# An 88-year-old Male with Bilateral Fundus Lesions

Mike Liu, MD - Vitreoretinal Surgery Fellow
Bradley T. Smith, MD

## Introduction:

An 88-year-old white male was referred to The Retina Institute for evaluation of a possible intraocular tumor in his right eye. The patient's only visual complaint was seeing floaters in his left eye for the past few years. His past ocular history included previous cataract surgery in the left eye, and his medical history was significant for insulin-dependent diabetes mellitus and hypertension. A review of systems was unremarkable.

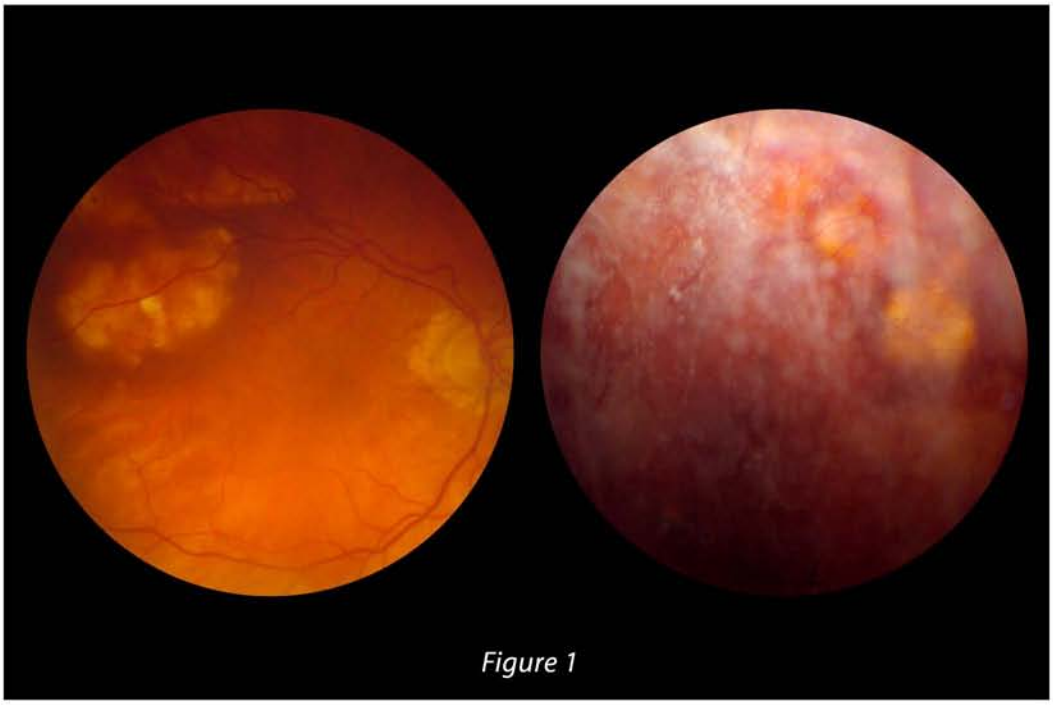
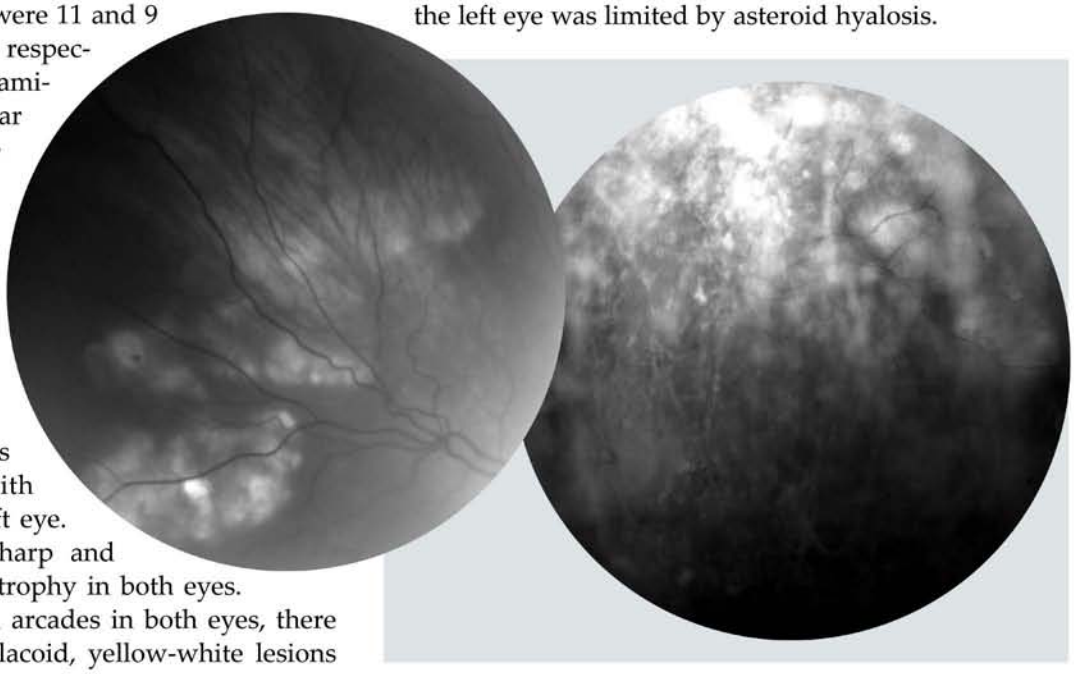


