

Food Allergies: Establishment of Diagnosis

by Jason Barker, ND and Chris D. Meletis, ND

Dr. Barker specializes in sports medicine and is a consultant to the exercise and nutraceutical industry, and is in private practice in Portland, Oregon www.pearlclinic.com. Dr. Meletis is an international author and educator and is in an integrated private practice at the Pearl Clinic in Portland, Oregon www.pearlclinic.com.

Allergies, it seems, are everywhere. And does it not seem like more and more of the people you know are developing some type of allergic symptoms that they did not have before? A highly complex phenomenon, allergies and their increased incidence are a puzzling problem. With 50 million Americans suffering from some type of allergy on a yearly basis, allergy is ranked as the 6th leading cause of chronic disease today, at a cost of \$18 billion dollars per year.¹ Two recent estimates of allergy prevalence in the US were 9% and 16%,² and prevalence for the two most common presentations of allergy, atopic dermatitis and allergic rhinitis, have been increasing since the mid to late 1980's.^{3,4}

Unfortunately, the aforementioned statistics reflect only allergies that were clinically diagnosed – established allergic conditions. They do not speak to the multitudes of allergies that may be manifested by the foods we eat, a clinical condition that is becoming increasingly well recognized. Not including Type 1 immediate-onset food allergies (which are often life-threatening, requiring the use of emergency measures), food allergies have been attributed to numerous conditions, ranging from enuresis (bedwetting) to earaches to migraine headaches. These allergies are attributable to Type 3 allergic reactions in which allergens cause an increase in the amount of inflammatory mediators released by the immune system in the body; symptoms can become physically manifested up to 72 hours later. The occurrence or presentation of food allergies is not new, having been documented in the scientific literature in the 1920's.^{5,6}

What is to explain this increase in allergies over the last few years? A leading theory is that repetitive, high dose consumption of similar foods on a continuous basis – in addition to the preservatives, food coloring agents, flavor enhancers and antibiotics – all create an environment in which the immune system begins to react against these conditions.⁷ An additional

speculation is that infrequent food rotation (it is often said that most people eat the same 10 foods every week) may predispose a person toward the development of hypersensitivity. This occurrence in addition to insufficient digestion of food proteins into their basic structures allows partially degraded proteins that retain their antigenicity to enter the systemic circulation, provoking the immune system into responding as if encountering a foreign protein.

Testing of patients with immediate-onset allergy symptoms uncovered a correlation between both types of allergic reactions, as anti-allergy antibodies of both immediate (IgE) and delayed (IgG) reactions were detected in their sera, an indication that allergenic foods are not always limited to immediate onset immune reactions; a delayed-type immune reaction can occur as well.⁸ The occurrence of allergic reactions in the intestines caused by foods is documented with altered transport of food proteins across the intestinal wall (via increased secretion and/or decreased absorption), increased permeability and motility of the intestine.⁹ This occurrence coupled with intestinal infections and a decrease in secretory IgA may serve to alter intestinal permeability, resulting in increased antigenic substances interacting with the immune system. Increased antigenic load coupled with an allergic predisposition, or sensitivity to certain foods may foster the development of adverse immunologic reactions to foods.

Food comprises the largest source of antigenic challenges to our immune system.¹⁰ Technically, food allergy is defined as a grouping of clinical signs and symptoms that result from the body's sensitization to one or more foods wherein symptoms may manifest at any place in the body as a result of immediate or delayed allergic reactions and their byproducts. As mentioned previously, a person may not notice the appearance of symptoms until several hours or days later. And because of the frequency with which similar foods are

consumed, allergic reactions are continuously overlaid. The acknowledgement of food allergies and the symptoms it causes has received little attention in mainstream medical practice until relatively recently. Many patients who are tested and work to purge their diets of offending foods are finding relief from their previously unexplained symptoms. The following is a brief listing of the more common food-related symptoms seen in allergic patients; it is neither inclusive nor exclusive of the symptoms a person may experience with food allergy.

- Aches and Pains
- ADHD
- Anxiety
- Arthritis
- Asthma
- Bloating
- Celiac Disease
- Chronic Fatigue
- Chronic Infections
- Dizziness
- Eczema
- Enuresis (Bed Wetting)
- Fibromyalgia
- Hyperactivity
- Irritable Bowel Syndrome
- Lethargy
- Migraine
- Nausea
- PMS
- Psoriasis
- Recurrent Ear Infection
- Recurrent Sinus Infections
- Rhinitis Sinusitis
- Urticaria

A common, debilitating health issue, food allergies are costing people with repeat medical exams and tests with no answers, and lost productivity and quality of life. Additionally, the identification of food allergies are important because of their indirect toll; if one's body is constantly struggling to deal with what appears to be a foreign invader, large amounts of energy are spent by the immune system trying to defend the body. Although speculative in nature, if the immune system is constantly engaged in fighting food proteins (which are generally harmless- it is the body's reaction that leads to

Food Allergies

symptoms), immune surveillance may be decreased, allowing for other immunologic problems to creep up, such as cancers or autoimmune conditions. (Will a "distracted" immune system be less able to recognize new cancer cells? Will an over-stimulated immune system lead to autoimmunity, in which the body begins to attack itself?) Theoretical in nature, these are important questions to ask, and science has much to learn in this regard. However, if these scenarios are even somewhat of a possibility, removal of food allergies becomes a high priority.

