

Factor Contributing to Allergy or Atopic Disease

Family History

Frequency of disease
Type of disease
IgE Concentration
IgE Antibodies

Pregnancy

Smoking
Drugs

Delivery

Use of opiates
Instrumental
Time of Year
Country of Birth

Adjuvants

Infections
Indoor Climate
Factories Nearby
Diesel Exhaust

Neonatal Period

Early Operations
Formula Feeding

Infancy

Early Feeding
Food intake/lactation
Early Weaning
Maternal Smoking

Inhalant Allergens

Animals
Pollens
Mites

Risks of Allergy Prevention Measures

Starvation or suboptimal nutrition
High costs for the family
Anxiety in the family
Overprotection of the child
Disturbed interactions within the family
Social isolation of the child and/or family
Disappointment or anger when symptoms develop

Reference: Metcalfe, Sampson, Simon. Food allergy: Adverse reactions to food and food additives. Blackwell Scientific Publications, 1991.

Musings and Interesting Studies

Etiology

How can non-seasonal allergy or food allergy symptoms be intermittent. One possible reason:

-Concomitant infection may suppress allergic response.

Parasitic infection with *Nippostrongylus brasiliensis* suppressed IgE/IgG ovalbumin responses during infection. Theory is that the eosinophilia and increasing interleukin-10 activity in response to the parasite led to a reduction of inflammation in respiratory mucus membranes. Interestingly, serum levels of specific IgE/IgG weren't lower during this time, but they were lower in the actual mucosal samples. These writers suggested that parasitic infection may help prevent development of food allergy. Previous research suggests otherwise.

--Concomitant or preceding parasitic infection can predispose to allergy:

Yes, the mast cell hyperplasia that occurs in response to infection is protective in the sense that the increased mast cell mediators lead to: mucus secretion, increased smooth muscle contraction & peristalsis, increased vascular permeability... helping to expel parasites. But constant mast cell activation leads to epithelial abnormalities increasing permeability. Villi become edematous, enterocyte desquamation eventually cause villi atrophy. This allows both small and macromolecules to gain access to the systemic circulation. Bystander antigens in the gut may have access this way as well... (one possible mechanism for systemic candida albicans.. how it gets from the gut where it belongs to the blood stream where it doesn't). This mechanism is the current explanation for the acquisition of multiple food allergies when someone would have normally had 1 or 2 at birth and would usually develop tolerance within several years.

Turner MW Boulton P, Shields JG, et al. Intestinal Hypersensitivity reactions in the rat. I. Uptake of intact protein, permeability to sugars and their correlation with mucosal mast cell activation. *Immunology* 1988; 3:99-102.

Ramage JK, Stanisz A, Scicchitano R, et al. Effect of immunologic reactions of rat intestinal epithelium. Correlation of increased permeability to chromium 51-labeled ethylenediaminetetraacetic acid and ovalbumin during acute inflammation and anaphylaxis. *Gastroenterology* 1988;94:1368-75.

Wohlleben G, Trujillo C. Helminth infection modulates the development of allergen-induced airway inflammation. *Int Immunol.* 2004 Apr;16(4):585-96.

Common causes of altered intestinal permeability

NSAIDs

Intestinal infections, dysbiosis

Maldigestion/malabsorption

Alcoholism

Aging

Giardiasis, other parasites

Deficient secretory IgA (impaired immune function of the gut)
Elevated secretory IgA often associated with gluten intolerance/ceeliac disease
Ingestion of allergic foods
Ingestion of offensive chemicals
Trauma and endotoxemia

Hepatic Dysfunction

Dysbiosis, leaky gut leads to increased hepatic load. One of the body's primary self-defense mechanisms is the conversion and neutralizing of metabolic products and toxins into soluble and safe by-products that can be eliminated.

