American Journal of Ophthalmology Case Reports 25 (2022) 101275

Contents lists available at ScienceDirect

American Journal of Ophthalmology Case Reports

journal homepage: www.ajocasereports.com/

Clinical image: Rare photographic documentation of uveal melanoma progression

Colin Bacorn, Esther Kim, Lily Koo Lin *

Department of Ophthalmology and Vision Science, University of California Davis Health, Sacramento, CA, USA

ARTICLE INFO

Keywords:
Uveal melanoma
Neovascular glaucoma
Hypermature cataract
Orbital extension
Intraocular tumor
Metastases

ABSTRACT

Purpose: To present clinical images of a patient with neovascular glaucoma and hypermature cataract masking orbital extension of a uveal melanoma. Observations: A 67-year-old female was referred for neovascular glaucoma and found to have an intraocular tumor with massive orbital extension. She refused surgery and returned one year later with progression of the tumor with metastases and expired seven months later. Conclusions and importance: Unexplained glaucoma and cataract should be investigated for harboring underlying intraocular tumors to prevent delays in diagnosis. Providers also should obtain greater understanding of psychosocial and socioeconomic barriers to healthcare.

1. Case report

A 67-year-old female was referred for surgical management of neovascular glaucoma with a 2-year history of right eye vision loss. Examination revealed count fingers vision, iris neovascularization, hypermature cataract (Fig. 1A), an intraocular pressure of 63 mmHg, and 4 mm of proptosis (Fig. 1B). The finding of progressive proptosis was overlooked by several outside providers previously. Magnetic resonance imaging (Fig. 2) was performed and demonstrated an orbital mass involving the posterior globe and optic nerve. Despite discussing the possibility of melanoma, the patient refused surgery and any type of systemic workup due to socioeconomic reasons and fear. One year later the patient returned due to discomfort from her significant proptosis (Fig. 3). She underwent palliative exenteration. Histopathology confirmed uveal melanoma (Fig. 4) with systemic workup revealing pulmonary and liver metastases. She expired within seven months.

2. Discussion

Although the majority of uveal melanomas are identified when confined within the globe, 5.8% (123/2135) can be found with extrascleral extension.[1] Massive orbital extension of uveal melanoma is extremely rare: of the 123 patients, 5 (0.2%) had advanced orbital extension at the time of diagnosis.[1] Unrecognized intraocular tumors continue to be missed by clinicians.[1,2] Although intraocular tumors are an established cause of glaucoma, cataract, and retinal detachment, inadvertent surgery continues to be done on eyes with unrecognized intraocular tumors which can lead to extrascleral extension and orbital spread.[1,2] This emphasizes that intraocular melanoma continues to be undetected and the delay in diagnosis can lead to dire consequences. Prognosis of uveal melanoma with extrascleral extension is poor and correlated with metastatic death.[1,3] Exenteration, chemotherapy, and immunotherapy are ultimately often palliative.[1] The medical literature has shown psychosocial factors such as barriers to healthcare, financial resources, feelings of denial, fear and anxiety can contribute to delays in seeking care, however, the exact factors have not been elucidated due to a lack of reliable tools to quantify behavior. Providers and further studies should attempt to understand socioeconomic and psychosocial barriers to prevent malignancies such as uveal melanoma from reaching a poor prognostic stage.

3. Conclusion

Uveal melanoma is the most common primary intraocular malignancy in adults and patients can be asymptomatic for a long period. Uveal melanoma can be missed or misdiagnosed.[1–3] These clinical images serve as a reminder to ophthalmologists to always consider an intraocular tumor on the differential diagnosis of unexplained glaucoma and cataract. When there is a poor fundoscopic view, imaging modalities (ultrasound, magnetic resonance imaging, computed tomography) should be considered to prevent extraocular extension by inadvertent surgery or a significantly delayed or missed diagnosis of an occult tumor.

