Using no-evidence-of-disease-activity standard for patients with multiple sclerosis

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Maintaining "no-evidence-of-disease-activity" (NEDA) was difficult over time for many patients with multiple sclerosis (MS) but the measure may help gauge a patient's long-term prognosis, according to a study published online by *JAMA Neurology*.

NEDA has become a new goal for the treatment of MS and an outcome measure because of multiple and increasingly effective therapies for relapsing forms of the neurodegenerative disabling disease. But it's unknown what proportion of patients with MS can be expected to maintain NEDA over time, according to the study background,

Dalia L. Rotstein, M.D., of Brigham and Women's Hospital, Boston, and coauthors investigated the sustainability of NEDA over seven years in a group of 219 patients with MS. Patients had seven years of follow-up that included yearly brain magnetic resonance imaging and biannual clinic visits, although not all 219 patients contributed at each point because there were occasionally missed MRIs or clinical visits. NEDA was measured by relapses, disability progression and MRIs.

The study found that of 215 patients, 99 (46 percent) had NEDA for clinical and MRI measures at one year, at two years 60 of 218 patients (27.5 percent) maintained NEDA but only 17 of 216 patients (7.9 percent) sustained NEDA after seven years. There was no difference in NEDA status for patients with early MS (five years or less since first MS symptom) compared with those patients with more established disease. NEDA at two years seemed as if it may be optimal for predicting

disability at seven years but that finding must be further validated, according to analyses by the authors.

"Although NEDA has the potential to become not only a key outcome measure of disease-modifying therapy but also a treat-to-target goal, it will require a comprehensive approach that integrates advances in MRI technology, linkage of blood and cerebrospinal fluid biomarkers, and a high degree of cooperation among investigators," the authors conclude.

In a related editorial, Jaime Imitola, M.D., and Michael K. Racke, M.D., of The Ohio State University Wexner Medical Center, Columbus, write: "NEDA is an ambitious but necessary benchmark, and the current results offer a humbling reminder of the efficacy of today's therapies. Perhaps future evaluation of NEDA in patients with MS should start at the stage of a clinically isolated syndrome, with aggressive and early treatment to determine the overall efficacy of our immune-centered therapies. If, despite all these efforts, we achieve similar results, then loss of NEDA could be a reflection of what we do not target in MS with our existing DMTs (disease-modifying therapies), especially the mechanisms of long-term progression, neurodegeneration and repair that are being investigated now. NEDA is an important goal for MS care, which is starting to move from clinical trials into office practice to achieve the best care for our patients with MS."

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