Leaky gut added to repeated exposure to foodborne toxin chemicals, environmental pollutants, endotoxins and other substances and detoxification burden has been increased significantly. The consequences of impaired detoxification:

1. Increased free radical production which damage the body as they deplete antioxidants. Possible results are: atherosclerosis, allergy, inflammatory joint disease, neurological disease, chronic fatigue and fibromyalgia.
2. Depletion of glutathione, sulfate, glycine and other nutrients critical to detoxification, and as toxic metabolites increase...chronic fatigue, environmental sensitivities, and other chronic illnesses result.

Testing References:

Predictive decision points for IgE results (pediatric), Cow's Milk is: 88.8 kU/l

Celik-Bilgili S, Mehl A, et al. Clin Exp Allergy. The predictive value of specific immunoglobulin E levels in serum for the outcome of oral food challenges. 2005 Mar;35(3):247-9.

Among commercially available test allergens, egg white gave the most consistent results in levels and class scores, and the highest degree of concordance with DBPCFC, whereas egg yolk and milk varied more.

Norgaard A, Bindslev-Jensen C, Skov PS, Poulsen LK. Specific serum IgE in the diagnosis of egg and milk allergy in adults. Allergy. 1995 Aug;50(8):636-47.

Eigenmann, PA. T lymphocytes in food allergy: Overview of an intricate network of circulating and organ-resident cells. Pediatr Allergy Immunol 2002; 13: 162-171

Aging and allergy

After the age of 50 several abnormalities develop in the lungs: reduced muco-ciliary clearance, loss of elastic fibres, and low grade inflammation that manifests itself as changes in broncho-alveolar lavage (neutrophilia, increased production of interleukin 8, elastase-antiprotease complexes). One also sees alterations in mononuclear cells with an increase in activated T lymphocytes.

Duchateau J. Immunosenescence and the lung. Rev Mal Respir. 2003 Nov;20(5 Pt 1):735-41.

More Nutrient Protocols...

Pantothenic acid 300mg twice daily. Metabolic intermediate stable disulphide form of pantothenic acid, derivative of pantothenic acid and a precursor of Coenzyme A. Esp useful in formaldehyde sensitivities

Omega 3-6 Fatty Acids. Has potential to modulate the humoral and inflammatory components of allergic response, inhibiting generation of proinflammatory lipid mediators suppressing response of target cells. Atopic patients may have a block in conversion of linoleic acid to prostaglandin E1.

Molybdenum. Contains enzyme sulfite oxidase detoxifies sulfites. 100 mcg/day.

Bioflavonoids

- Quercetin 1-2 gm daily, in 3-6 divided doses for URI inflammatory symptoms
- Bromelain 2400 mcg, 3 times/day (TID) especially chronic sinusitis

Taurine, for impaired fat metabolism, sensitivity or intolerance to phenols, chlorine, nitrites, amines, aldehyde.

N-acetyl-cysteine (check out CysteinePeP from Allergy Research Group 800-782-4274) to raise glutathione levels during elimination for optimizing hepatic function, especially to xenobiotics, especially helpful to respiratory symptoms

Companies

Emerson Ecologics, www.emersonecologics.com distributor of just about every great company, no minimum order, same prices as when ordering direct from manufacturer.

They don't carry Metagenics or Natren (800) 992-3323

Labs:

BioHealth Diagnostics, San Diego area--- hormones, GI tests
800-570-2000

Meridian Valley Lab, Kent, WA--- good price on food aller
425-271-8689

AAL, www.aalr1.com, 800-522-2621---urinary metabolites nutrient, hormones,
autoimmune disease testing

Immunosciences, LA, www.immuno-sci-lab.com
(800) 950-4686

American Medical Testing Laboratories
Antibody Assay Laboratories
Diagnos-Techs
Doctor's Data
Great Plains Laboratory
SpectraCell Laboratories
Immuno Laboratories
Intracellular Diagnostics
MetaMetrix Medical Research Laboratory
Optimum Health Labs
Pantox Laboratories
Serammune Physicians Lab
Trace Minerals International
US BioTek Laboratories