Transcript Details

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

Differentiating gMG for Diagnostic Precision: The Role of Fatigable Weakness

Announcer:
You're listening to *NeuroFrontiers* on ReachMD. On this episode, we'll hear from Dr. Maxwell Levy, who's an Assistant Professor of Neurology and the Residency Program Director at Tulane University in Louisiana. He'll be discussing how to distinguish generalized myasthenia gravis, also known as gMG, from other neuromuscular disorders. Here's Dr. Levy now.

Dr. Levy:
So there are some clinical features that are really important in distinguishing generalized myasthenia gravis from other neuromuscular disorders. The hallmark of generalized myasthenia gravis is that there's fatigable weakness, and I think that really helps you understand what we're looking for. So, when we say fatigable, that means that generally, over the course of the day or secondary to an exertional activity, there's going to be physical neuromuscular weakness. It's accompanied by fatigue, but there should be measurable weakness that you're able to note, as opposed to other neuromuscular conditions, which often have static weakness that's present prior to activity at the beginning of the day with or without exertion.

There are some patterns in the weakness that can point toward generalized myasthenia gravis. Myasthenia can affect any skeletal muscle in the body, but oftentimes the oculomotor system is affected. The proximal appendicular muscles of the shoulders and hips can be affected, but the axial muscles—the neck and spine—can be affected as well. And so I know that sounds like that covers all the muscles in the body. Generally, you're not thinking as much about the hands and feet, but grip and walking are certainly affected. Oftentimes, things like double vision and trouble rising out of a chair would be normal day-to-day dysfunctions that patients with myasthenia might note. You'll generally have preserved reflexes as well, unlike some other neuromuscular conditions, and you would not expect sensory loss in myasthenia.

The evaluation of patients with atypical or nonspecific presentations that can mimic generalized myasthenia gravis, such as chronic fatigue syndrome or functional neurologic disorders, is really challenging at times, and it's important to get the diagnosis right. The medications that we use to treat myasthenia gravis are not medications to be prescribed lightly. There are some serious immunosuppressants. There are medications that have lots of long-term ramifications. The majority of patients with myasthenia have a positive antibody. Most commonly is the acetylcholine receptor. Next is the MuSK antibody. But there are a couple of other less commonly evaluated antibodies out there that make up the next portion. There are, however, a portion of seronegative patients that do not have a positive antibody, and these patients, ideally, are diagnosed with electrodiagnostic data. The easiest of these to achieve would be repetitive nerve stimulation, and that can be done by most clinical neurophysiologists and neuromuscular specialists that can do EMG nerve conduction testing. More sensitive and specific than that is the single fiber EMG, which takes a little bit more skill and may only be accessible in larger institutions or academic medical centers. And that can occasionally provide a positive diagnosis for patients that are both seronegative and have equivocal repetitive nerve stimulation testing.

Beyond that, it's important to look at other causes of the patient's symptoms. Patients that have chronic fatigue syndrome or functional neurologic disorders often don't have the same degree of fatigable weakness. They may have fatigue or they may have weakness, but they don't have true fatigable weakness, and it's important to distinguish when a patient says that they're weak if that means that they have true neuromuscular weakness—that their muscles can exert fewer pounds of force later on in the day than they could exert earlier in the day—or if that means that they're describing fatigue, malaise, numbness, and dizziness. There are all sorts of different things that patients describe when they say, "Doc, I'm weak." That can mean a hundred different things, and so a good history is key.

Announcer:

That was Dr. Maxwell Levy talking about the factors that differentiate generalized myasthenia gravis from other neuromuscular disorders. 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!