Teaching *NeuroImages*: Central retinal artery occlusion with cilioretinal artery sparing in giant cell arteritis

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Figure 1 Goldmann visual fields

The right eye (OD) visual field was normal to all stimuli. The left eye (OS) visual field showed only an island of visual sparing to the brightest and largest stimuli used.

A 79-year-old woman developed headache, jaw claudication, and left eye visual loss. Examination showed hand motion vision of the left eye (figure 1).

Funduscopy and optical coherence tomography were performed (figure 2). Temporal artery biopsy was diagnostic of giant cell arteritis (GCA).

Figure 2 Funduscopy and optical coherence tomography

(A) Funduscopy showed macular whitening (arrows), with sparing between the disc and fovea (arrowheads), representing central retinal artery occlusion and sparing within the cilioretinal artery (dashed arrow) distribution. (B) Optical coherence tomography (along dashed lines of A) demonstrated edema of the inner retina (arrows) above (left) and below (right) the spared central macular region (arrowheads).

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Central retinal artery occlusion results from internal carotid artery disease, cardioemboli, and rarely GCA.¹ GCA more typically causes anterior ischemic optic neuropathy, but is suspected in elderly patients with visual loss that may be ischemic. The cilioretinal artery, a variant found in 15% of people, supplies the central macula, originating from the posterior ciliary circulation. Central retinal artery occlusion with cilioretinal artery sparing may leave central vision relatively unaffected.²

DISCLOSURE

Dr. Cohen reports no disclosures. Dr. Rizzo serves on the editorial board of *Investigative Ophthalmology and Visual Science* and holds patents re: Method

and Apparatus for Preferential Neuron Stimulation; Low Pressure Neural Contact Structure; Medication Dispensing Intra-Ocular Lens System; Methods for Epiretinal Implantation; Intra-Ocular Lens System Including Micro-electric Components; Chronically Implantable Retinal Prosthesis; Inflatable Neural Prosthesis; Minimally Invasive Retinal Prosthesis; System for and Method of Power Efficient Electrical Tissue Stimulation.

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