Testing for Food Allergies: Identification

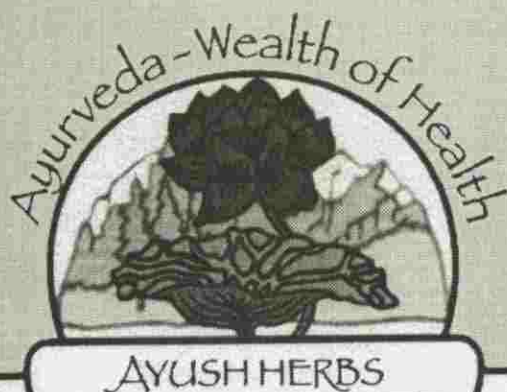
Modern serum testing used in conjunction with a detailed history and symptom picture can be utilized to gain a rapid and accurate picture of a patient's food allergies and sensitivities. Prior to the advent of expeditious and accurate food allergy tests, it was difficult to definitively establish what foods were the cause of allergic symptoms in patients due to the confounding nature of food elimination

and reintroduction; not all food allergies and sensitivities are immediately manifested, some take several hours to days to create symptoms. Testing a patient with antigenic foods, either through oral consumption or in a skin test, are more difficult for the patient, dangerous in that severe reaction crises may occur, and skin testing does not reveal the true nature of the allergy; food proteins react differently in the skin than in the gastrointestinal tract; these can be two different types of allergy.

Skin Testing

Skin tests for allergies are based on the size of the swelling, or wheal that is formed in reaction to injection of purified proteins. A positive result will produce a localized, pruritic (itchy) wheal and redness that becomes most established 15-20 minutes following introduction. This type of test is used most commonly in the diagnosis of patients with allergic respiratory diseases that have symptoms of cough, sneezing, wheezing, and nasal congestion. Using this type of testing

is appropriate for the establishment of IgE-mediated, or immediate onset allergy that can occur anytime within 2 hours of ingesting the suspected food. Testing for other food allergies (delayed onset) via skin introduction will not establish this diagnosis. Delayed onset food allergies occur after a food protein has been distributed throughout the body; introduction of a suspected delayed onset allergenic food into the skin will not recreate previously observed allergic symptoms when this food was consumed orally.¹¹ People wanting to know if they have delayed onset food allergies should not undergo this type of test. However, verification of an immediate onset food allergy can be made using skin prick testing. This testing is usually offered by an allergist, and is quite difficult for the patient to undergo. That being said however, knowing which foods a patient may acutely react to could save their life, if it is identified within the sensitivity and



Ayush Herbs, Inc

Formulated by Ayurvedic and Naturopathic Physicians. We manufacture our own extracts and essential oils. Our products are tested and standardized to assure quality and potency.

AmlaPlex - *restorative supplement*

Ashwagandha - *helps nourish and strengthen*

Boswelya-Plus - *supports joints*

Carditone - *Blood pressure supplement*

Livit-1 & Livit-2 - *Liver care*

Macuna Plus - *brain tonic*

Neem Plus - *skin care*

Rentone - *Kidneys/bladder support*

Trifal - *digestive care*



Purush - Male sexual health supplement



Guggal-Lip - support for cholesterol balance



Bacopa Plus - memory support



**Specifically for Women:
Eleg Fem - pre & Meno pausal
Young Fem - PMS symptoms**

FOR OUR CATALOG OR TO ORDER PLEASE CALL: 1-800-925-1371/FAX: 425-451-2670

Food Allergies

specificity parameters of this particular testing model.

Elimination-challenge diet

Oral provocation with foods suspected to be allergenic to the patient has been used in the past to determine food allergy. Although this test has some utility, it is very difficult to administer and confirm results, as mentioned above. It is necessary for patients to remove all suspected food allergens, which is in itself unreliable, as just as many non-suspect foods as those that are suspect, can cause allergy. Keeping in mind that this type of food allergy testing is not recommended for patients to do themselves (due to the danger of reintroducing a food allergen and the possibility of a dangerous allergic reaction requiring medical attention), the objective of this testing is to uncover delayed onset reactions. This is often difficult to establish due to the nature of delayed onset reactions occurring anywhere from hours to days after ingesting the allergenic food. Differentiating which food caused what symptom is difficult, and usually highly inaccurate. This type of testing can provide some positive results in the process of revealing allergenic/irritating foods, however when patients continue to experience symptoms despite removing the offending foods, a more precise form of testing is indicated. The accuracy of removing the most highly mentioned allergenic foods such as wheat, corn, soy, and dairy requires an immense attention to detail; even some foods that do not contain such items can have them listed on the package label in other forms that the consumer may not be aware of, and on some food labels, the mention that the food is made in a factory that processes another type of food leads to the awareness that there may be no entirely sureproof way to remove allergenic processed foods from the diet.

