

10-1-2022

## Suspicious Retinal Lesion With a Distinctive Appearance

G Brandon Caudill  
*Thomas Jefferson University*

Mrittika Sen  
*Thomas Jefferson University*

Carol L. Shields  
*Thomas Jefferson University*

Follow this and additional works at: <https://jdc.jefferson.edu/willsfp>



Part of the [Ophthalmology Commons](#)

[Let us know how access to this document benefits you](#)

---

### Recommended Citation

Caudill, G Brandon; Sen, Mrittika; and Shields, Carol L., "Suspicious Retinal Lesion With a Distinctive Appearance" (2022). *Wills Eye Hospital Papers*. Paper 166.  
<https://jdc.jefferson.edu/willsfp/166>

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's [Center for Teaching and Learning \(CTL\)](#). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Wills Eye Hospital Papers by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: [JeffersonDigitalCommons@jefferson.edu](mailto:JeffersonDigitalCommons@jefferson.edu).

## Suspicious retinal lesion with a distinctive appearance

### Case

A 47-year-old asymptomatic female presented for routine examination. Visual acuity was 20/20 in both eyes (OU). On slit-lamp examination, she was found to have normal anterior segment OU. Fundus examination of the right eye (OD) revealed an amelanotic, noncalcified, intraretinal lesion measuring 5 × 5 mm in basal dimensions [Fig. 1a] with a thickness of 2.2 mm on ultrasonography. Fundus examination of the left eye (OS) showed flat retina with intact macula. The patient had no history of systemic disease. Her family history was insignificant.

### What is your next step?

- A. Fine needle aspiration biopsy (FNAB)
- B. Transpupillary thermotherapy (TTT)
- C. Observation
- D. Application of radioactive plaque

### Findings

Optical coherence tomography (OCT) OD demonstrated a retinal mass within the nerve fiber layer with a “moth-eaten” appearance [Fig. 1b]. This distinct OCT feature was the result of numerous intralesional cavities. No treatment was rendered at this time, and the mass was observed with annual follow-up. The patient has remained asymptomatic, and the tumor has remained stable with no change or growth over 7 years.

**Diagnosis:** Retinal astrocytic hamartoma (RAH)

**Correct answer:** C, Observation

### Discussion

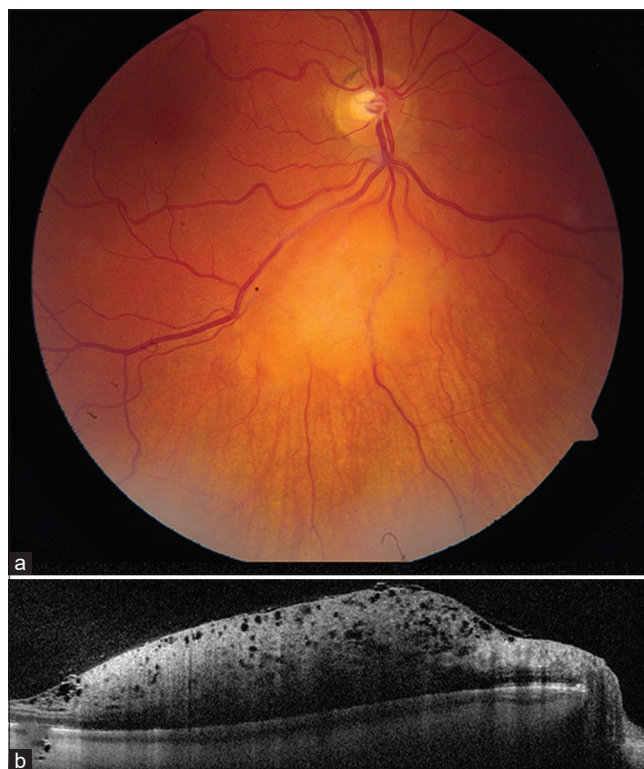
RAH is a congenital benign tumor composed of well-differentiated astrocytes.<sup>[1,2]</sup> The mean age at presentation was reported as 32 years.<sup>[1]</sup> RAH presents with a variety of clinical features on ophthalmoscopy. This lesion can be calcified, noncalcified, or both.<sup>[1,2]</sup> Differential diagnosis includes retinoblastoma, retinocytoma/retinoma, retinal astrocytoma, granuloma, and pseudoneoplastic gliosis.<sup>[2,3]</sup> Diagnosis is aided by retinal OCT, with >90% showing the characteristic moth-eaten appearance and 100% arising within the nerve fiber layer.<sup>[1]</sup> RAH is often associated with tuberous sclerosis complex (TSC) and is considered a diagnostic marker for TSC.<sup>[1,2,4]</sup> As such, discovery of RAH on routine exam may warrant further systemic workup.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

### Financial support and sponsorship

Support was provided in part by the 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, and in the preparation, review, or approval of the manuscript. Carol L. Shields, M.D. has had full access to all the data in the study and takes responsibility for the integrity of the data.



**Figure 1:** (a) Fundus photograph OD showing an amelanotic, noncalcified, intraretinal lesion in the inferior quadrant. (b) Retinal OCT of the intraretinal lesion showing numerous intralesional cavities contributing to a distinct “moth-eaten” appearance. OCT = optical coherence tomography

### Conflicts of interest

There are no conflicts of interest.

### References

- Shields CL, Say EAT, Fuller T, Arora S, Samara WA, Shields JA. Retinal astrocytic hamartoma arises in nerve fiber layer and shows “Moth-Eaten” Optically empty spaces on optical coherence tomography. *Ophthalmology* 2016;123:1809-16.
- Shields JA, Shields CL. Glial tumors of the retina. The 2009 King Khaled Memorial Lecture. *Saudi J Ophthalmol* 2009;23:197-201.
- Shields CL, Benevides R, Materin MA, Shields JA. Optical coherence tomography of retinal astrocytic hamartoma in 15 cases. *Ophthalmology* 2006;113:1553-7.
- Pichi F, Massaro D, Serafino M, Carrai P, Giuliani GP, Shields CL, et al. RETINAL ASTROCYTIC HAMARTOMA: Optical coherence tomography classification and correlation with tuberous sclerosis complex. *Retina* 2016;36:1199-208.

**G Brandon Caudill, Mrityika Sen, Carol L Shields**

Ocular Oncology Service, Wills Eye Hospital,  
Thomas Jefferson University, Philadelphia, PA, USA

**Correspondence to:** Dr. Carol L Shields,  
Ocular Oncology Service, 840 Walnut Street, Suite 1440,  
Philadelphia, PA - 19107, USA.  
E-mail: carolshields@gmail.com

Access this article online	
<b>Quick Response Code:</b>	<b>Website:</b> www.ij.o.in
	<b>DOI:</b> 10.4103/ij.o.IJO_1663_22

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**For reprints contact:** WKHLRPMedknow\_reprints@wolterskluwer.com

**Cite this article as:** Caudill GB, Sen M, Shields CL. Suspicious retinal lesion with a distinctive appearance. *Indian J Ophthalmol* 2022;70:3454.