* Corresponding author. University of California Davis Eye Center, 4860 Y Street, Suite 2400, Sacramento, CA, 95817, USA.
E-mail address: lklin@ucdavis.edu (L.K. Lin).

https://doi.org/10.1016/j.ajoc.2022.101275
Received 1 July 2020; Received in revised form 8 June 2021; Accepted 13 January 2022
Available online 3 February 2022

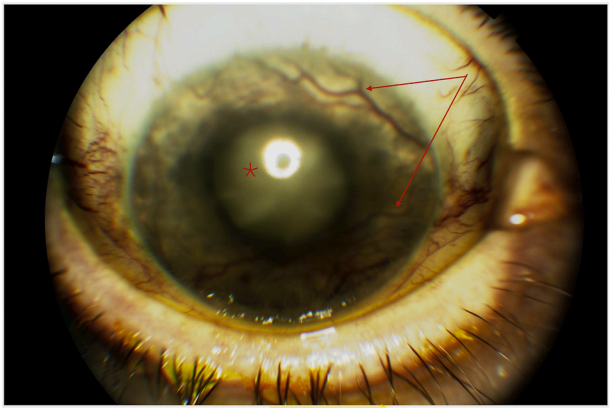

Fig. 1A. Slit lamp photograph demonstrating dense cataract (red star) and iris neovascularization (red arrows). (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

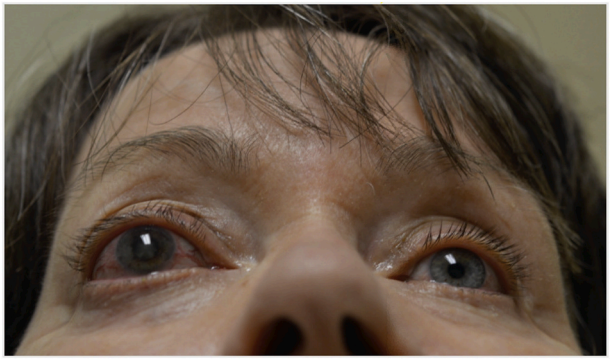

Fig. 1B. External photograph in ant's eye view to demonstrate right eye proptosis.

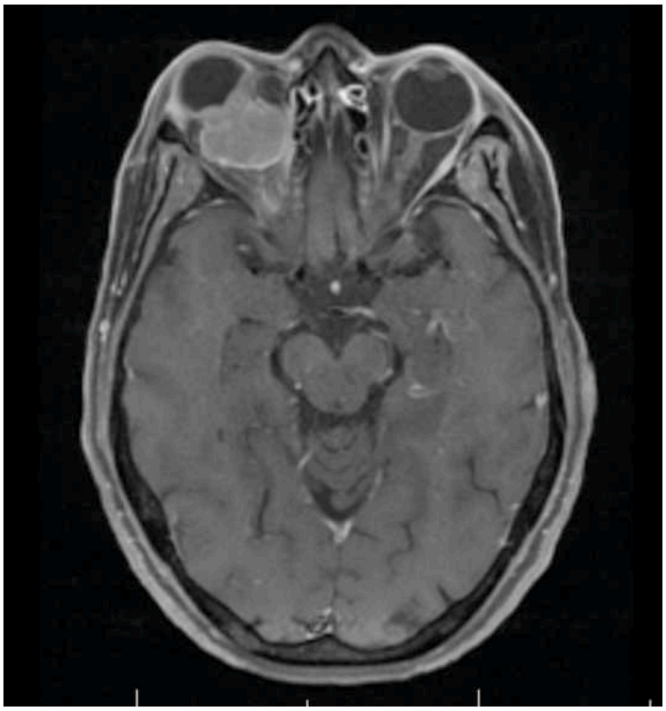

Fig. 2. T1-weighted axial fat-saturated post-gadolinium magnetic resonance image of a homogenous, enhancing mass involving the right globe and orbit.

