NEJM Journal Watch

NEJMGROUP.ORG

Optical Coherence Tomography and Disability in Multiple Sclerosis

In a longitudinal study, baseline ganglion cell layer thickness was associated with disability 10 years later.

Optical coherence tomography (OCT) is a noninvasive retinal scan that is used increasingly in neurologic practice. Prior studies have shown that risk of future disability is higher for those with decreased retinal nerve fiber layer (RNFL) thickness (*NEJM JW Neurol* May 2016 and *Lancet Neurol* 2016; 15:574). In 132 patients with multiple sclerosis (MS), investigators have now evaluated baseline ganglion cell plus inner plexiform layer (GCIPL) thickness and Expanded Disability Status Scale (EDSS) at baseline and at a median follow-up of 10 years.

An average GCIPL of <70 microns was associated with an adjusted odds ratio of 3.97 for worsening disability compared with ≥70 microns and with an adjusted OR of 2.93 for worsening vision on 2.5% contrast sensitivity testing. Relapsing MS, disease duration <9 years, and EDSS score ≤2.0 were, collectively, associated with an adjusted OR of 15.10 for worsening disability.

COMMENT

Thinner GCIPL is associated with worse long-term disability and visual outcomes, and its measurement is less susceptible than that of RNFL to inflammation and edema. OCT may be included in an assessment of prognosis, which may also include MRI of the brain and spine, consideration of relapse frequency and severity, and other prognostic factors. ***— Robert T. Naismith, MD***

Dr. Naismith is a Professor of Neurology at Washington University in St. Louis.

Note to readers: At the time we reviewed this paper, its publisher noted that it was not in final form and that subsequent changes might be made.

Lambe J et al. Association of spectral-domain OCT with long-term disability worsening in multiple sclerosis. **Neurology** *2021 Mar 2; [e-pub]. (https://doi.org/10.1212/WNL.0000000000011788)*