*Figure 1*

Visual acuity measured 20/40 in both eyes, and there was no relative afferent pupillary defect. Intraocular pressures by applanation were 11 and 9 in the right and left eyes, respectively. Anterior segment examination showed mild nuclear sclerosis in the right eye and a well-positioned posterior chamber intraocular lens in the left eye.

Dilated fundus examination showed vitreous syneresis in the right eye and diffuse white vitreous opacities consistent with asteroid hyalosis in the left eye. The optic nerves were sharp and pink with peri-papillary atrophy in both eyes. Along the superotemporal arcades in both eyes, there were noted to be deep, placoid, yellow-white lesions with discrete borders without associated subretinal fluid, exudate, or heme (Figure 1). A detailed view of the left eye was limited by asteroid hyalosis.



Fluorescein angiography revealed late staining of the lesions and was otherwise unremarkable (Figure 2). A-scan and B-scan ultrasonography was performed to aid in defining the lesion characteristics. A-scan ultrasonography showed high signal strength at the level of the sclera with rapid tapering of the signal in both eyes. Corresponding B-scan ultrasound showed dense hyperechogenic lesions with orbital shadowing (Figures 3 and 4). Of note, the orbital shadowing was shown in the same B-scan just superior to the normal shadowing produced by the optic nerve in both eyes. Also, the A and B-scans of the left eye showed vitreous echoes consistent with asteroid hyalosis.

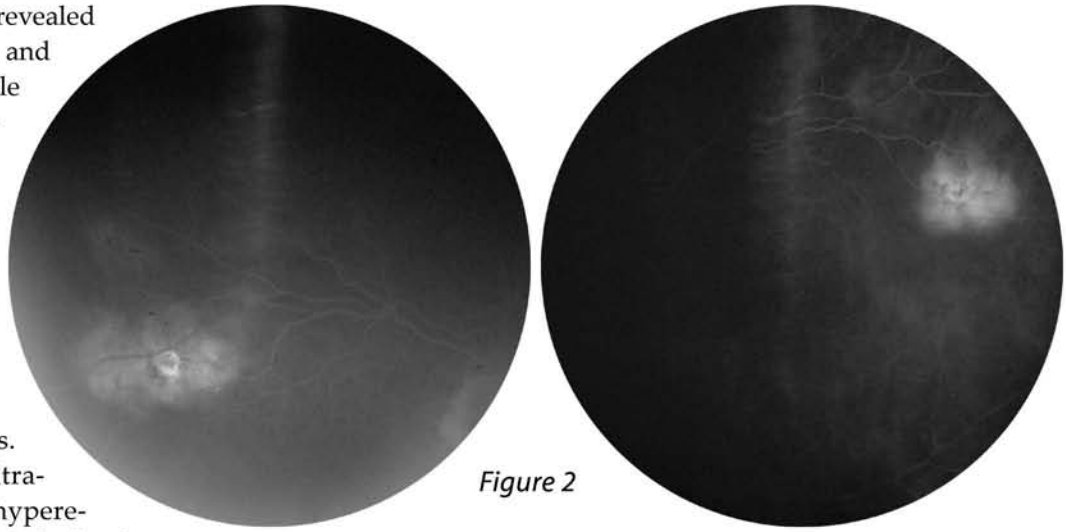


*Figure 2*

The fundus exam findings combined with the fluorescein angiogram and A/B scans helped confirm our diagnosis of sclerochoroidal calcifications in this patient.

## Discussion:

The differential diagnosis for sclerochoroidal calcification includes choroidal osteoma, choroidal metastasis, amelanotic choroidal melanoma, peripheral exudative hemorrhagic chorioretinopathy, choroidal granuloma, and retinal astrocytic hamartoma. Based on the age of our patient, negative history of cancer, and bilateral location of the lesions along the superotemporal arcades, we believe his findings to be most consistent with sclerochoroidal calcifications.

