Diagnosis and Management Paradigms for Allergic Rhinitis and Asthma: Improving Patient Quality of Life, Optimizing Patient Outcomes

Transcript – Diagnosis and Management Paradigms for Allergic Rhinitis and Asthma with Dr. Christopher Webber

Narrator:

Welcome to CME on ReachMD and this is the Prova Education Activity: Diagnosis and Management Paradigms for Allergic Rhinitis and Asthma; Improving Patient Quality of Life, Optimizing Patient Outcomes. Your host is Dr. Matt Birnholz. Dr. Birnholz will speak with Dr. Christopher Webber from Allergy and Asthma Care and Prevention Center in Lone Tree, Colorado. Dr. Webber serves as a speaker for Thermo Fisher Scientific.
Dr. Matt Birnholz has nothing to disclose.

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After listening to this activity participants should be better able to:

- Appreciate the quality-of-life burden of patients with allergic rhinitis and asthma.
- Quantitatively identify the hierarchy of causative allergens.
- And, routinely assess the effectiveness of the comprehensive allergic rhinitis and asthma care plan, modifying as necessary.

Dr. Birnholz:

At least 23 million people in the United States, including 7 million children, suffer from allergies and asthma. Meanwhile, the prevalence of allergic diseases is increasing worldwide and the complexity and severity of cases in children and young-adult populations continue to escalate. On today’s program, Dr. Christopher Webber is going to help us understand ways to stem the tide of this trend in clinical practice, from allergen avoidance strategies to the setup of targeted-care plans. Dr. Webber, welcome to the program.

Dr. Webber:

Thank you very much.

Dr. Birnholz:

So to start, a number of our listeners have a general sense of the scope of these diseases, but what is the actual prevalence of allergic rhinitis and asthma in the US for both children and adults?

Dr. Webber:
What we traditionally say for pure allergic rhinitis where pollen triggers symptoms, are about 10 to 30% of all adults and about 40% of children. But what’s often unrecognized is that some people have both allergic and a nonallergic, or irritant rhinitis, as well. And about anywhere from 50 to 87% of patients can have a mixture of 2 different kinds of allergies. Asthma has been pretty consistent at 6 to 8% of the population, which is about 22 million people in the United States. It’s the most common childhood chronic disease affecting about 6 million children, and it’s very much under-diagnosed. What’s also important, I think you alluded to it, is that allergy is a very important trigger for asthma. About 60 to 90% of kids, and 50% of adults with asthma, also have allergic triggers.

Dr. Birnholz:

Why don’t we turn then to the burdens that patients face from allergic rhinitis and asthma respectively, and I’m thinking both from a quality of life perspective and from a financial perspective. What can you tell us about that?

Dr. Webber:

Again, both of these are under-appreciated. Usually when they talk about burden of diseases, it’s easy or a go-to process to talk about the direct cost or indirect cost of these diseases. So for allergic rhinitis for example, there’s a total direct cost—about 7.3 billion dollars a year. When you factor in indirect costs from lost school days, lost workdays, and associated costs—an additional $4.3 billion per year. So we’re looking at about 11.5 billion dollars a year just for allergies. And that’s just the cost. In terms of asthma, again, it’s often talked about in terms of money. A child with asthma is estimated to cost about 11 hundred dollars a year. This was back from 2005 which was the most recent comprehensive study, and it’s about 3 times more than healthy kids, in terms of cost. But then overall, when you look at the direct cost from asthma, it’s about 7.2 billion dollars a year. So money-wise, this is huge. What I think is under-appreciated is, for both allergies and asthma, take allergies for example: quality of life impairment, sleep disturbances, impairment of work, school, social activities. Very difficult to put a price on that, but that’s a huge burden. And similarly for asthma, in terms of missing school, about a quarter of children with asthma have at least 1 ER visit. On average, they go to the ER about 3 times a year. About half of kids with asthma miss at least 1 day of school and a third miss 3 or more days. So there’s just a lot of indirect, un-measurable costs with quality of life that I think get neglected.
Dr. Birnholz:

It definitely sounds like it’s practically immeasurable quality of life and I think a number of our listeners would understand that intuitively, in terms of how often they are seeing these patients, both adult and children. Now there are also some national and international guidelines describing best medical practice when evaluating a patient, now be that pediatric or adult, for suspected allergy. So focusing on allergy, what are those guidelines and what do they recommend?

