Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: https://reachmd.com/programs/clinicians-roundtable/using-biomarkers-to-guide-severe-asthma-treatment/54214/

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

Using Biomarkers to Guide Severe Asthma Treatment

Announcer:
You're listening to *Clinician's Roundtable* on ReachMD. On this episode, we'll hear from Dr. Geoffrey Chupp, who's the Executive Director of the Yale Center for Asthma and Airways Disease and a Professor at Yale School of Medicine in New Haven. He'll be discussing the use of biomarkers and biologics in treating severe asthma.

Here's Dr. Chupp now.

Dr. Chupp:
Biomarkers and what we call biologic phenotyping of patients with airway disease is critical in managing patients, and it's required because almost all the therapies that we currently have are linked to a biomarker, in terms of the patients that are most likely to respond. And they were used in most of the clinical trials to identify patients for treatment.

So understanding the patient's biology is very important. And what we specifically look at is allergy testing, for example—which is blood or skin prick testing—total IgE, and a CBC, where we look for absolute eosinophil counts. Usually, a level above 150 or 300 identifies a patient who has an eosinophilic phenotype. There's exhaled nitric oxide levels, which is considered to be a downstream effector molecule of the IL-13 pathway that's produced by bronchial epithelial cells in response to increased levels of IL-13 and inducible nitric oxide synthase.

So when you see the levels of these biomarkers elevated, it helps you understand which pathway is most active in this patient, and allows us to make some treatment decisions about what may or may not be most likely to work in that patient, recognizing that there is a lot of overlap between the biologic subtypes of disease and the drugs patients will respond to. But we still phenotype patients, because it allows us to really personalize the therapeutic choice for a patient, which can have practical implications in terms of dosing and then likelihood of success, based on what you think is driving the patient's disease symptoms.

At some point as a physician, you have to go with what you think is best based on the data, trial it in a patient, and make sure the patient understands that if they're not responding, we can switch the agent to something else. I think that one of the common mistakes is that physicians and patients don't give it long enough. To get a clear picture of how the patient's doing on one of these agents, you need to have a long enough time period on the drug to get a sense of whether their disease is controlled or significantly improved.

So I think, generally, however, what we do is we do the phenotyping on a patient, do a careful history, talk to the patient about their environment, and get a sense of what is driving their symptoms, and then pick the agent that we think is going to be most effective in that situation.

Announcer:
That was Dr. Geoffrey Chupp talking about how we can optimize asthma care using biomarkers and biologics. 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!

© 2026 ReachMD