

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/neurofrontiers/studying-cortical-lesions-in-ms-future-research-directions/32761/>

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Studying Cortical Lesions in MS: Future Research Directions

Announcer:

Welcome to *NeuroFrontiers* on ReachMD. On this episode, we'll hear from Dr. Michael G. Dwyer, who's an Associate Professor of Neurology and Biomedical Informatics with the University at Buffalo in New York. He'll be discussing future research directions focusing on cortical lesions in multiple sclerosis. Let's hear from Dr. Dwyer now.

Dr. Dwyer:

The majority of people with MS are still relapsing/remitting. And so the big question for me is, do these therapies also impact cortical lesions in relapsing/remitting MS? And I don't see a biological reason that they shouldn't, but I think we need to ask that question. So the next thing for me is, can we look at some other studies now? Go back, pull this data, and use AI techniques and the modern imaging to ask these questions of relapsing/remitting studies with other potential therapeutic mechanisms to see how we're affecting these cortical lesions.

As a neuroscientist who really tries to study brain function as well, I think that the gray matter is simultaneously extremely important. Many people think it's the thing that makes us human. It's the cortex, but it's also much more difficult to study clinically. We're very used to looking at these lesions in pathways in the white matter that affect whether you can move your arm or not. And so we know their importance, but they are more difficult sometimes to tie directly to immediate obvious clinical outcomes because they're likely more connected to cognition and to those higher order things, especially if they end up in areas like the frontal lobe. I'm very happy to see that we're affecting this thing that is very important to patients with MS, but it has been more difficult to quantify as something like an EDSS score. The cognition plays very minimally into EDSS, but it's very important to patients—this kind of brain fog, fatigue, and types of things that can be associated with this gray matter pathology. So I think it's really important that we know now that these therapies can affect that as well. And from my perspective, I would hope that we would think about those more quality-of-life oriented things and those cognitive outcomes as well that tie to the gray matter.

There are different types of cortical lesions: there are sub pial lesions, there are intracortical lesions, and there are OC cortical lesions. They're all a little bit different and have potentially different mechanisms. So I think we'd also like to study that going forward to understand whether this has an equal impact on all the different types of cortical lesions or whether there's a differential effect. I think that's one question that's very important to us along with all the same questions that we've asked about prior, like are there predictors of who's going to respond to these things? Questions about the timing of the response. Does the gray matter reduction in lesions come at the same time as the white matter lesions? There's a million of these downstream questions, but there's a lot more work to do to fully understand it.

Announcer:

That was Dr. Michael G. Dwyer discussing key research questions focusing on cortical lesions in multiple sclerosis. To access this and other episodes in our series, visit *NeuroFrontiers* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!