

Teaching NeuroImages: Evolving trans-synaptic degeneration of retinal ganglion cells after occipital lobe stroke

Jonathan A. Micieli, MD, Richard J. Blanch, MB ChB, PhD, and Kannan Narayana, MD

Neurology® 2018;90:e2179-e2180. doi:10.1212/WNL.0000000000005686

Correspondence

Dr. Narayana
kannan.narayana@emory.edu

A 59-year-old woman presented with acute left-sided visual field loss. A left homonymous hemianopia without a relative afferent pupillary defect and corresponding right occipital stroke on MRI were noted (figure). Optical coherence tomography of the macular retinal ganglion cell complex (GCC) showed GCC loss corresponding to the area of visual field loss in the left eye first, 100 days later (figure). The left eye was affected earlier and to a greater degree, which is consistent with previous animal studies,¹ and may be due to the larger temporal visual field and larger number of crossing fibers.²

Author contributions

Jonathan Micieli: study conception and design, manuscript preparation. Richard Blanch: study conception and design, manuscript preparation. Kannan Narayana: study conception and design, acquisition of data, final approval of manuscript.

Study funding

No targeted funding reported.

Disclosure

The authors report no disclosures relevant to the manuscript. Go to Neurology.org/N for full disclosures.

References

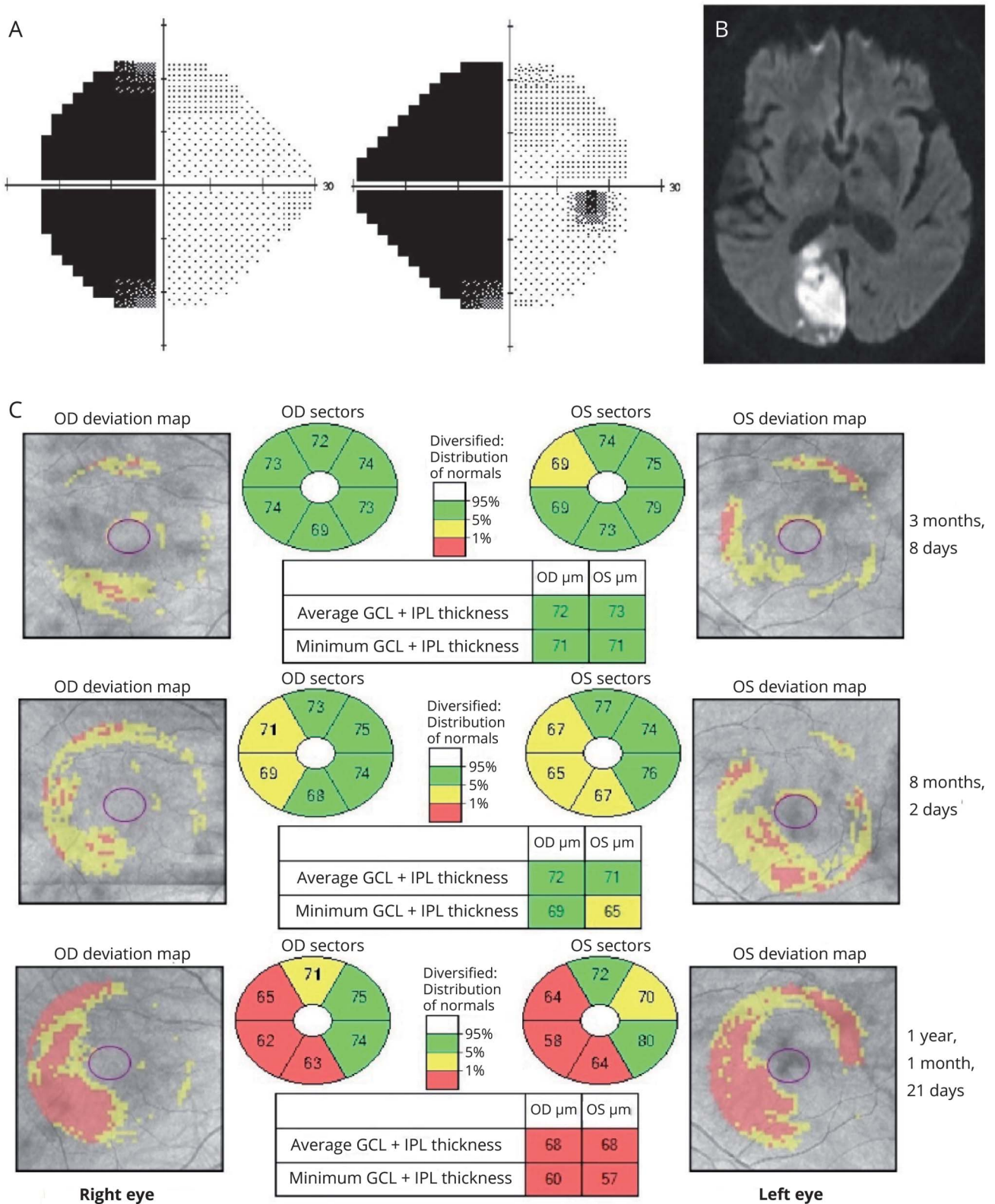
1. Théoret H, Herbin M, Boire D, Ptito M. Transneuronal retrograde degeneration of retinal ganglion cells following cerebral hemispherectomy in cats. *Brain Res* 1997;775:203–208.
2. Dinkin M. Trans-synaptic retrograde degeneration in the human visual system: slow, silent and real. *Curr Neurol Neurosci Rep* 2017;17:16.

MORE ONLINE

→Teaching slides

links.lww.com/WNL/AS57

Figure Evolving retrograde trans-synaptic degeneration of retinal ganglion cells



Humphrey visual field test demonstrates a left homonymous hemianopia (A) with corresponding restricted diffusion in the right occipital lobe (B). Optical coherence tomography of the macular ganglion cell complex (C) starts to show thinning in the nasal retina of the left eye about 100 days after vision loss that increased with time in both eyes. GCL = ganglion cell layer; IPL = inner plexiform layer.

Neurology®

Teaching NeuroImages: Evolving trans-synaptic degeneration of retinal ganglion cells after occipital lobe stroke

Jonathan A. Micieli, Richard J. Blanch and Kannan Narayana

Neurology 2018;90:e2179-e2180

DOI 10.1212/WNL.0000000000005686

This information is current as of June 11, 2018

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/90/24/e2179.full.html
References	This article cites 2 articles, 0 of which you can access for free at: http://n.neurology.org/content/90/24/e2179.full.html##ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): Infarction http://n.neurology.org/cgi/collection/infarction Retina http://n.neurology.org/cgi/collection/retina Visual fields http://n.neurology.org/cgi/collection/visual_fields
Permissions & Licensing	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: http://n.neurology.org/misc/about.xhtml#permissions
Reprints	Information about ordering reprints can be found online: http://n.neurology.org/misc/addir.xhtml#reprintsus

Neurology® is the official journal of the American Academy of Neurology. Published continuously since 1951, it is now a weekly with 48 issues per year. Copyright © 2018 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.