Dr. Webber:

So the guidelines start off with basically what every good diagnosis or medical problem should be, which is a good history and physical. I think that for the most part, that will get you a lot of the way there into identifying a problem, but history alone is usually not enough to diagnose allergy. And the reason why is, that when someone off the street comes in and says, “I have allergies,” they’re usually describing itchy, runny, sneezy, stuffy—some combination of these symptoms, which are better characterized as rhinitis. Allergic rhinitis or an identifiable pollen, or pet, or mold cause, is only about one-third of these patients. About one-fourth of the patients who come in that say, “I have itchy, runny, sneezing,” and claim they have allergies; again, about one-fourth don’t have allergies at all. They have what’s called an irritant rhinitis and the rest have a mixture of both. So the national guidelines suggest that when you have a suspected allergy or, more appropriately, a rhinitis patient, that you should do some degree of IgE testing, whether that’s skin testing or blood testing, to identify possible allergic triggers. And then from there you can best avoid or reduce the exposure to these triggers, and put together a better comprehensive plan. That’s pretty much for the guidelines for suspected allergy. History is good, but not enough.

Dr. Birnholz:

And how about for asthma? What do the guidelines tell you there? Is it very similar to allergy or is it a completely different paradigm?

Dr. Webber:

So asthma is similar, but in many ways opposite. In allergies, someone can identify their symptoms, but you really should do a degree of testing to help determine the underlying cause and how to treat
them. Asthma remains a clinical diagnosis. So if it looks like asthma and sounds like asthma, you should treat it as suspected asthma. The national guidelines recommend a good history, a good physical, and to implement some degree of objective measures, whether that’s spirometry, using the asthma control test, or other validated questionnaires, and that can help you guide towards the diagnosis of asthma, but ultimately for asthma, if you’re suspicious, go ahead and treat and then see how they do clinically from there.

Dr. Birnholz:

That’s a great point of distinction. So with asthma it’s: Treat as though it is, move forward with it if it’s suspected, use the history and physical exam. But to your point earlier, that’s not the case for allergies. So what else is needed to identify specific allergens?

Dr. Webber:

So, specific allergens are identified by measuring IgE. So IgE is a component of the immune system that was believed historically to treat against worms and parasites, but as time has progressed, whether it’s because we’ve become a cleaner society or, we’re not really sure why, but we’re seeing that system—the IgE system—start to identify different triggers: Pollens, pets, foods for food allergies. The whole allergy sideline gets identified as this IgE. So to diagnose it you have to identify that antibody is present. The 2 ways to do that traditionally is done through an allergist’s office with a skin test. In a skin test they would scratch the patient’s skin, just the top layer of the skin, with the antigen, whether it’s the ragweed, or cat dander, or anything from there. And then you wait about 15 to 20 minutes and if a hive develops in that area, that’s considered a positive test. Your immune system responded to that scratch and that’s what proved diagnostic. We also have blood tests through the ImmunoCAP testing right now where they can take a blood draw and then directly measure for the presence of: Do you have IgE to cat, yes or no? Do you have IgE to ragweed, yes or no? Any of those tests, per the national guidelines—they both have pluses and minuses—but both of them are considered equally diagnostically valuable. And from there if it’s positive you can put the patient into the category of an allergic cause. If it’s negative or normal, it’s more suggestive of an irritant cause.

