

ASTHMA, ECZEMA, ALLERGIES AND AUTOIMMUNE DISEASES

Updated understanding on causes and treatment

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In medical school, I learned that these illnesses were essentially the result of bad luck. This combined bad genes with maybe chance exposure to a virus or some other factor. Once these illnesses got a start, it was unlikely that we could make them go away. Medication would have to be used daily, and worsening or remission would be unpredictable.

Asthma, eczema and allergic rhinitis (known as ragweed fever) are called atopic diseases. They involve an overactive response by a particular branch of the immune system that produces antibodies of the type IgE. This IgE can occur in response to mold or pollen, animal dander, or food. It turns out acetaminophen (main ingredient in Tylenol) also makes atopic diseases worse. IgE then causes immune cells called mast cells to release histamine (resulting in itching, swelling and sneezing or coughing and wheezing). The traditional treatment has involved shutting down the immune system using steroids, or blocking the effect of histamine. In asthma, you can also reverse wheezing by relaxing the muscles lining the bronchi (leading to the lungs). This treatment assumes there is nothing you can do about the IgE getting produced in the first place. You can get shots for certain allergies, but they can take years to work and aren't usually the recommended treatment.

Autoimmune disease involves the immune system actually turning against parts of the body. Some autoimmune diseases are well known, such as rheumatoid arthritis, Type 1 diabetes and most thyroid issues. Others are obscure and rare, but there are so many that collectively, they affect 25% of all Americans. Once they start, their severity can wax and wane, or they can get steadily worse leading to disability or death in some cases. They are treated with medications that shut down the immune system, which is believed to be at fault.

These are “chronic” illnesses. The conventional understanding is that you are stuck with them once you get them, because of some combination of genes and maybe exposure to a virus.

But functional medicine likes to look further. What genes? What are they doing wrong? Would these genes still be an issue if the person had healthy levels of the nutrients that most Americans are low on? How can we compensate for what is not happening?

If you try very hard to find underlying causes to both these categories of illnesses, you find that in many patients these disease are kept going by something from the environment to which the individual is exposed daily or almost daily. This tends to be

common food such as gluten or dairy, a chronic infection such as parasites or yeast, or a combination of a little food intolerance made worse by a vitamin deficiency and a bunch of stress. The elimination diet on its own is usually not sufficient to improve symptoms, so the research may not reflect the role food plays in allergic and autoimmune disease.

But physicians who bring together what the latest research in different specialties is saying believe that the following mechanism is going on:

1. The affected person has an overactive immune system; basically, the normal immune system has to be trained to tolerate certain substances. This happens in the intestines, in the presence of sufficient amounts of vitamin D, vitamin A, omega-3 fatty acids, and the right beneficial bacteria.
2. An overactive immune system can also be the result of an unusually high need for a certain nutrient, such as vitamin D, omega 3 fatty acids, or a reaction to a microbe, to the lack of microbes (hygiene hypothesis) or to stress.
3. In addition to that, the lining of the intestine, which has the task of assimilating nutrients but keeping out undesirable chemicals, has become leaky. A substance that causes leaky gut in just about everyone is gliadin. This is a component of gluten, which is a part of wheat and certain other grains.
4. Once the gut is leaky, either the gliadin itself, or some other food substance, slips through into the bloodstream and starts up an immune system reaction, especially if the immune system is overactive to begin with.
5. An immune reaction can involve one of several different pathways. One pathway involves certain cells (B cells) making antibodies to the substance that is slipping through. These antibodies, which are now plentiful, can injure certain body chemicals, depending on genetics. For example, they can attack pancreatic cells and cause them to die, leading to Type 1 diabetes. Or the antibodies can attach themselves to parts of food we eat and that pair can fall out of the blood circulation and lodge itself in joints for example. Either way, once the immune system is activated, it causes a whole body reaction leading us to feel the way we feel when we are sick: tired, achy, and gloomy or irritable. It also leads to long-term issues by raising the risk of diabetes and cardiovascular disease.

So the goal of functional medicine is to do everything possible to correct all of the above in a coordinated way. The easy part is the elimination diet, maddening as it is. Many people refuse to go that far, but it is essential to recovery.

The two goals to accomplish are:

1. Heal intestinal permeability
2. Balance the immune system

To heal leaky gut, 5 steps are usually followed. The first step is to take away what is irritating the gut. This includes gluten and the rest of the common allergenic foods (dairy, soy, corn, eggs, fish and shellfish). The elimination diet can also be guided by blood tests, but those are sometimes unreliable. Sugar, stress, ibuprofen, germs and antibiotics also worsen leaky gut. Being low on essential nutrients that build healthy cell membranes doesn't help. Soon after removing food culprits, natural substances and herbs that support intestinal healing are brought in. Omega-3 fatty acids and large doses of probiotics can help line the gut while healing takes place. Eventually, probiotics are restored and a healthy intestine reappears. At that point, stress reduction and a healthy diet become the cornerstone of keeping gut permeability from increasing again.

To improve the immune system, we replenish nutrients, and do even more to lower the stress hormone cortisol. The body responds to outside stimuli by either going into rest and relaxation mode or fight-and-flight mode. Some people have a tendency to one or the other. This can be set by adverse experiences from conception up to the present time. So it can take a lot to get the stress-relaxation seesaw back to a healthy balance. A common problem for our society is insulin resistance (anything that causes elevated levels of insulin causes increased cortisol, and vice-versa). Food intolerance and chronic low-grade infections are additional sources of "stress".

So, to heal atopic and autoimmune disease, we eliminate certain foods, introduce nutrients, insist on a good diet, exercise and relaxation program, then reintroduce as many foods as possible and expect further results over months and years, not just days or weeks.

Why would you choose such an approach over medications that suppress your immune system? Some people don't, of course. But sometimes the medications have unacceptable side effects, or don't take away enough of the symptoms. People who choose the functional medicine route have made a decision to use their diagnosis constructively. It is now the motivation to adopt a lifestyle that leads to protection from all the diseases we know: in the short-term this lifestyle will improve energy, hopefully prevent weight gain, protect from frequent colds and annoying symptoms like skin trouble, joint pain and stiffness, insomnia and mood swings. In the long term, we know a healthy lifestyle protects from cancer, diabetes, cardiovascular disease and Alzheimer's disease. This is why some people look back and see that their illness, whatever it was, may have been a great blessing in their lives, the springboard for much good fortune in later years.