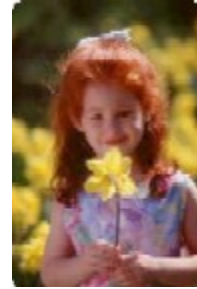


Stepwise Treatment for Seasonal Allergic Disorders

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Simple hayfever is not very simple and when seasonal allergic asthma gets piled on top of it, the combination becomes downright complex. As with all medical conditions, even complex ones, treatment does begin simply, with attention both to symptom control and management of the underlying process. Layers of treatment are added to this simple starting platform as necessary to achieve success. Success in the case of allergic disorders is not cure, as the basic underlying predisposition is clearly genetic and we're still a very long way from correcting genetic disorders. It is surprising, however, as to how far in the right direction we can get with both old standard and more recently released medications and with immunologic intervention.

In allergy, unlike other immune disorders, one's immune system is actually over- reactive rather than under-reactive. The allergic individual's body tends to produce too much of a certain immunoglobulin (a protective protein) called immunoglobulin E, or IGE for short. Much of the excess is in specific IGE for external allergens, environmental proteins such as components of grass pollen, tree or weed pollen, mold, dust mites, animal dander and so forth. This inherited tendency towards allergy is called atopy. Atopy plus exposure over time produces the clinical conditions we are discussing- hayfever and asthma.

What is hayfever?

Well, it has nothing to do with hay ordinarily and it is not associated with fever. How's that for medical descriptive accuracy? We use the term very loosely to describe seasonal allergic rhinitis, that is, inflammatory reactions in the nose (and also in the sinuses, throat, ears and eyes) caused by a certain kind of antigen-antibody reaction. When the external antigen connects with the internal IGE antibody, say in the nose when an afflicted person inhales some invisible air-circulating grass pollen, certain chemicals such as histamine are released. These chemicals, called mediators of the allergic reaction, cause serious local swelling, leakage of cellular fluid, mucus production and local irritation. These reactions produce the very typical and easily recognizable symptoms of allergic rhinitis- sneezing, nasal congestion, runny nose, red- watery eyes and itching of the eyes, ears, nose and throat. The allergy sufferer is an intermittently miserable person, and, when not treated effectively, is a both a slave to the tissues box and a zombie from poorly chosen over-the-counter medications. In the midst of all of this trouble, the hayfever sufferer not only gets little sympathy from family members, coworkers or classmates, but often gets laughed at because the symptoms make this very uncomfortable person look and sound a bit silly. For the involved person, however, it's no laughing matter.

And it's worse for asthmatics. Bronchial asthma is also an inflammatory condition, but in this case the inflammation is in the lining of the tubes that bring air into the lungs, the so-called bronchi or bronchial tree. In allergic asthma, the inflammation is caused by the same antigen-antibody reaction mentioned above in the hayfever introduction. (There are several kinds of asthma, by the way, not all of which are allergic in nature; we are concerned here only with the allergic variant.) The resultant swelling narrows the airways and tends to cause spasms in the muscle fibers that surround the bronchial tubes, causing cough, shortness of breath and especially wheezing, that strange, raspy sound on expiration caused by air trying to get out through narrowed tubes and past obstructions. Asthma keeps people from doing their usual activities and keeps them propped up in their beds at night, when things tend to get worse. Asthma brings people to drop-in clinics and emergency rooms and is responsible for lots of 911 calls. There is nothing worse than not being able to breath. Almost all allergic asthmatics also have seasonal and/or year 'round allergic rhinitis, and helping the latter often helps the asthma improve.

How are these conditions diagnosed?

Well, you've probably already figured it out. It's done through medical history evaluation; that's right, by interpreting the answers to questions. We allergists need to know in some detail what symptoms you are having, when they occur, what makes them better or worse and so on. The answers assemble themselves Leggo-like into a diagnosis in a rather amazing fashion. As we have seen, seasonally occurring sneezing, runny nose, watery-itchy eyes assemble itself into seasonal allergic rhinitis and seasonal cough, shortness of breath and wheezing assembles itself into bronchial asthma. Since the calendar occurrence of symptoms tells us which pollens are the offenders, we need to separate patient histories into calendar segments- early Spring for the early trees, late Spring and Summer for the grass pollens, late trees and molds (surprise; the latter do not peak in the rainy season) and the Fall for the weed pollens.

The physical exam helps, but much less than you might imagine, especially as compared to the history. In hayfever patients we find red, watery eyes; thick, pale, wet nasal membranes; tender sinuses. Listening to the lungs of active asthmatics almost always reveals prolonged expirations and wheezing. A quick breathing test with a little blow-in device called a peak flow meter gives a reduced value. That's about it.

