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TRANSCRIPT

Transcript Details

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www.reachmd.com
info@reachmd.com
(866) 423-7849

How Precision Medicine Is Transforming Asthma Care

Announcer:
You're listening to *Clinician's Roundtable* on ReachMD. On this episode, we'll hear from Dr. Sally Wenzel. Not only does she serve as the Director of the Asthma Institute at UPMC, but she's also the Chair for the Department of Environmental and Occupational Health at the University of Pittsburgh's School of Public Health. She'll be discussing how our understanding of precision medicine in severe asthma has evolved in recent years. Let's hear from her now.

Dr. Wenzel:
Certainly precision medicine has become the buzzword for care of most patients with chronic diseases or more complicated diseases. And I think it's all about bringing the right medicine to the right patient. And I think severe asthma has led the way in precision medicine because we have been able to take a disease that is very common—or at least asthma is very common—and identify a group of patients who are much more complicated than your average patient who have evolved into severe asthma and who are there because they didn't respond to the typical asthma medications—inhaled corticosteroids, leukotriene receptor antagonists, long-acting beta agonists, etc. —that have become mainstay in the treatment of severe asthma. And I think through various networks—with the severe asthma research program being one of those very important networks—we've been able to identify characteristics of patients that meet a diagnosis of severe asthma—again, remaining poorly controlled on what would be considered gold standard medication for more routine asthma.

And we've been able to identify biomarkers in these individuals; these biomarkers include blood eosinophils that are easily measured. Everyone in practice can probably get a complete blood count and a differential to look at what the blood eosinophil count is. And a slightly more complicated measurement is exhaled nitric oxide. It requires a specific analyzer to be able to measure that, but it's not an expensive test. If you compare it to a chest x-ray, it's a lot less expensive than a chest x-ray and adds considerable additional information.

And then, is there allergy present? And allergy can be diagnosed by various tests. IgE level probably the most common one used, certainly to allergists. But it's a lot more complicated than that and requires specific IgE testing to things in the environment that patients might be allergic to. And then how do those reactions—either on a blood test or a skin test match—with the patient's clinical symptoms? And sometimes that's not always so easy to do.

And then the final step in this is there's been sort of this parallel introduction of biologics and biomarkers. And for years, we thought we knew what asthma and severe asthma were driven by, and there was development of drugs that were targeting these various pathways. But they didn't work; they didn't work in all asthma patients because we didn't understand that you had to get those specific targeted biologic therapies or antibody therapies. We had to get them to the patients who actually had activation of the pathways that these biologic therapies treat, and I think we've done a much better job. We've been able to now merge these parallel pathways where we have biomarkers and biologic agents that converge. And when you match the right person with the right biomarkers to the right biologic agent, in general, you get a response to treatment and, in some cases, a life-changing response to treatment. And I think it's this combination of phenotypic information—both clinical and molecular—with the addition of therapies that target those pathways that has really been transformative in the severe asthma space.

Announcer:
That was Dr. Sally Wenzel talking about precision medicine in severe asthma. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!

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