American Journal of Ophthalmology Case Reports 18 (2020) 100641

Contents lists available at ScienceDirect

American Journal of Ophthalmology Case Reports

journal homepage: www.elsevier.com/locate/ajoc

Conjunctival melanoma in an African American man

Daniel Jungmyung Oh (M.D.)*, Levi Ndiukwu Kanu (M.D.)

University of Illinois at Chicago, Department of Ophthalmology and Visual Sciences, Chicago, IL, USA

ARTICLE INFO

Keywords:
Conjunctiva
Conjunctival melanoma
Melanoma
Racial melanosis

1. Case report

A 67-year-old African American male presented to the ophthalmology clinic for routine evaluation. He noted no significant ocular or visual complaints. On examination, while the right eye was grossly unremarkable (Fig. 1A), the left eye demonstrated diffuse, irregular pigmentation (Fig. 1B and C) with a nodular, pigmented lesion on the plica semiluminaris (Fig. 1D).

Conjunctival melanoma was suspected and the patient underwent excisional biopsy with amniotic membrane graft. During the removal of the tumor, wide local excision using the "no touch" technique was used followed by freeze-thaw cryotherapy.[1] The amniotic membrane graft was used to cover the entire bulbar conjunctival surface and was fixed into position with fibrin sealant glue. Sentinel lymph node mapping revealed a suspicious node in the left superficial parotid gland, and which was biopsied. The patient was placed on topical prednisolone acetate and moxifloxacin drops.

Histopathologic analysis of the excised conjunctival lesion revealed nests of atypical melanocytes within the conjunctival epithelium and invasion into the substantia propria. Tumor cells were immunohistochemically positive for Melan A, HMB 45, and MITF, all consistent with the diagnosis of melanoma. The parotid lymph node revealed no histopathologic signs concerning for malignancy. Our patient had extensive evaluation and imaging with no evidence of metastasis to the liver, lungs, brain, or skin. The patient has been without evidence of recurrence at the latest follow-up, 18 months after excision.

2. Discussion

Conjunctival melanomas may arise de novo or may develop from pre-existing melanocytic lesions, such as primary acquired melanosis or nevi. As with cutaneous melanoma, conjunctival melanoma is significantly more prevalent in White patients, although it may still occur in darker pigmented individuals. Conjunctival melanomas in Black individuals are extremely rare, without a defined prevalence, and have only been reported in case reports.[2,3] Clinical features portending worse prognosis include greater tumor thickness, scleral invasion, and location on the caruncle, forniceal, or palpebral conjunctiva.[4,5] Ultrasonography and magnetic resonance imaging may be useful in evaluating for direct extension and metastasis. Excisional biopsy may be considered for suspicious lesions, and may be useful to confirm the diagnosis as well as to define extent and evaluate for metastasis. In one case series of patients with conjunctival melanoma, local recurrence was detected in 26% at 5 years' follow-up, 51% at 10 years' follow-up and metastasis was detected in 16% of patients by 5 years' follow-up, 26% by 10 years' follow-up. For patients with known metastasis, death occurred in 7% of patients by 5 years' follow-up.[6]

While the conjunctiva in blacks does not appear completely pigmented, racial conjunctival melanosis is present in 92.5% of blacks.[7] The lower incidence rate of melanoma among black patients is attributable to the protective effects of melanin in blacks, which can filter out twice as much ultraviolet-B radiation as in whites.[7] Tumor registry data has shown that ocular melanomas occur 8 times more frequently in whites than blacks although the data does not distinguish conjunctival melanomas from other melanomas which compromise of about 2% of ocular melanomas.[7] In one consecutive case series of 42 cases of conjunctival melanomas, only 1 occurred in a black patient.[7] With regards to management, one case report argues for the use of wide excision and adjuvant cryotherapy, but then followed by topical mitomycin C.[8] In our case, despite extensive circumferential involvement of the bulbar conjunctiva in our patient, the post-operative outcome after 18 months using the mainstay of treatment without topical alkylating agents can

* Corresponding author. 1855 West Taylor Street, Chicago, IL, 60612, USA.
E-mail addresses: doh22@uic.edu (D.J. Oh), europacar@gmail.com (L.N. Kanu).

https://doi.org/10.1016/j.ajoc.2020.100641
Received 7 November 2018; Received in revised form 25 February 2020; Accepted 25 February 2020
Available online 26 February 2020

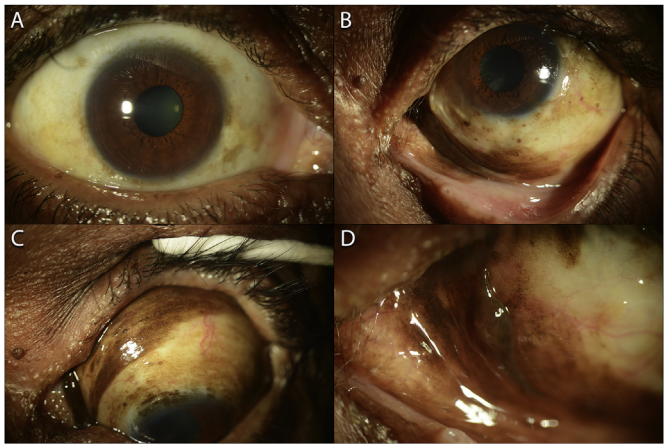

Fig. 1. Slit lamp photograph of the right eye (A). Slit lamp photographs of the left eye showing an inferonasal band of pigmentation (B), a large circumferential area of pigmentation on the superior bulbar conjunctiva (C), and an elevated nodular lesion in the plica semilunaris (D).

be positive.

3. Conclusion

Conjunctival melanomas should be considered in cases pigmented lesions found even in darkly-pigmented individuals. While rarer in these populations, conjunctival melanomas may be mistaken for racial melanosis and a high index of suspicion should be had for lesions with suspicious features including heterogeneous pigmentation, elevation, and asymmetric presentation.

Funding

National Eye Institute P30 EY001792.

Research to Prevent Blindness (RPB) departmental grant.

Authorship

All authors attest that they meet the current ICJME criteria for Authorship.

Declaration of competing interest

The following authors have no financial disclosures: DO, LK.

Acknowledgements

None.

References

1. Oellers P, Karp CL. Management of pigmented conjunctival lesions. *Ocul Surf.* 2012;10(4):251–263.
2. Singh AD, Campos OE, Rhatigan RM, Schulman JA, Misra RP. Conjunctival melanoma in the black population. *Surv Ophthalmol.* 1998;43(2):127–133.
3. Crawford JB. Conjunctival melanomas: prognostic factors a review and an analysis of a series. *Trans Am Ophthalmol Soc.* 1980;78:467–502.
4. Wong JR, Nanji AA, Galor A, Karp CL. Management of conjunctival malignant melanoma: a review and update. *Expet Rev Ophthalmol.* 2014;9(3):185–204. https://doi.org/10.1586/17469899.2014.921119.
5. Jakobiec FA. The ultrastructure of conjunctival melanocytic tumors. *Trans Am Ophthalmol Soc.* 1984;82:599–752.
6. Shields CL. Conjunctival melanoma: risk factors for recurrence, exenteration, metastasis, and death in 150 consecutive patients. *Trans Am Ophthalmol Soc.* 2000;98:471–492.
7. Singh AD, Campos OE, Rhatigan RM, Schulman JA, Misra RP. Conjunctival melanoma in the black population. *Surv Ophthalmol.* 1998;43(2):127–133.
8. Colby KA, Nagel DS. Conjunctival melanoma arising from diffuse primary acquired melanosis in a young black woman. *Cornea.* 2005;24(3):352–355.