Dr. Birnholz:

Well if you’re just tuning in, you’re listening to CME on ReachMD. I’m your host, Dr. Matt Birnholz, and
today I’m speaking with Dr. Christopher Webber about the diagnosis and management paradigms for allergic rhinitis and asthma. So, Dr. Webber, getting back to the skin test and specifically IgE testing, how do you use that to interpret and identify the hierarchy of potential allergens for given patients?

Dr. Webber:

There’s a very common misconception that the size of your testing reaction indicates the size of your allergy. So if you had a scratch test and you had a really big welt versus a smaller welt, then you must be more allergic to what caused the bigger one. Or if you get a blood test, those have been divided into different classes—class 1 through class 6, based on the results. And what would seem to be common sense would be to say, “Okay, if you’re a class 6, you’re really allergic; if you’re a class 1, you’re not very allergic.” That is not the correct way to interpret these tests. The better way to look at these tests are a “yes or no,” or a “true or false,” and then you ask the patient. To diagnose allergy you have to have symptoms plus the trigger. So if I have someone who says a cat walks in the room and they are absolutely miserable and I see that the IgE is either small or large, they’ve pretty much told me they’re miserable around a cat, I have a positive test to confirm it—they have a cat allergy. If I have someone who says, “I am around dogs without a problem, I’ve never had a problem with dogs,” and I see the biggest scratch test I’ve seen, that doesn’t mean that they’re allergic to the dog. They actually told you that they’re usually okay around dogs. Similarly, with the symptoms of pollen, pollen tends to pollinate at fairly predictable times of year. Trees tend to pollinate in the springtime, grasses in the summer, and weeds in the fall. So if I have someone who comes in and says, “I am miserable every spring; summer and fall I’m perfectly fine,” and I see big tests in spring, summer, and fall, then you have a positive antibody in all 3, but they’re really telling you spring is the biggest allergy that they have. That’s how you treat the patient. I’m going to follow it up with a question that often gets asked eventually which is: Are these tests unreliable? Why would one show a bigger response, but not correlate clinically? The way to think of it is that the tests are very reliable. If I measure IgE through a blood test and I get greater than 100, off the chart, to again, we’ll say cat, I have measured greater than 100 off-the-chart antibodies against cat. But if you look at, as an example, the receptors. If you only have 1 receptor in your nose against cat, I don’t care how many antibodies are floating around, there’s only one that could be matched at any one time. So it’s accurately identifying how much IgE it is, but that’s only half of the picture. Always treat the patient first and then you’ll be fine in terms of prioritizing their allergies.

Dr. Birnholz:
That’s a great point to reiterate. So in your experience then, do you see a lot of cross-reactivity in patients with regards to when they receive testing and combined with their clinical history? And if so, how does that complicate exposure reduction for these patients?

Dr. Webber:

So if you have cross-reactivity—does tend to happen—but it tends to happen in terms of aeroallergens within the same season. So certain grasses cross-react with other grasses, so I may see a lot more positive in terms of the skin tests of what’s the actual cause, but it still, luckily, stays grouped within certain seasons or certain generalizable categories for targeted-exposure reduction. So I take anything that’s positive; let’s say trees, grasses, weeds are all positive and pets and dust mites. So that’s a very thorough test of positivity. I take the symptoms, and I’d say for exposure reduction, I don’t need to stop all of these. The joke is you know, “Do I have to live in a bubble because of allergies?” And that’s not the case. Think of it as a cup of water and every drop that you put in is a different allergen and eventually it spills over. I don’t need to eliminate all of the water; I just need to drop it below the level of the surface. So if I can reduce every little bit, it all adds up. So some of the common exposure reductions you can do for the trees, grasses, or weeds; once you find out what they’re allergic to, have them follow a pollen counter, like a pollen.com, weatherchannel.com, anything so they can track their own specific pollens. And as the pollens start to get high, moderate or high levels, we tell them to close the windows of their house, keep the windows of the bedroom closed; different things so that they try to keep the pollen from blowing all throughout the house. We have them change their air filters more often, and if they had a choice of exercising indoors or outdoors, maybe indoors, but I’m not going to limit what people want to do. In terms of cats and dogs exposure reduction, if it’s positive, I want them to have less exposure to the pet. If they own the pet, they could consider getting rid of it, although they could often consider keeping the pet out of the bedroom as a first step. We pick the bedroom a lot because it’s the one space of the house that I can try to concentrate all my efforts and where, theoretically, most people spend a lot of their time, relatively, in each day. So keep them out of the bedroom and then maybe you need some medications to help with allergies. And then for dust mites for example, if that’s positive, we recommend dust mite covers. Dust mite covers help control dust mites that you’re exposed to. Again, the covers are done in the bedroom, so all pillows, all mattresses, and the box spring. Keep that bedroom as one place that’s pretty safe. And then you’re going to reduce the drops of water, hopefully to enough that either you need no medications or you need fewer medications to keep your symptoms under control.
Dr. Birnholz:

