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Discovering the Connection Between Allergies and Asthma and Understanding the Importance of Allergy Testing

Narrator:

You are listening to ReachMD. Welcome to this week's Medical Industry Feature sponsored by Quest Diagnostics. The following program is intended for healthcare professionals only. Your host is Mario Nacinovich.

Mario Nacinovich:

On today's program we will be discussing the connection between allergies and asthma and the importance of allergy testing in symptomatic patients. I'm your host, Mario Nacinovich, and joining me today is Dr. Inderpal Randhawa, Associate Clinical Professor of Pediatrics, UC Irvine School of Medicine and Associate Clinical Professor of Medicine, UCLA David Geffen School of Medicine.

Dr. Randhawa, welcome to the program. We are looking forward to hearing your perspectives today.

Dr. Randhawa:

Thank you Mario, I am glad to be here.

Mario Nacinovich:

First, can you give us some perspective on the burden of asthma in the U.S.?

Dr. Randhawa:

Certainly Mario. The burden of disease from asthma is quite large. According to multiple sources including the Centers for Disease Control and Prevention and the National Center of Health Statistics, asthma rates are increasing across the United States. It is currently estimated roughly 1 in 12 Americans suffer from asthma. The clinical and economic toll of the disease is also increasing. Patients with asthma account for approximately 1.9 million ER visits and 479,000 hospitalizations. That equates to \$56 billion in direct healthcare costs annually. The economic burden on individual patients is also significant and roughly one-third of the per-patient annual direct costs of asthma are spent on medications alone. So, clearly, asthma remains an increasingly critical challenge from the national level down all the way to individual patients.

Mario Nacinovich:

Why is that happening doctor? Why does asthma continue to be a growing challenge?

Dr. Randhawa:

One of the main reasons is that asthma symptoms are usually not adequately controlled, and there are two studies we can point to, one in adults, the other in adolescents and children, that clearly demonstrate this. The first is a 2007 study called the REACT study which surveyed adults with moderate or severe, persistent asthma. The results of the study were quite striking. Among the over 1,800 adults assessed, about 57% of the patients with uncontrolled asthma and about 30% of the patients with controlled asthma reported the need to take their asthma medications more frequently than prescribed. The second study presented in 2008 by Britto et al, assessed the percentage of children and adolescent asthma patients who still experienced daily symptoms. The study results demonstrated that 92% of children and adolescents still experienced daily symptoms despite the use of inhalers and, once again, symptom control, according to NIH asthma treatment guidelines, was inadequate.

Mario Nacinovich:

Why are the majority of patients with asthma unable to manage their illness?

Dr. Randhawa:

One of the primary reasons may be the association between asthma and allergy or allergic triggers. And one of the most direct methods to determine if an individual has an allergy is to measure their levels of immunoglobulin E, or IgE, in their blood. The immune system reacts to allergens by producing IgE antibodies, which then leads to an allergic reaction and the symptoms associated with the allergic reaction. So, to determine if there is an association between asthma and allergies, one approach is to measure IgE levels in asthma patients. The same substances that trigger hay fever symptoms, such as pollen, dust mites and pet dander, may also cause asthma symptoms and signs. In some people, skin or food allergies can cause asthma symptoms. This is called allergic- or allergy-induced asthma. So based on these data a connection between asthma and allergies seem to exist.

Mario Nacinovich:

Is it true that if asthma patients reduce their exposure to allergen triggers, it should help to manage their disease?

Dr. Randhawa:

Absolutely, and this strategy is related to the symptom threshold of each patient. Consider this: individuals are typically continually exposed to multiple allergic triggers simultaneously, and 90% of patients suffering with allergies are sensitized to multiple allergens. Once exposure to these allergic triggers exceeds a certain threshold, this can lead to the development of asthma symptoms. So, fortunately, the reverse is also true – if exposure to allergic triggers is kept below a certain threshold, this should help prevent the development of asthma symptoms. So, in short, reduce allergen exposure, reduce asthma symptoms. This is known as Target Exposure Reduction.

Mario Nacinovich:

Are there any data that demonstrate targeted exposure reduction helps reduce asthma symptoms?

Dr. Randhawa:

Yes. A study in the New England Journal of Medicine of children with asthma demonstrated that Targeted Exposure Reduction with interventions restricted to the bedroom led annually to 21.3 fewer symptom days, 4.4 fewer missed school days, and 2.1 fewer ER visits. Over 2 years, Targeted Exposure Reduction was shown to be as effective as inhaled corticosteroids in reducing, and was associated with 34 fewer days of wheezing.

Mario Nacinovich:

So what can primary care and pediatric clinicians do to help asthma patients alleviate their allergy symptoms and ultimately control their asthma symptoms?

Dr. Randhawa:

The most effective method is to reduce the exposure to allergens before they near the threshold by utilizing allergy testing to identify and characterize the triggers, and then implementing guideline-based care to manage symptoms. In fact, when a guideline-based care regimen is implemented, control problems and cost of care decrease due to fewer ER visits and hospitalizations.

Mario Nacinovich:

What types of tests or diagnostic tools should patients and physicians know about?

Dr. Randhawa:

First of all, the NIH recommends a stepwise approach to managing asthma, and for persistent asthma, the NIH recommends testing for allergic triggers to reduce allergen exposure.

Mario Nacinovich:

So you're saying there is a similar procedure in place for patients with asthma who may have an allergen trigger?

Dr. Randhawa:

Yes, it's almost exactly the same for patients with allergies. In this instance, the physician would order a specific IgE blood panel, which can help the physician make suggestions towards lifestyle modification, like targeted reduction of allergen exposure or even moving on to pharmacotherapy.

