mio, T Makino - Inflammation Research, 1988 – Springer

Inhibition of mast cells by algae. PMID: 12639395 [PubMed - indexed for MEDLINE]

Stimulation of cytokine production in human peripheral blood mononuclear cells by an aqueous Chlorella extract. PMID: 17611933 [PubMed - indexed for MEDLINE]

<http://www.enzymestuff.com/methylation.htm>

<http://www.alternativementalhealth.com/articles/ocd.htm>

<http://www.jbnat.com/articles/methylation.pdf>

<http://www.alternativementalhealth.com/articles/walshMP.htm>

http://www.healthrecovery.com/HRC_2006/Depression_06/D_roller_coaster.htm

⁴ **Gastrin** is a hormone that stimulates secretion of gastric acid by the parietal cells of the stomach

⁵ **Pentagastrin** is a synthetic polypeptide that has effects like gastrin when given by injection or infusion. Pentagastrin binds to the cholecystokinin-B receptor, which is expressed widely in the brain. Activation of these receptors activates the phospholipase C second messenger system. When given intravenously it causes panic attacks.