And then, speaking along those lines, the next question followup from there is: Pharmacologic interventions. What are they? How are they used here? Why don’t we start with allergic rhinitis and then focus on asthma?

Dr. Webber:

I’ll say for both, but starting with allergies, exposure reduction is going to be my number one measure. So I don’t want to underestimate that through all of this. Oftentimes if I need to use more medications I will, but then the hope is that if I can get exposure reduction down, then I can decrease the medications overall. When we talk about allergy medications there’s two big categories to know. The nose sprays, whether it’s a nasal steroid or nasal antihistamines, have been consistently shown to be my best medications. They’ve also been consistently shown to be my least-liked medications. The tablets and pills, people prefer a lot more. So, usually the first line of treatment is going to be an antihistamine. Most of these are taken over-the-counter and odds are, if that had worked, they wouldn’t have come into your clinic to begin with. So that’s kind of where I think the first start is. If they’ve been on nothing, use an antihistamine as needed. But if they’re coming into the clinic, and if they’re saying the antihistamines are not enough, it’s usually best to start a nose spray and the preferred next agent is usually a nasal steroid. What’s important to know about the treatment overall is how long it takes everything to work? Oral antihistamines, for the most part, when you take it, it starts working within 30 minutes to an hour. Within 24 hours it’s gone. So that is a very good “I need something right now medicine,” not necessarily a good long-term control medication. Medicines like nasal steroids, and to a lesser degree nasal antihistamines, they’re slower medications. So a nasal steroid probably takes 2 weeks to start to work, 4 to 6 weeks before it’s really at full strength. So if you’re just using that as needed, it’s not going to be as effective as if you commit to it and use it for 4 to 6 weeks and then reevaluate. But once you get consistent, it tends to last a couple of days in terms of benefit, and provides a much more steady-state treatment. So my plan is: Start off with an antihistamine. If it doesn’t work add a nasal steroid, and then see them back. If they’re feeling great on nasal steroid plus an antihistamine, then I try to drop that antihistamine to be as needed. Maybe they don’t need as much medication. If I see them back and with a nasal steroid and an antihistamine they’re not doing well, consider adding a nasal antihistamine to that. So that’s kind of most of the medications. Leukotriene receptor antagonists are around as well. They are used that can help out with both allergies and asthma, but they tend to be on the lower end of the spectrum for the best medication for both, so I tend to use those as an add-on, not as a primary medicine. Rounding out the allergic rhinitis treatment
would be allergy immunotherapy or allergy shots. Allergy shots are usually available through an allergist’s office and consider them to be my longest medicine to work and the longest to last. So with a good allergy shot, it could take 6 months before they start to work. Allergy shots tend to go for a 3-to-5-year course, so that’s a very long time commitment in terms of treatment. But then once you stop allergy shots you can expect 7 to 10 years or so of continued benefit afterwards. So I always think of that as the longest-to-work and the longest-lasting-afterwards type of medication. And when do you consider allergy shots? If they’re on a lot of medicines and it’s not helping, that would be a time to consider it. If they want to reduce costs overall, usually if you do a frontend course of allergy shots, longterm costs go down, because it does have such a good carry effect. So it’s kind of up to the patient when they want to start allergy shots, or if they do, as well. So that’s allergic rhinitis.

