

Solitary Idiopathic Choroiditis Masquerading as Choroidal Metastasis from Prostate Cancer

BY CHRIS J. LIN, BA; SRUTHI AREPALLI, BA; AND CAROL L. SHIELDS, MD

Solitary idiopathic choroiditis (SIC) manifests as a yellow-white mass deep to the retina, often discovered on routine examination in an asymptomatic patient. This condition is characteristically inactive, with overlying retinal pigment epithelial (RPE) mottling or atrophy and no subretinal fluid. Occasionally, activity is found with features of subretinal fluid, possible exudation, and overlying retinal edema. This presumed inflammatory condition can result from infection or focal inflammation, or can remain idiopathic without known cause. In fact, in most cases, the etiology remains unknown; hence the term *idiopathic*. In an analysis of 60 cases of SIC, the underlying specific cause was unknown despite extensive systemic evaluation.¹ SIC is an amelanotic tumor and thus can be mistaken for simulating conditions such as choroidal nevus, melanoma, and metastasis. In this case, we describe a patient with known prostate cancer who was suspected to have a solitary metastasis to the eye, but examination and imaging suggested SIC.

CASE DESCRIPTION

A 78-year-old white man with a history of prostate carcinoma 3 years previous was found on routine examination to have an amelanotic mass in the left eye (OS), suspected to represent choroidal metastasis. The prostate carcinoma had been treated with brachytherapy and was currently in remission. There was no previous metastatic disease, but serum prostate specific antigen (PSA) was elevated above 10 ng/mL, indicating possible reactivation of the cancer.

Upon referral for treatment of the presumed metastasis, the asymptomatic patient had best corrected visual acuity

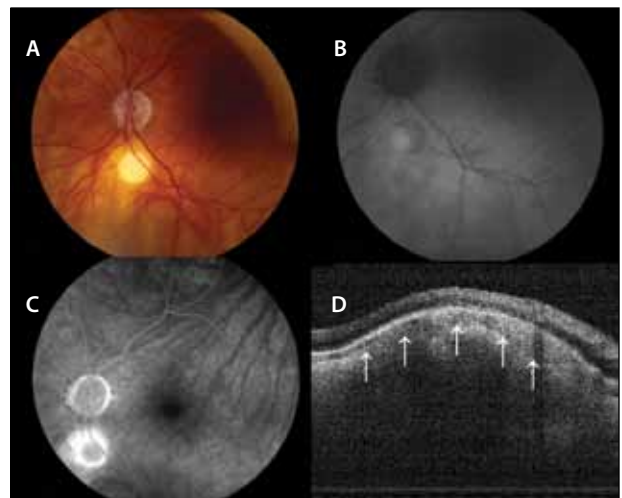


Figure 1. A 78-year-old man with prostate carcinoma developed a choroidal mass originally suspicious for metastasis. After referral, fundus examination revealed an amelanotic mass with circumscribed retinal pigment epithelial (RPE) loss centrally (A). Fundus autofluorescence displayed a slight hyperfluorescence, likely representing scleral fluorescence as the RPE was absent (B). Fluorescein angiography exhibited scleral staining in the late phase (C). Enhanced depth imaging optical coherence tomography showed a smooth dome-shaped mass arising from the sclera and compressing the choroid inward, typical of SIC. Arrows depict the choroidal-scleral interface (D).

(BCVA) of 20/20 bilaterally (OU). The anterior segment was unremarkable OU. The right fundus was normal. Examination of the left fundus disclosed a yellow-white dome-shaped mass with overlying circumscribed RPE atro-

phy, located approximately 0.5 mm inferior to the optic disc. The mass had subtle margins and measured 2.5 mm in basal diameter and 1.6 mm in thickness (Figure 1A). An overlying RPE atrophy of 1.5 mm diameter exposed bare underlying sclera without visible choroidal tissue. Fundus autofluorescence showed slight central hyperfluorescence, possibly representing scleral tissue as the RPE was absent (Figure 1B). Fluorescein angiography demonstrated central hypofluorescence of the mass in the arterial and venous phase, followed by staining during the recirculation phase, suggestive of scleral staining (Figure 1C). Enhanced-depth imaging optical coherence tomography (EDI-OCT) depicted a dome-shaped mass originating in the sclera, with compression of the overlying choroidal tissue and with no subretinal fluid. These features were consistent with inactive SIC rather than with choroidal metastasis.³ Observation was advised.