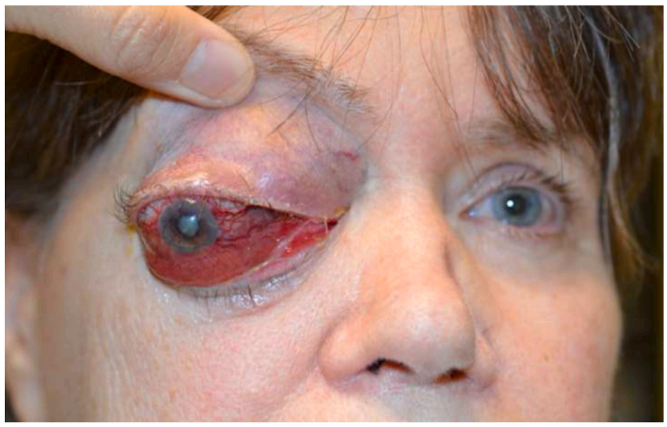

Fig. 3. External photograph of the patient 1 year later with extreme orbital progression.

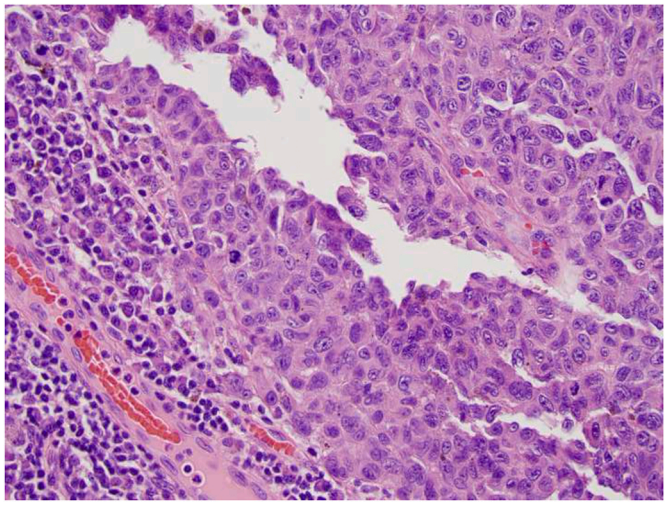

Fig. 4. Epitheliod cells (200x, hematoxylin and eosin) with abundant cytoplasm and numerous mitotic figures.

Funding

No sources of funding or grant support.

Authorship

All listed authors attest that they meet ICMJE criteria. CB: Writing original draft. EK: Histology, review, and editing. LKL: Writing, review and editing.

Patient consent

Consent to publish the case report and images were obtained verbally and in writing prior to the patient's passing.

Conflicts of interest

Potential conflict of interest exists:
No conflict of interest exists.

Funding

No funding was received for this work.

Intellectual property

We confirm that we have given due consideration to the protection of intellectual property associated with this work and that there are no impediments to publication, including the timing of publication, with respect to intellectual property. In so doing we confirm that we have followed the regulations of our institutions concerning intellectual property.

Research ethics

We further confirm that any aspect of the work covered in this manuscript that has involved human patients has been conducted with the ethical approval of all relevant bodies and that such approvals are acknowledged within the manuscript.

IRB approval was obtained (required for studies and series of 3 or more cases)N/A.

Written consent to publish potentially identifying information, such as details or the case and photographs, was obtained from the patient(s) or their legal guardian(s).

Authorship

The International Committee of Medical Journal Editors (ICMJE) recommends that authorship be based on the following four criteria:

1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
2. Drafting the work or revising it critically for important intellectual content; AND
3. Final approval of the version to be published; AND
4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Contact with the editorial office

Lily Koo Lin,ORCID.

Funding

No financial support provided.

Conflicts of interest

No conflicting interests for any author.

Declaration of competing interest

The authors report no conflicts of interest or financial disclosures.

Acknowledgments

None.

References

1. Shields JA. Shields CL Massive orbital extension of posterior uveal melanomas. *Ophthalmic Plast Reconstr Surg.* 1991;7:238–251.
2. Kaliki S, Eagle RC, Grossniklaus HE, Campbell J, Shields CL, Shields JA. Inadvertent implantation of aqueous tube shunts in glaucomatous eyes with unrecognized intraocular neoplasms: report of 5 cases. *JAMA Ophthalmol.* 2013;131:925–927.
3. Lemaitre S, Zmuda M, Jacomet PV, et al. Small choroidal melanoma revealed by a large extrascleral extension. *Ocul Oncol Pathol.* 2017;3:240–246.