



A 60-Year-Old Male Presented for Evaluation of “Chorioretinal Scarring” in Both Eyes

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Case Report:

A 60-year-old male presented to The Retina Institute for an evaluation of “chorioretinal scarring” in both eyes. He endorsed no vision complaints and originally went to his referring physician for a routine glasses’ checkup. He denied any ocular history and his initial medical history documentation was significant for Type II diabetes and congestive heart failure. On examination, his visual acuity was 20/30 OU with normal intraocular pressures. His anterior segment exam was notable only for mild cataract formation. His posterior segment examination revealed multiple areas of linear chorioretinal atrophy along with discrete punched out chorioretinal lesions in both eyes. No evidence of active inflammation was seen. Upon further questioning, the patient reported a history of prior West Nile Virus Encephalitis five years ago that resulted in an extended intensive care unit hospitalization. Given his constellation of findings, we suspect this is a case of inactive West Nile chorioretinitis. We recommended the patient continue to

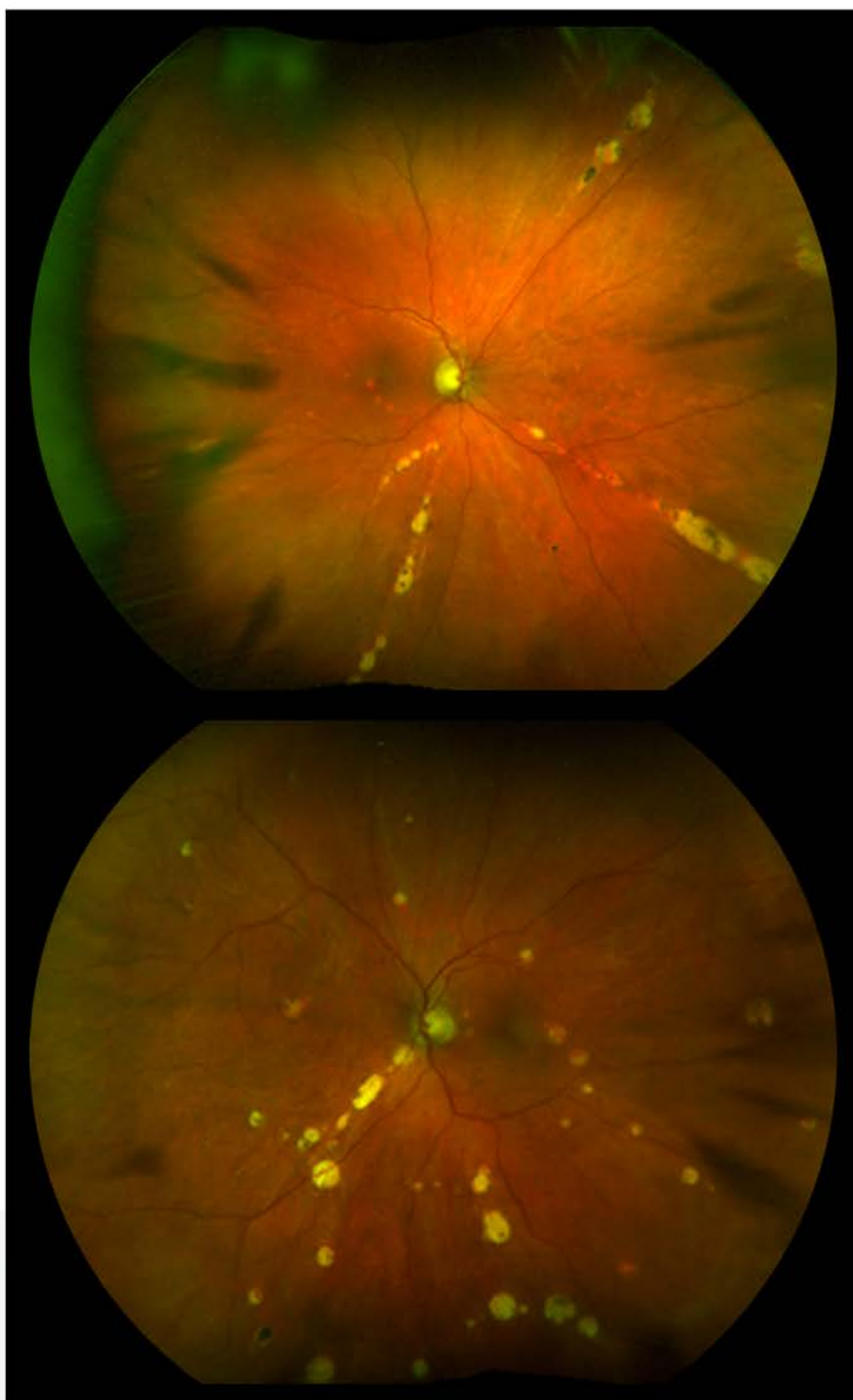


Figure 1:
Wide angle color photographs of both eyes demonstrating circular areas of chorioretinal atrophy at times in a radial pattern.

follow with his comprehensive ophthalmologist and return to us for a yearly exam.