For asthma, think of it as a very similar pattern. Number 1 for asthma is: I want to eliminate exposure reduction. So if you’re someone who has a lot of triggers with allergies, I want to reduce the allergies. If you’re someone who has a lot of exposure to tobacco smoke and that’s what causes your asthma to get worse, I want to eliminate that. So exposure reduction, number 1. Then I think more people are familiar with this model: You start off with a short-acting beta agonist, an albuterol-type medication to be used as needed, but if they’re having symptoms more than 2 days a week during the daytime, more than 2 nights a month, they’re waking up with symptoms, or they’re having activity limitations, then you usually start with an inhaled corticosteroid. And then from there if you need to you progress to higher doses, and then an inhaled corticosteroid plus a long-acting beta agonist. So it’s a stair-step pattern for asthma. The key to all of this is to keep seeing the patients back and if they’re not doing what you would expect, in terms of feeling better, increase the medicines, and if they are doing better, always consider decreasing medications. Both of these are very dynamic diseases that tend to change over time, so it’s not really a pick-one-dose-and-forget-it type of problem; it’s a constantly, “Let’s see how we can tweak it and what we can do to fine tune your treatment.

Dr. Birnholz:

A great point. Well I have one last question for you, Dr. Webber, and that is, regarding a study known as the REACT study. What can you tell us about that as far as how it informs our efforts to control asthma and what does it mean for the typical medical practice?

Dr. Webber:
So the REACT study tried to look at, “How is asthma controlled in the real world?” That’s where the Real World Asthma Control Test study came from. And what it showed was that we’re really doing a bad job of controlling asthma. And there’s no reason to pull a punch on this. When it looked at patients who had seen their provider and everybody thought that their asthma was under control. So, the patient thought their asthma was under control, even the primary care providers thought their asthma was under control; in about 50% or so of the time, the asthma was not well controlled. And there’s been a lot of discussion as to why is this the case? Are the providers not doing their job? The majority of asthmatic patients are seen by general practitioners as opposed to allergy and asthma specialists, or are they just not doing a good job? Why is this? And that is not the case. I think one big point from that study is that patients are really bad judges of asthma control. And if you think of it, it’s probably because they’ve lived with asthma a long time, so they don’t necessarily know what normal is. It’s called a poor perceiver. If you spent your entire life coughing at night, twice a week, you’re going to think that that’s normal. So if I come in and say, “Hey, how’s your asthma doing?” and they say, “It’s great.” They may not know what normal is, and so, that kind of comes from the patient. And from medical providers, we’re very busy, there’s a lot of things going on, and traditionally with a history you would say, “Okay, patient Smith, how’s your asthma doing?” And they say, “My asthma’s great.” So in that kind of communication everybody thinks things are good. What we know is that that communication is no longer sufficient to accurately diagnose asthma control and really underestimates what control should be. So the solution is fairly simple. What I usually recommend is primary care providers, every provider ideally, would implement some sort of a validated questionnaire, whether it’s an asthma control test or the A-T-A-Q, the ATAQ Questionnaire. These are questionnaires that are designed to be read and answered by the patient, at the patient’s level. So there’s ones with pictures for kids. There’s different ones for adults. And it takes it from that, “How are you doing?” “Oh I’m doing great.” And it asks 5 questions and from there you can sum up the amount and you get a number. And for example, on the asthma control test, if it’s greater than 20, your asthma is well controlled. If it’s less than 20 it suggests that it’s not. So that takes it from the, “How you doing?” “I’ve measured a number and your number is low.” Think of it like blood pressure. People don’t usually say, “My blood pressure is high, I feel it.” They usually say, “I feel great,” but we still check a blood pressure and if it’s high we treat it. Think of asthma the same way. I’m going to give you this questionnaire which, by the way, can usually be done on check-in or before they even see the provider’s office, so that they show up with it done, it doesn’t take any time from the visit, and now all of a sudden I have a number, similar to a blood pressure, and I can adjust asthma from that. I think if you look at it that way, the REACT study correctly identifies a problem; it doesn’t hurt feelings, because we’re all trying to do our best, we just have the wrong tool, and a very simple switch could significantly improve asthma treatment across the board.
Dr. Birnholz:

