DISTINCTION OF SEROPOSITIVE NMO SPECTRUM DISORDER AND MS BRAIN LESION DISTRIBUTION

Ilya Kister, Yulin Ge, Joseph Herbert, New York; Tim Sinnecker, Jens Wuerfel, Friedemann Paul, Berlin: Matthews et al. attempted to differentiate seropositive neuromyelitis optica spectrum disorders (NMOSD) from multiple sclerosis (MS) based on brain MRI records. They suggested that none of the patients with NMOSD exhibited “Dawson fingers” on brain MRI.

James Dawson described these characteristic lesions in MS pathologically as “wedge-shaped areas with broad base to the ventricle, and extensions into adjoining tissue in the form of finger-like processes or ampullae, in each of which a central vessel could usually be found.” Ultra-high-field MRI allows for in vivo visualization of small central veins within Dawson fingers.

Our 2 groups used ultra-high-field MRI to image brains in NMOSD and MS and independently reported that periventricular lesions are rare in NMOSD and lack central venule. This supports the authors’ finding that the presence of Dawson fingers constitutes strong evidence against the diagnosis of NMOSD. However, for this criterion to be useful in clinical practice, an unambiguous definition of what constitutes Dawson finger on conventional brain MRI must be adopted.

It would be helpful if the authors could supply a definition based on their experience with NMOSD and MS that would more formally specify lesion morphology. This should include details on borders, dimensions, and orientation on axial and sagittal T2-weighted sequences. In addition, a defined distance from lateral ventricles and other periventricular lesions would be helpful.

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Neurology 2013;81;1966
DOI 10.1212/01.wnl.0000436079.95856.1f

This information is current as of November 25, 2013

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