Response: Re: Cervical Spondylotic Myelopathy: A Guide to Diagnosis and Management

To the Editor: Drs. Fustes and Rodriguez highlight an additional tool that can aid in managing potential cervical spondylotic myelopathy (CSM) cases via their suggestion of the utility of electrophysiological studies as an adjunct in the assessment of CSM. While we agree with Lo that electromyography (EMG) is not required for CSM diagnosis, it certainly may provide utility in some specific scenarios.[1] In general, Zileli[2] notes that motor evoked potential, spinal cord evoked potential, somatosensory evoked potential, and EMG are all tests that can be used to help narrow the differential diagnosis for CSM. Other more focused uses of EMG include assessing arm pain with suspicion of spinal nerve root compression. EMG can help determine whether nerve compression is the extremity (ie, in cubital tunnel syndrome, carpal tunnel syndrome, or other less common peripheral nerve compression syndromes) versus central as a result of spinal nerve radiculopathy. By locating the site of compression via EMG, potential spinal surgery may be avoided if the pathology was in fact occurring distal to the spine column. In addition, EMG may provide value in better localizing the nerve root compression at a specific level of the cervical spine in patients whose magnetic resonance imaging (MRI) shows multi-level moderate compression. Through more accurate localization, clinicians may potentially limit cervical levels included in surgical intervention. In addition, EMG may also play a role in characterization of the gait abnormalities that are often seen in CSM, which can impact rehabilitation prognosis.[3]

Electrophysiological studies do have utility in narrowing the differential diagnosis and management of potential CSM patients and are a useful adjunct for clinicians working through the diagnosis of patients presenting with cervical radiculopathy. It is the opinion of the authors that electrophysiological studies can be used by clinicians in such cases where this additional data are expected to alter the management of patients with suspected CSM.

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References

1. Lo YL. How has electrophysiology changed the management of cervical spondylotic myelopathy? Eur J Neurol 2008;15:781–6.
2. Zileli M, Borkar SA, Sinha S, et al. Cervical spondylotic myelopathy: natural course and the value of diagnostic techniques—WFNS Spine Committee recommendations. Neurospine 2019;16:386–402.
3. Haddas R, Cox J, Belanger T, Ju KL, Derman PB. Characterizing gait abnormalities in patients with cervical spondylotic myelopathy: a neuromuscular analysis. Spine J 2019;19:1803–8.

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