Comment:
A growing role for nerve ultrasound in diagnosis and management of CIDP?

Chronic inflammatory demyelinating polyradiculoneuropathy (CIDP) is an immune-mediated polyneuropathy characterized by segmental demyelination, sometimes accompanied by axonal loss. Nerve size and architecture are altered. Despite composite criteria, diagnosis can be challenging. Furthermore, objective measurements to follow disease activity are limited. High-resolution nerve ultrasound could potentially aid in diagnosis and disease monitoring; it is inexpensive, widely available, noninvasive, and can rapidly image long segments of multiple nerves. However, few studies have examined the relationship between nerve morphology and function in CIDP using ultrasound.1

This blinded, cross-sectional study by Di Pasquale et al.2 describes nerve ultrasound findings at noncompressible sites in the median, ulnar, and peroneal nerves in 19 patients with CIDP compared to controls. The authors examined the relationship between both total cross-sectional nerve area and enlargement of individual nerve fascicles and assessed electrodiagnostic measures. They also correlate abnormal ultrasound segments with clinical measures of strength and disability. Consistent with prior studies, the primary findings were that (1) ultrasound is sensitive and specific for detecting abnormality in CIDP, although the number of segments with ultrasound abnormalities was highly variable; (2) abnormal ultrasound segments were associated more frequently with demyelinating than with axonal electrophysiology; and (3) abnormality within a nerve segment was correlated with longer disease duration, lower Medical Research Council sumscore, higher Inflammatory Neuropathy Cause and Treatment disability score, and progressive disease.

While providing a substantive contribution to the literature, this study also had several limitations. Eighteen of 19 patients had already undergone treatment for CIDP. Effects of these therapies on nerve morphology remain unknown.3 Additionally, the study included only ultrasound of distal nerve segments and measured nerve areas. Proximal segments and nerve vascularity and echogenicity may also be abnormal in CIDP.1 To further elucidate ultrasound’s role in the diagnosis and management of CIDP, large-scale, multimeasure prospective, longitudinal studies in treatment-naive patients are needed.


Amanda C. Guidon, MD

From the Department of Neurology, Massachusetts General Hospital, Harvard Medical School, Boston.
Study funding: No targeted funding reported.
Disclosure: The author reports no disclosures. Go to Neurology.org for full disclosures.