Discussion:

West Nile Virus (WNV) is a single stranded RNA flavivirus and was first identified and isolated in 1937.¹ Over the course of the twentieth century, the virus was noted to be endemic to parts of Africa, Asia and Europe and was first noted in the United States in 1999. The virus life cycle depends on a mosquito vector (most commonly *Culex* sp.) and an asymptomatic reservoir of bird species.² Humans are subsequently infected when bitten by mosquitos carrying the virus and are considered a dead-end host. Luckily, approximately 80% of infected individuals are asymptomatic. Those developing symptoms typically have incubation period of 2-14 days followed by headache, weakness, myalgia or arthralgia.³ A rare minority of infected individuals (<1%) develop neurological symptoms including encephalitis, meningitis and flaccid paralysis. The incidence of ocular manifestations in those infected with WNV is unknown and limited to case reports. Reports of ocular WNV infection have included mild iridocyclitis, vitritis, occlusive retinal vasculitis, and optic disc edema. The most common ocular manifestation however is an asymptomatic multifocal chorioretinitis. Typically, the lesions are "target-like" and are arranged in a linear pattern following the retinal vasculature or nerve fiber layer. Visual acuity is generally preserved in

this phenotype unless the lesions manifest in the fovea.⁴ Workup for the systemic condition includes obtaining serology and CSF antibody titers for suspected neuroinvasive disease. Diagnosis of the ocular manifestations of WNV is clinical and relies on diligent history taking for prior episodes of systemic infection. The differential diagnosis for this presentation includes other infectious and inflammatory causes of multifocal chorioretinitis-
Infectious:

- Syphilis
- Tuberculosis
- Toxoplasmosis
- Rift Valley fever
- Histoplasmosis

Inflammatory:

- Sarcoidosis
- Multifocal choroiditis
- Birdshot chorioretinitis
- Behcet's Disease

Treatment of WNV in the acute phase is generally supportive and requires a multi-disciplinary approach to manage a patient's neurological symptoms if present. Generally, ocular manifestations are noticed long after the acute phase of the systemic illness and require no treatment. Case reports have shown resolution of acute inflammation with topical steroids, but more extensive controlled trials are needed to determine if these medications are beneficial vs. observation of natural disease progression.⁵

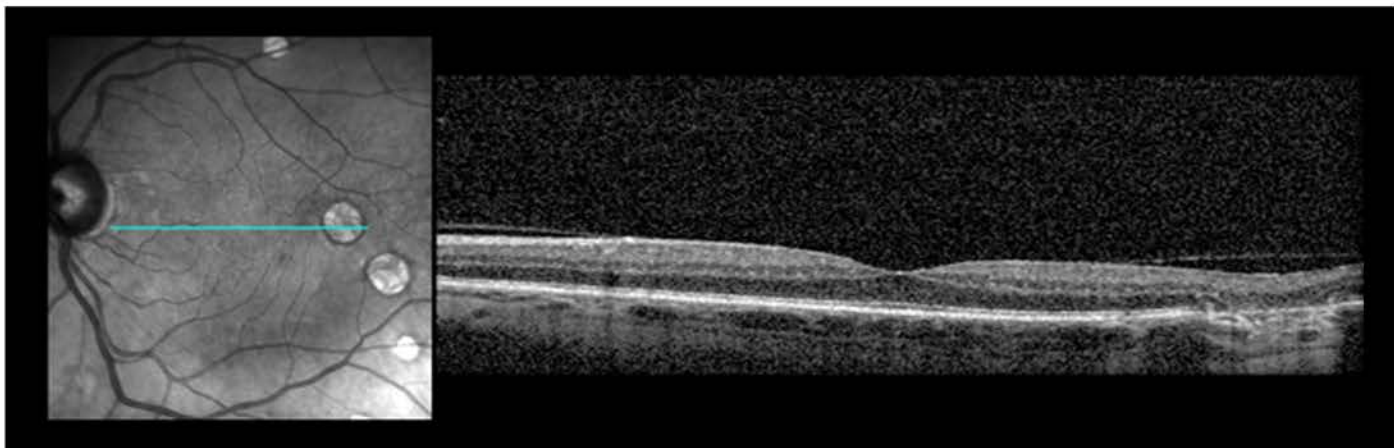


Figure 2: Optical coherence tomography (OCT) of the left eye demonstrating focal area of atrophy with loss of outer retinal and choroidal architecture temporally.

References:

1. Adelman RA, Membreno JH, Afshari NA, Stoessel KM. West Nile virus chorioretinitis. *Retina*. 2003;23(1):100-101.
2. Shaikh S, Trese MT. West Nile virus chorioretinitis. *Br J Ophthalmol*. 2004;88(12):1599-1600.
3. Sejvar JJ, Marfin AA. Manifestations of West Nile neuroinvasive disease. *Rev Med Virol*.
4. Learned D, Nudleman E, Robinson J, et al. Multimodal imaging of west nile virus chorioretinitis. *Retina*. 2014;34(11):2269-2274.
5. Bains HS, Jampol LM, Caughron MC, Parnell JR. Vitritis and chorioretinitis in a patient with West Nile virus infection. *Arch Ophthalmol*. 2003;121(2):205-207.

2020 Meeting Canceled

The 37th Annual Visiting Professor Lecture Series scheduled for Saturday, September 12, 2020 has been canceled in the interest of public safety.

The meeting will now be held on **Saturday, September 11, 2021** at the Eric P. Newman Center on the campus of the Washington University School of Medicine.

SEPTEMBER					
Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4
5	6	7	8	9	10
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29	30				



The logo for the Midwest Ophthalmologic Symposium is overlaid on the calendar. It features a stylized sun and waves, with the text 'Midwest Ophthalmologic Symposium' written across it. A large orange 'X' is placed over the date September 11, 2020, indicating the cancellation of the event.

Case of the Month Supported by:

