

Transcript Details

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Advances in COVID-19 Protection: A Look at the mRNA-1283 Vaccine

Announcer:

You're listening to *Clinician's Roundtable* on ReachMD. On this episode, we'll hear from Dr. Angela Branche, who's an Associate Professor of Medicine at the University of Rochester in New York. She's also the Director of the Infectious Disease Research Clinic and the Co-Director of the URMV Vaccine and Treatment Evaluation Unit. She'll be discussing the scientific updates that distinguish mRNA-1283 from earlier mRNA COVID-19 vaccines. Here's Dr. Branche now.

Dr. Branche:

So the mRNA-1283 COVID-19 vaccine is a next-generation vaccine developed by one of the pharmaceutical companies. They had previously had an older version of the vaccine—at least the way it's composed—that's been used for all the boosters as well as the primary series vaccine since the beginning, when vaccines were available for the pandemic. This is next generation because it's a slight tweak on the older vaccine, in the sense that it's giving you a more refined part of the virus—a protein that the virus makes that it uses to attach to human cells. And so rather than giving you that whole protein or the mRNA to make that whole protein, it's refined the vaccine to just give you the part of the protein that generates the most potent antibody response.

It also includes the N-terminal domain of the spike protein so it's, again, focusing your immune response to two specific parts of spike: the receptor binding domain as well as the N-terminal domain. And these are the areas where you'll generate the most potent neutralizing antibody response.

Interestingly enough, even though you're giving a smaller amount of antigen, it's still generating a similar reaction profile. All of these, again, are very mild. They have been since the original vaccines, but it hasn't changed, so it's just as tolerable. It's just not necessarily more tolerable; one might have expected if you're giving less amount, you might get less reactions, but that doesn't seem to be the case. And it may be a good thing because, there are studies that have shown that having that inflammatory response is potentially linked to having a good immune response.

In terms of the immune response, it's equally as good. Maybe slightly better. There is some data, but it's very early yet, and even though there seems to be a slight immune benefit, I think we won't really know the answer to that until you start to see effectiveness data from people who receive this updated next-generation vaccine.

So mRNA is relatively new technology still when we're talking about vaccination, or really anything, and so I think the goal of vaccine programs is to continue to refine based on the vaccines, the composition, and how we administer it based on what we learn from prior versions of the vaccines. And so I think this presents an opportunity to see if you can do better by focusing the immune system a little bit better. And it also might help you to develop antibodies that are more durable, so that would be something that would be of benefit over current or previous versions of the vaccine. So that's always a goal that we're hoping to achieve by refining these vaccines.

Announcer:

That was Dr. Angela Branche talking about how mRNA-1283 has advanced from previous mRNA COVID-19 vaccines. 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!