DISCUSSION

SIC is an uncommon condition with typical features of a yellow-white asymptomatic mass, often in the peripapillary region. In an analysis of 60 patients with SIC, symptoms included blurred vision (38%), floaters (15%), mild pain (5%), metamorphopsia (3%), scotoma (3%), and no symptoms were reported in 35%.¹ In that series, the suspected diagnosis before referral was choroiditis (48%), choroidal metastasis (7%), choroidal melanoma (7%), retinoblastoma (4%), no diagnosis (20%), and others (14%).¹ In this case, our patient with known prostate cancer was suspected to have choroidal metastasis. It is important to establish a correct diagnosis of SIC and not metastasis in order to prevent unnecessary systemic or local therapy.

SIC most often appears as an inactive lesion (68%) and remains stable. Active lesions are considered inflammatory or infectious and require antibiotics and/or corticosteroid therapy. The most common etiologies found on systemic evaluation to develop solitary choroiditis include sarcoidosis, tuberculosis, toxocariasis, cat-scratch disease, histoplasmosis, toxoplasmosis, nocardiosis, abscess, pneumocystosis, blastomycosis, coccidiomycosis, aspergillosis, herpes simplex, herpes zoster, bartonellosis, syphilis, and Lyme disease.¹

In our case, EDI-OCT was invaluable for establishing the diagnosis. The mass appeared as a smooth dome-shaped lesion arising within the sclera and demonstrating overlying choroidal compression. This provided evidence that this tumor was not a choroidal mass as one would find with metastasis. Fung and associates² described 10 consecutive cases of SIC using EDI-OCT and found all lesions were dome-shaped with smooth surface and gentle expansion of the sclera. In 2 cases in that series, a more abruptly elevated scleral mass was noted, with a "volcanic" configuration.² Furthermore, all lesions displayed

In this case, EDI-OCT was instrumental in differentiating SIC from other simulating conditions.

thinning of the overlying choroid with a mean thickness of 32 μm and range of 0 μm to 52 μm .² The authors commented that this condition appeared to be of scleral origin in each case and could represent nodular scleral fibrosis. They further speculated that this "choroiditis" might actually represent focal scleritis or could represent resolved choroiditis with unresolved residual scleral fibrosis.

SUMMARY

This patient with prostate cancer, referred for possible choroidal metastasis, was found to have a benign condition, namely SIC. EDI-OCT showed characteristic features of this condition and was instrumental in differentiating SIC from other simulating conditions.

Support provided by Eye Tumor Research Foundation, Philadelphia, PA (CLS). The funders had no role in the design and conduct of the study, in the collection, analysis and interpretation of the data, or in the preparation, review or approval of the manuscript. Carol L. Shields, MD has had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. ■

Chris Lin, BA, is a second-year medical student at the Texas A&M College of Medicine in Temple, TX.

Sruthi Arepalli, BA, is a fourth-year medical student at the George Washington University of Medicine in Washington, DC.

Carol L. Shields, MD, is the Co-Director of the Ocular Oncology Service, Wills Eye Institute, Thomas Jefferson University. She is a Retina Today Editorial Board member. Dr. Shields may be reached at +1 215 928 3105; fax: +1 215 928 1140; or carol.shields@shieldsoncology.com.

No conflicting relationship exists for any author.



1. Shields JA, Shields CL, Demirci H, et al. Solitary idiopathic choroiditis: The Richard B. Weaver Lecture. *Arch Ophthalmol*. 2002;120:311-319.

2. Fung AT, Kaliki S, Shields CL, et al. Solitary idiopathic choroiditis: findings on enhanced depth imaging optical coherence tomography in 10 cases. *Ophthalmology*. 2013;120:852-858.

3. Say EA, Shah SU, Ferenczy S, Shields CL. Optical coherence tomography of retinal and choroidal tumors. *J Ophthalmol*. 2012;2012:385058. Epub 2011 Jun 8.