

Bridging Minds and Vision: The Need for Neurology and Ophthalmology Synergy in Multiple Sclerosis

Avinash Chandra¹, Keepa Vaidya², Reema Rajbhandari³, Tejashwi Shrestha⁴, Anjali Bhandari⁵

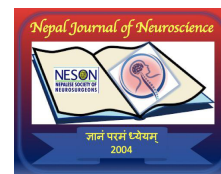
¹ Department of Neurology, Annapurna Neuro Hospital, Kathmandu, Nepal

² Department of Neuro-ophthalmology, Tilganga Institute of Ophthalmology

Date of Submission: 1st June 2025

Date of Acceptance: 14th July 2025

Date of Publication: 15th August 2025



Editorial

Multiple sclerosis (MS) continues to challenge clinicians and researchers alike with its non-specific and heterogeneous presentation and unpredictable course. Among its earliest and most presenting features is visual dysfunction—commonly optic neuritis—which not only reflects localized optic nerve inflammation but also serves as a harbinger of widespread central nervous system (CNS) pathology.¹ This intimate relationship between vision and neurodegeneration positions the eye as a functional and structural biomarker of MS.^{2,3} Yet, for too long, neurology and ophthalmology have operated in parallel rather than in concert.

As research increasingly confirms, this siloed approach undermines our capacity to detect, understand, and treat MS comprehensively. A recent review by Tong et al. underscores the evolving understanding of optic neuritis as a complex immunoinflammatory process, often preceding or paralleling broader CNS demyelination.⁴ Similarly, visual measures like low-contrast letter acuity (LCLA) and optical coherence tomography (OCT) not only correlate with patient-reported outcomes but also with brain atrophy and disability scores.⁵ These tools—frequently housed in ophthalmology clinics—must be integrated into routine neurological practice.⁶ Now McDonald's criteria for Multiple Sclerosis will probably be revised that would incorporate OCT as one of the criterion either replacing or adding among other criteria.

Moreover, as Newman and Biousse articulated in *The Lancet Neurology*, that optic neuropathies can be an initial biomarker of several diseases.⁷ The retina's unmyelinated layers allow for direct assessment of axonal damage, while tools such as visual evoked potentials (VEPs) reflect functional disruptions of the visual pathways.^{6, 8} This dual insight—structural and functional—demands an interdisciplinary lens.

The implications for therapy are equally compelling. While neurologists focus on immunomodulatory agents and disease-modifying therapies, ophthalmologists manage acute visual symptoms and monitor retinal changes. Yet, these efforts are often disjointed. In progressive MS, where visual decline may be subtle and cumulative, the absence of coordinated care can result in delayed recognition of meaningful disease progression.⁹ This separation of specialties is no longer tenable in the era of precision medicine. Integrating ophthalmologic assessments into neurology clinics—and vice versa—can significantly enhance diagnostic accuracy, enable earlier therapeutic interventions, and improve long-term patient outcomes. In resource-constrained settings like Nepal, such collaboration is even more vital, as eye-based diagnostics (like OCT and bedside VEPs) may be more accessible than advanced neuroimaging.⁸

Conclusion

It is time to bridge the clinical and academic divide between neurology and ophthalmology. Multiple sclerosis affects the brain and the eye in equal measure, and a truly patient-centered approach must reflect this reality. The future of MS care lies not in choosing between specialties, but in uniting them—to see more clearly, diagnose more precisely, and act more effectively. Vision is not merely a symptom in MS; it is a roadmap to understanding the disease—and collaboration is our clearest path forward.

References

1. Garton T, Gadani SP, Gill AJ, Calabresi PA. Neurodegeneration and demyelination in multiple sclerosis. *Neuron*. 2024;112(19):3231-51.
2. Sakai RE, Feller DJ, Galetta KM, Galetta SL, Balcer LJ. Vision in multiple sclerosis: the story, structure-function correlations, and models for neuroprotection. *J Neuroophthalmol*. 2011;31(4):362-73.

Access this article online

Website: <https://www.nepjol.info/index.php/NJN>

DOI: <https://10.3126/njn.v22i1.78864>

HOW TO CITE

Chandra A, Vaidya K, Shrestha T, Bhandari A. Bridging Minds and Vision: The Need for Neurology and Ophthalmology Synergy in Multiple Sclerosis. *NJNS*. 2025;22(2):1-2



Address for correspondence:

Dr. Avinash Chandra

Department of Neurology, Annapurna Neuro Hospital, Kathmandu, Nepal
Email: chandraavi@gmail.com

Copyright © 2023 Nepalese Society of Neurosurgeons (NESON)

ISSN: 1813-1948 (Print), 1813-1956 (Online)



This work is licensed under a Creative Commons Attribution-Non Commercial 4.0 International License.

3. Suh A, Hampel G, Vinjamuri A, Ong J, Kamran SA, Waisberg E, et al. Oculomics analysis in multiple sclerosis: Current ophthalmic clinical and imaging biomarkers. *Eye (Lond)*. 2024;38(14):2701-10.
4. Tong Y, Yang T, Wang J, Zhao T, Wang L, Kang Y, et al. Elevated Plasma Chemokines for Eosinophils in Neuromyelitis Optica Spectrum Disorders during Remission. *Frontiers in neurology*. 2018;9:44.
5. Nolan RC, Akhand O, Rizzo JR, Galetta SL, Balcer LJ. Evolution of Visual Outcomes in Clinical Trials for Multiple Sclerosis Disease-Modifying Therapies. *J Neuroophthalmol*. 2018;38(2):202-9.
6. Rothman A, Murphy OC, Fitzgerald KC, Button J, Gordon-Lipkin E, Ratchford JN, et al. Retinal measurements predict 10-year disability in multiple sclerosis. *Ann Clin Transl Neurol*. 2019;6(2):222-32.
7. Balcer LJ, Miller DH, Reingold SC, Cohen JA. Vision and vision-related outcome measures in multiple sclerosis. *Brain*. 2015;138(Pt 1):11-27.
8. Di Maggio G, Santangelo R, Guerrieri S, Bianco M, Ferrari L, Medaglini S, et al. Optical coherence tomography and visual evoked potentials: which is more sensitive in multiple