And these questions that you mentioned, are they positioned in a way that’s nonbiased or unassuming so as to remove some of those linguistic barriers?

Dr. Webber:

I would say that there’s various drug companies who have sponsored the initial tests, and as soon as one does, then another one does a similar one. But the questions themselves have all been validated independently on studies. And the questions are written to be straightforward and have been pretty much picked out from the studies themselves, to give the most unbiased and straightforward question. The idea is that I just want to know from the patient a core set of symptoms. Not asking too much, so that you may get overwhelmed, and not asking the wrong ones, but just the targeted questions. These are available online and they’re usually available in multiple different languages. Again, certain ones for adults, and the ones for kids have a section for kids to point to happy or frowning faces, and then a section for parents to complete as well. So it’s really aimed at the patient’s level with the idea that they can fill it out, on their own, before you even see them, and the number you read, you can believe.

Dr. Birnholz:

And are there any followup studies or monitoring efforts planned to get a sense of how this assessment change might impact clinical practice and outcomes?

Dr. Webber:

I’m sure there are plenty studies ongoing now. I don’t know of any on hand that are directly looking at this. I think the biggest thing from the REACT study just identified that we need to do more, and there’s a lot of different ways people are trying to do more. I think within a clinical practice you can easily keep an eye on it, of just handing anyone with asthma or suspected asthma a questionnaire and then seeing if the numbers improve. You could track those over time and then, while it’s not a study, each practice can then see how they’re personally improving in terms of asthma care. I think that that’s probably a faster and a right-there, how-am-I-doing, positive feedback from controlling it. So that’s how I would implement it. In terms of study, we’ll always watch the news and as more come up we’ll try to keep
everybody updated as we are.

Dr. Birnholz:

Well it’s been a great discussion. We’ve covered a broad swath of issues related to allergic rhinitis and asthma. Dr. Webber, before we wrap up, anything that we didn’t cover that you feel would be of interest to our audience?

Dr. Webber:

A few take-home points that I would want to drive home would be: Number 1, if you’re using a nasal-steroid type medication, to really tell the patients that they need to invest time to it. It’s not a use it and by tomorrow you’ll feel better. A lot of people, I think, short change their own allergic rhinitis treatment by not sufficiently taking that medication for long enough. The second point that I would make is: Not to underestimate the value of exposure reduction. I know a lot of people who say, “Okay, if you’re coming in with allergies, and if I’m going to treat you with medicine anyway, why would I bother to check?” And I agree, if all you’re going to do is give more and more medication, why would you check? But if you look at it from the bigger picture, from a simple testing, I can identify what you’re allergic to and remove them or reduce them from the diet, I might be able to fix allergies, help fix asthma, and a lot of these direct and indirect burdens of these diseases without ever you needing a medication—just with exposure reduction. So I think that gets minimized and probably shouldn’t be.

Dr. Birnholz:

Well with that I’d very much like to thank our faculty, Dr. Christopher Webber, for outlining the diagnosis and management paradigms for allergic rhinitis and asthma, and for discussing improvements that can be made to the patient’s quality of life, with the right interventions. Again, Dr. Webber, thanks so much for your time.

Dr. Webber:

Thank you very much.
Narrator:

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