Mario Nacinovich:

Regarding IgE-specific testing, can you speak more about the importance of determining an IgE panel?

Dr. Randhawa:

Simply put, IgE-specific testing, such as with a test called ImmunoCAP®, helps identify allergic triggers, and that helps physicians recommend a targeted exposure reduction program specific to the patient that will help the patient reduce symptoms and manage their disease. Ultimately, this improves the patient's quality of life and productivity.

In the case of allergic triggers, IgE specific testing with ImmunoCAP is a logical addition to the physician's testing array because it fits into the workup in the same manner as the assays you regularly order for managing other diseases, such as diabetes or hypercholesterolemia.

Mario Nacinovich:

Dr. Randhawa, can you please summarize the importance of testing for allergen triggers?

Dr. Randhawa:

Sure Mario. Appropriate testing helps guide targeted exposure reduction, and when a guideline-based care regimen is implemented, it can reduce healthcare costs associated with uncontrolled asthma while improving productivity and patient care. That's huge.

Mario Nacinovich:

If you're just tuning in, you are listening to this week's Medical Industry Feature on ReachMD sponsored by Quest Diagnostics. I'm your host, Mario Nacinovich and I'm speaking with Dr. Inderpal Randhawa, Associate Clinical Professor of Pediatrics, UC Irvine School of Medicine and Associate Clinical Professor of Medicine, UCLA David Geffen School of Medicine.

We've talked a lot about the value of testing. You specifically mentioned a test called ImmunoCAP. Please tell me about testing for IgE with ImmunoCAP. How would you describe it to primary care and pediatric clinicians?

Dr. Randhawa:

Simply put: ImmunoCAP is a laboratory test to determine the sensitization of specific IgE in patients who present with allergy-like symptoms. It is also the most extensively studied and widely used IgE blood test available. For a physician who is trying to determine whether a patient is suffering from allergies or an upper respiratory disease, ImmunoCAP is an easily performed test that is a means to aid physicians in confirming or excluding a diagnosis.

Mario Nacinovich:

Is that really an issue for physicians, differentiating between allergies and an upper respiratory illness?

Dr. Randhawa:

Yes. Allergy-like symptoms can be very difficult to differentiate from an upper respiratory disease. That is why ImmunoCAP is such an important tool. ImmunoCAP allows physicians to accurately identify specific allergen sensitivities. It is a direct means to confirming patient allergies.

Mario Nacinovich:

If you would, please describe what a Quest Diagnostics ImmunoCAP panel is?

Dr. Randhawa:

A Quest Diagnostics ImmunoCAP panel includes category panels like respiratory and food. A respiratory allergy profile will include key indoor and outdoor allergens that have been selected according to geographic pollen patterns and cross-reactivity of allergens that elicit patient sensitivity similar to certain other allergens within the same class. Individual allergens in the panel can also be ordered separately.

Mario Nacinovich:

So how do ImmunoCAP results compare with results from a Skin Prick Test?

Dr. Randhawa:

ImmunoCAP is interchangeable with the Skin Prick Test. It is also a reliable and easy to interpret test. Allergy medications don't interfere with the results and the blood draw can be taken at any time of the day.

Mario Nacinovich:

Aside from what you've said here today, are there any guidelines on the use of ImmunoCAP?

Dr. Randhawa:

Yes, the NIH has guidelines that highlight ImmunoCAP for asthma care.

Mario Nacinovich:

And how has ImmunoCAP been highlighted in the NIH guidelines?

Dr. Randhawa:

The NIH Guidelines for the diagnosis and management of allergic diseases state that serum IgE levels were originally measured using the radioallergen sorbent test, otherwise known as RAST, but this test has been replaced by more sensitive fluorescence enzyme-labeling

assays. They also state that the predictive values associated with clinical evidence of allergy for ImmunoCAP cannot be applied to other test methods. Let me be clear about this -- ImmunoCAP is not RAST. The sensitivity, specificity, positive and negative predictive value that some of our listeners may be familiar with do not apply to ImmunoCAP. It is the only blood test comparable to skin prick.

Mario Nacinovich:

What are the other advantages of ImmunoCAP that primary care and pediatric clinicians should know about?

Dr. Randhawa:

It's one blood draw any time of the day. There is no interference from allergy medications, and it is reliable, easy to interpret, and simple to order.

Mario Nacinovich:

As we begin to wrap up this interview, are there any last statements you'd like to share about allergies and asthma?

Dr. Randhawa:

I want to stress that most asthma patients suffer daily and unnecessarily from this costly illness, and that reducing exposure to allergic triggers reduces symptoms and costs. This supports the importance of testing for allergic triggers so we can make specific recommendations to control the patient's symptoms.

Mario Nacinovich:

And, in regards to the role and importance of ImmunoCAP, any final thoughts?

Dr. Randhawa:

Simply put, ImmunoCAP is the most widely used in vitro allergy blood test, and its results can help clinicians implement a personalized targeted exposure plan to manage airway inflammation and symptoms, optimize effectiveness of medications, and minimize associated healthcare costs. Finally, by using ImmunoCAP, physicians are following NIH guidelines for asthma care, which recommend specific IgE testing for persistent asthma patients.

Mario Nacinovich:

Well, this has been a great discussion with a lot of information covered, but since only so much can be reviewed during this interview. I want to thank you Dr. Randhawa for your time and insights in helping us understand more about the importance of asthma, allergens, and ImmunoCAP.

Narrator:

You've been listening to this week's Medical Industry Feature on ReachMD sponsored by Quest Diagnostics. To learn more about Quest Diagnostics and ImmunoCAP, please visit [QuestDiagnostics.com](https://www.questdiagnostics.com).

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