Here's the shocker: allergy testing is really not needed very often in evaluating new seasonal allergy patients! Why is that? Well, it's because after taking a detailed history, the allergist already knows what the patient is allergic to, at least in general terms, and that is all that is needed to begin therapy. That's right. In the beginning phase of treatment, a general knowledge of the offending agents, enough to support the diagnosis of the seasonal type of inhalant allergy, is all that we need. If stepwise treatment fails, then it's another story and that story is allergy testing leading to a course of allergy shots, which we call immunotherapy.

Just what are the basic, progressive steps in treating seasonal allergy and asthma? For hayfever, it's pretty straight forward. One begins with nasally inhaled cortisone treatment every morning, starting a couple of weeks before the expected onset of the allergy season and then continued throughout the season. Nasally applied ("topical") cortisone not only helps symptoms, it also builds up a nice, lasting anti-inflammatory effect which is preventative in nature. Once the season begins, the regular use of an anti-histamine is added, which, when effective, mops up the residual symptoms. Although most "regular" antihistamines are fine for most people, some patients get drowsiness from them and require one of the more expensive non-sedating antihistamines which get so much advertising time on television these days. These two drugs do the trick for most people, but an unfortunate sub-group have an explosion of allergy symptoms when the airborne grass pollen peaks occurs, generally within a week or two either way of the first of May. These breakthrough patients generally do very well with a single shot of long acting (depot) cortisone. The effect lasts for at least a couple of weeks in about 90% of patients, getting them through the peak of the season and keeping them off of allergy shots, the final recourse if the three steps fail.

For asthma, the process is similar, up to a point. The daily asthma sufferer needs an inhaled cortisone twice a day to get into the bronchial tree and fight inflammation for prevention of symptoms. The immediate symptoms need inhaled medicines called bronchodilators to reverse the spasm in the smooth muscle in the bronchi and relieve cough, wheezing and shortness of breath. New pharmaceutical products combine both medicines in a single inhaler and there are some newer oral medicines that help control the problem also. Again, serious symptom breakthrough needs to be treated with extra cortisone (called "burst dosing"), but here we use cortisone pills instead of a single shot to control the dose administered more accurately.

As you now understand, if treatment under this or similar protocols fails, allergy shots need to be considered. Although shots are time-consuming, expensive, have certain reaction risks and seem to go on forever, sometimes they are the only alternative...and they work in a very high percentage of seasonal allergy sufferers. Although we already know in general what our patient is allergic to, in order to make up a customized allergy mix for immunotherapy

purposes, we need to know much more accurately and specifically. That is the purpose of allergy testing. Testing can be done in either of two perfectly satisfactory ways, either by skin testing, which creates a miniature allergic reaction in the skin, or by blood testing, which measures the IGE levels to specific allergens (eg grass pollen IGE) directly in the blood. Skin testing requires the patient be off long acting antihistamines for three or four weeks and shorting acting antihistamines for a few days before testing. When done by the older techniques- a combination of scratch testing on the back and intra-dermal (a tiny needle in the skin) on the forearms, we tend to get more positive tests than the patient actually has allergies, the "false positive" reaction. Newer skin testing devices, which can put on eight tests at a time on the forearms with rather painless pressure, makes skin testing easier, safer, more comfortable and more reproducible. Kids do much better with this kind of testing. Blood allergy testing can be done even with the patient on antihistamines, so a second appointment just for testing is often not needed.

Once the testing is done, an allergy mix can be made up locally from stock bottles of allergy extract or an order can be sent to an allergy services firm to have a custom mix made up for the tested patient. We prefer the latter, because if the patient's insurance changes (does that ever happen?), he or she can just take the mix to a new allergist and continue. Once the mix and its dilutions are available, allergy shots can be started. Our practice is to start at a very low dose, increase it very gradually on a weekly basis until the maximum dose is reached about six months later. We then switch directly to monthly injections for the duration of treatment, which is generally three to five years. The best standard of practice has the patient stay in the allergy clinic for a full half-hour after each shot- for ever!- just in case a serious allergic reaction to the shot occurs. They are not common. A fair number of patients on allergy shots still need their medicines, the shots picking up the surplus symptoms, but many do just fine with the shots alone. A small percentage of patients (about 15%) stay symptom free permanently when their shots are stopped at three to five years. Many of the others opt to go back on shots (and to stay on them) when their symptoms recur.

Well, there you have it. The Executive Summary report is that seasonal allergic rhinitis and asthma are genetically predisposed conditions, diagnosed by history and exam, treated with preventive and symptom relieving medications, with breakthrough being treated with burst dose courses of cortisone. Treatment failure patients are tested for specific allergens and put on long courses of allergy shots, generally with good although not permanent results.

Have a nice Spring!