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Diagnosing gMG: Navigating Current Tools and Approaches

Announcer:
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Dr. Howard:
This is CME on ReachMD. I'm Dr. James Howard. Here with me today is Dr. Nicholas Silvestri.

Nick, when a diagnosis of myasthenia gravis is suspected, what should our approach be to confirm the diagnosis? And then what are the key symptoms and clinical findings that help establish the diagnosis, and conversely, what are the confounders to try reaching a diagnosis of myasthenia?

Dr. Silvestri:
Thanks, Chip. Great questions. So I think that when it comes to the diagnosis of myasthenia gravis, as is true with most neurological diseases, the history is really key. And so when a patient presents with weakness that predominantly involves the eye muscles, the bulbar muscles, the axial muscles, the proximal limb muscles and it's fatigable and intermittent, in my mind, that's myasthenia gravis until proven otherwise. And it can be tricky, right? Because with most neurological disorders, patients come with symptoms, and we can then do our examination and we can corroborate what those symptoms align to in terms of signs. But in myasthenia gravis, it's not always the case, right? Because given the intermittency of the symptoms, patients may have a lot of symptoms, like we discussed, but they may not have much on examination.

And so it's really relying on that history, and then certainly using the physical examination to see if you can find any signs of fatigable weakness with perhaps sustained upgaze, perhaps sustained pressure on proximal muscles, maybe using something like the ice pack test if someone has a very ptotic lid and seeing the response of the ice on the lid.

So about 85% of our patients with generalized myasthenia gravis will have antibodies to acetylcholine receptor. About another 7% or 8%, perhaps, of the total population has antibodies against MuSK. A smaller percentage have LRP4 antibodies. And in those patients that have no antibodies, they still may have myasthenia gravis. That's about 7% or thereabouts of the generalized population.

And that's, in my own opinion, where electrodiagnostic testing comes in the most handy. So doing things like repetitive nerve stimulation or, more importantly, single-fiber electromyography, because if we can't make the diagnosis serologically, we can make it electrophysiologically.

It's important to know that when a patient does have a confirmed diagnosis of acetylcholine receptor antibody-positive myasthenia, because of the association with thymic disease, particularly thymoma in about 15% of patients, another key test that has to be done at the time of diagnosis is a CT scan or MRI scan of the chest to look for evidence of thymic disease. Because if a patient has a thymoma, that is an absolute necessity that they undergo a thymectomy.

In terms of the differential diagnosis of myasthenia gravis, there are a number of things that can mimic myasthenia. I think it really just depends on the actual symptoms and the tempo of symptoms. For example, when patients come in with a, quote/unquote, acute myasthenia gravis, that they suddenly develop double vision or suddenly develop dysarthria, well, more often than not, that patient's going to be evaluated for stroke, which is not a bad thing to think about in the acute phase. But obviously, as time goes on and you get more of a history, do more of an exam, you realize it's not a central process but a peripheral process.

But even peripherally, there are other diseases within the neuromuscular realm that can mimic myasthenia, at least early on. Think of bulbar ALS, think of oculopharyngeal muscular dystrophy, certain forms of myopathy, other forms of neuromuscular junction transmission dysfunction, rarely limbs, rarely botulism. Really just depends on the tempo of the symptoms and the symptoms involved. But, again, just to go kind of go back to what I started with, that history of fatigable weakness, predominantly affecting ocular and bulbar muscles, that's when you think of myasthenia gravis first and foremost.

Dr. Howard:
Yeah. I think it's fair to say that myasthenia is a clinical diagnosis supported by serology, electrophysiology, and in the very mild patient, it's the nuances of weakness that we need to attend to or be attuned to.

These are critical clues, and I think that we often, in our busy practices, tend to skip and get the highlights and never delve to the details, which is critical in a disease like this.

This, again, is a brief micro moment in terms of myasthenia. I'm glad we've had the opportunity to break this down for you. Thanks for listening.