Enzyme linked immunosorbent assay (ELISA)

The previously mentioned food allergy detection techniques are rapidly becoming outmoded as newer, more precise technology becomes widely available. ELISA is an easy, and

powerful method that can be used to detect antibodies in serum, urine and other materials. Because it is highly reliable in detecting antibodies (reflecting immune response to allergies), this method is often used in diagnostic food allergy testing. ELISA assay is a very sensitive test, and has the ability to measure IgA, IgE, IgG, and IgG4 antibodies, revealing the nature of suspected allergens as immediate or delayed onset. Previously, obtaining food allergy testing utilizing ELISA technology via allergy testing was only possible through a doctor's visit, meaning the patient had to visit the physician, and have blood drawn which was sent out to a laboratory; after the doctor visit and testing, hundreds of dollars could be spent for the diagnosis of food allergies.

People who suspect they have food allergies can obtain accurate food allergy testing in their own homes using ELISA technology. Available exclusively through Health Dynamics, patient-directed food allergy testing kits lets the patient obtain their own blood sample (only 2 to 3) drops of blood are required (the kit contains an easy to use auto-lancet) that can be sent directly to a laboratory that will test the blood twice (to ensure accuracy of results) for food allergies. People can order this kit themselves; no doctor's prescription is required. The process tests the 96 most commonly consumed foods, providing information on antibody levels against foods in the following categories: dairy, seafood, poultry, meats, vegetables, nuts and grains, fruits, and miscellaneous food items such as coffee, honey, sugar, etc. A detailed report is sent back to the patient providing information on foods that caused no reaction, low, moderate, and high reactivity, and which type of reaction (IgE-immediate or IgG-delayed) the food registered. A user's guide with explanation of the test results is provided, along with a personalized dietary guideline protocol designed to assist the patient in techniques for removing offending foods, and suggestions of foods that can be added to the diet safely. Depending on the reactivity of the foods, some foods should be avoided for a period of 3 to 9 months after which these foods may be cautiously reintroduced and eaten on a strict rotation basis, to avoid recreating the allergy/sensitivity. Foods that register as highly reactive should be

avoided entirely. Upon removal of the reactive foods, patients may not notice a complete absolution of symptoms until several weeks later. As most food allergies are delayed onset, the reactive antigen-antibody complexes must be cleared from the system, a process that can take some time.

Summary

Diagnosis of food allergies requires some detective work on the part of the patient. The acknowledgement that foods cause allergy symptoms (as well as symptoms that are not always ascribed to typically allergic reactions) is becoming more accepted and greater technology is now available offering ease of diagnosis. Standard means of unveiling food allergy (skin prick, food elimination/challenge) do not always provide the sensitivity and specificity needed to accurately identify allergenic foods and delayed onset allergic reactions, and both are quite laborious to undertake. Home allergy testing offers a way for patients to obtain an accurate picture of foods they may be allergic to, without having to play a game of roulette when avoiding and challenging foods, or perhaps having a delayed-onset allergy missed in a skin prick test.

For more information on home allergy testing: www.myhealthdynamics.com; Phone: 503-430-1307; Fax: 413-294-5362.

References

1. American Academy of Allergy, Asthma and Immunology (AAAAI). *The Allergy Report: Science Based Findings on the Diagnosis & Treatment of Allergic Disorders. 1996-2001.*
2. The International Study of Asthma and Allergies in Childhood (ISAAC) Steering Committee. "Worldwide variation in prevalence of symptoms of asthma, allergic rhinoconjunctivitis, and atopic eczema: ISAAC." *Lancet* 351: 1225-32. 1998
3. Linneberg A et al. "The prevalence of skin-test-positive allergic rhinitis in Danish adults: two cross-sectional surveys 8 years apart. The Copenhagen Allergy Study" *Allergy* 55: 767-772. 2000
4. Rudikoff D and Lebwohl M. Atopic dermatitis. *Lancet* 351(9117): 1715-21. 1998
5. Duke WW: Food allergy as a cause of abdominal pain. *Arch Intern Med* 28:151, 1921
6. Duke WW: Meniere's syndrome caused by allergies. *JAMA* 81:2179, 1923.
7. Andre F, Andre C, Colin L, Cacaraci F, Cavagna S: Role of new allergens and of allergens consumed in the increased incidence of food sensitizations in France. *Toxicology* 1994 Sep 22;93(1):77-83
8. Berrens L, Homedes IB. Relationship between IgE and IgG antibodies in type I allergy. *Allerg Immunol (Leipzig)* 1991;37(3-4):131-7
9. Ahmed T, Fuchs GJ. Gastrointestinal allergy to food: a review. *J Diarrhoeal Dis Res* 1997 Dec;15(4): 211-23
10. Buckley RH, Metcalfe D. Food allergy. *JAMA* 1982 Nov 26;248(20):2627-31
11. Walker-Smith JA, Ford RP, Phillips AD. The spectrum of gastrointestinal allergies to food. *Ann Allergy*. 1984 Dec;53(6 Pt 2):629-36.

Copyright of Townsend Letter for Doctors & Patients is the property of Townsend Letter Group and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.