Sclerochoroidal calcifications are geographic yellow-

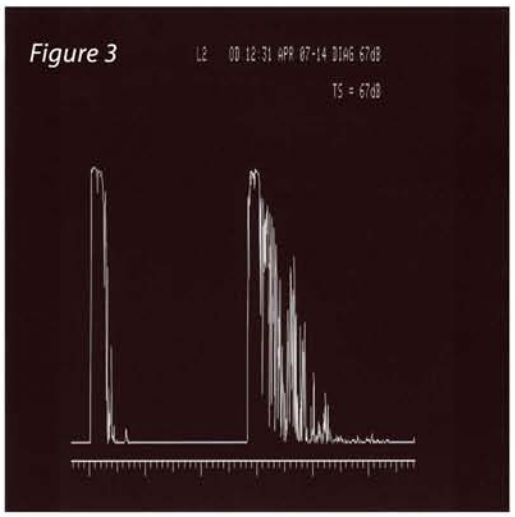
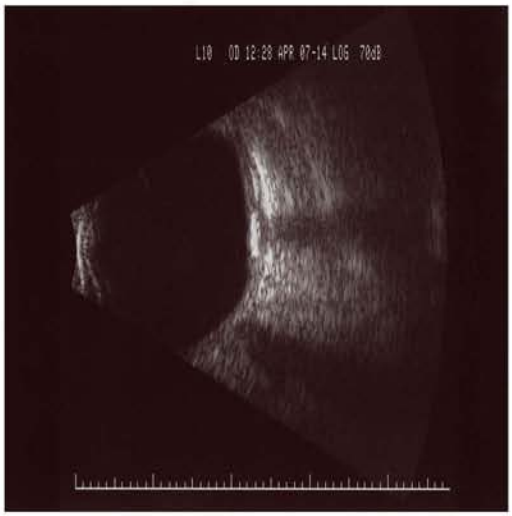



*Figure 3*



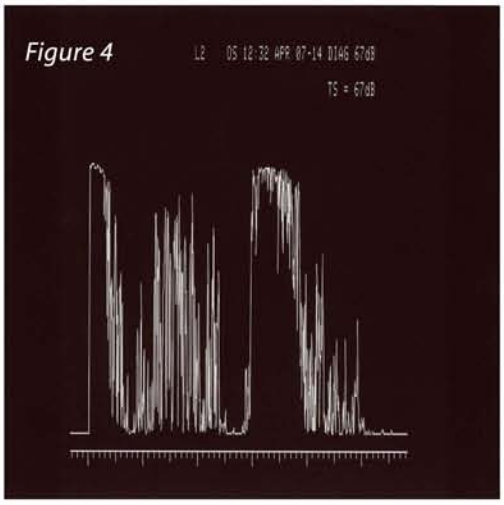
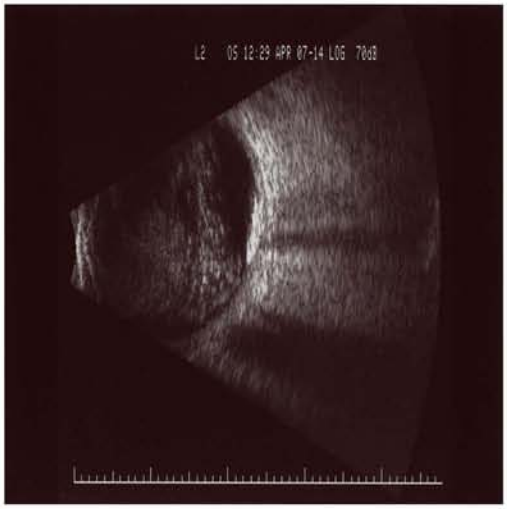




*Figure 4*



white lesions that are usually found in older white individuals, and are the result of calcium deposition in the sclera and choroid[1]. They are most commonly located in the superotemporal mid-periphery along the arcades. These lesions are generally idiopathic, but rarely have been reported in patients with Gitelman and Bartter syndromes, autosomal-recessive kidney disorders of hypokalemic alkalosis and deposition of calcium salts in tissues1. Patients with sclerochoroidal calcifications are asymptomatic and these lesions are benign, although overlying choroidal neovascularization has rarely been reported[2]. They are generally stable in size but can result in overlying chorioretinal atrophy over time[3].

As in our case, additional testing can be very useful to help confirm the diagnosis. On fluorescein angiography, the lesions show early hypofluorescence and late staining. Ultrasonography of the lesions classically shows dense hyperechogenicity with orbital shadowing.

It is important for the clinician to be familiar with this relatively rare but benign condition given its excellent overall visual prognosis. If similar lesions are found in a younger individual, however, further work-up for systemic conditions involving abnormal calcium or magnesium metabolism should be considered. Our patient was reassured about the benign nature of these lesions, and he will be monitored with routine follow-up in the future.

**REFERENCES:**


1. Cooke CA, McAvoy C, Best R. Idiopathic sclerochoroidal calcification. Br J Ophthalmol. Feb 2003;87(2):245-46

2. Honavar SG, Shields CL, Demirci H, Shields JA. Sclerochoroidal calcification: clinical manifestations and systemic associations. Arch Opthalmol. 2001 June;119(6):833-40

3. Hara K, Tanito M, Kodama T, Ohira A. A case of chorioretinal atrophy due to sclerochoroidal calcification. Acta Ophthalmol. 2013 Mar; 91(2):e167-8.