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Isolated conjunctival cavernous hemangioma: a rare case report

Ali Tavallali[1], Zeinab Mousavi[3] and Leila Rezaei[2*]

Abstract

Vascular conjunctival tumors are uncommon, usually benign lesions. Here, we report a 65-year-old male who presented with a nasal interpalpebral bulbar firm, oval, and dark-brown and non-mobile conjunctival mass. The systemic and ocular examinations including fundoscopy and gonioscopy were within normal limits. With a diagnosis of conjunctival malignant melanoma (CMM), the patient underwent excisional biopsy, partial sclerectomy, and cryotherapy. Microscopic examination revealed dilated vascular channels filled by red blood cells, separated by fibrous interstitium and no sign of malignancy. Therefore, a diagnosis of conjunctival cavernous hemangioma was made. Our case demonstrates that the conjunctival cavernous hemangioma can mimic malignant conjunctival lesions as well as extrascleral extension of uveal melanoma or uveal prolapse due to scleral necrosis.

Keywords Eye oncology, Conjunctival tumors, Conjunctival cavernous hemangioma, CMM

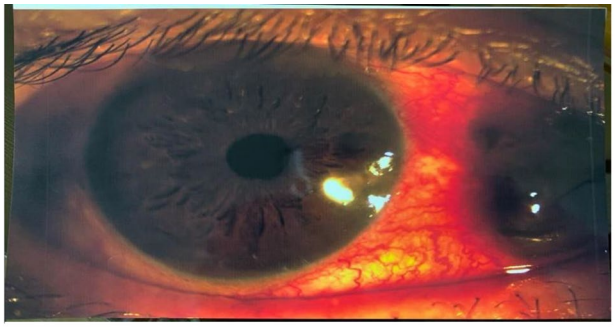
Introduction

Conjunctival malignant melanoma (CMM), although rare, is a malignant tumor that can spread systemically throughout the body and needs immediate treatment [1]. On the other hand, vascular conjunctival tumors are uncommon, yet usually benign lesions with cavernous conjunctival tumors being extremely rare [2]. Here, we report a patient with a conjunctival dome-shaped lesion mimicking malignant melanoma that was histopathologically proven to be a benign vascular lesion. We report this case with the written informed consent of the index case, ethical approval of our research center, and adherence to Helsinki tenets.

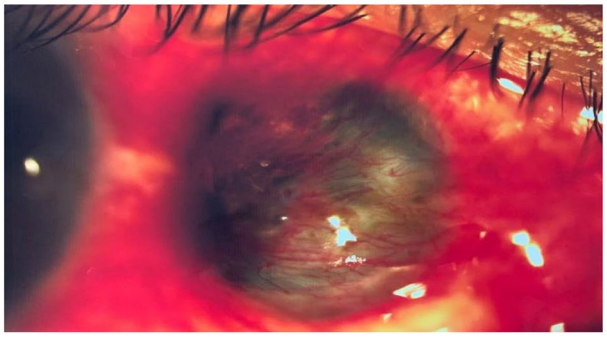
*Correspondence:
Leila Rezaei
leyla_rezaei60@yahoo.com
[1]Tavallali Eye Infirmary, Shiraz, Iran
[2]Clinical Research Development Center, Imam Khomeini and Mohammad Kermanshahi and Farabi Hospitals, Kermanshah University of Medical Sciences, Kermanshah, Iran
[3]Student Research Committee, Kermanshah University of Medical Sciences, Kermanshah, Iran

Case Presentation

A 65-years-old male was referred to our clinic with a nasal interpalpebral bulbar conjunctival mass in the right eye. The patient complained of red-eye for three weeks with no epiphora, pain, or photophobia. On examination, both eyes had the best-corrected visual acuity of 20/20. We identified a firm, oval, dark brown, vascular, dome-shaped, non-mobile and lobulated subconjunctival mass in the right eye measuring 7×6×3.2 mm (Fig. 1). Dilated fundoscopy and gonioscopic examinations were normal, without any evidence of intraocular extension. Systemic examinations were also normal. Ultrasound biomicroscopy (UBM) showed a subconjunctival mass with intact sclera except for the temporal side where a posterior shadowing was seen suspicious for an intraocular extension. (Fig. 2) However, no clear intraocular extension was noted on orbital magnetic resonance imaging (MRI). Based on these findings a clinical diagnosis of presumed conjunctival malignant melanoma was made and the patient underwent excisional biopsy with no-touch technique and 3 mm margin, partial sclerectomy, and



A.



B.

Fig. 1 The lesion: an oval, dark brown, vascular, dome-shaped, non-mobile, and lobulated subconjunctival mass in the right eye measuring 7×6×3.2 mm (**A** & **B**)

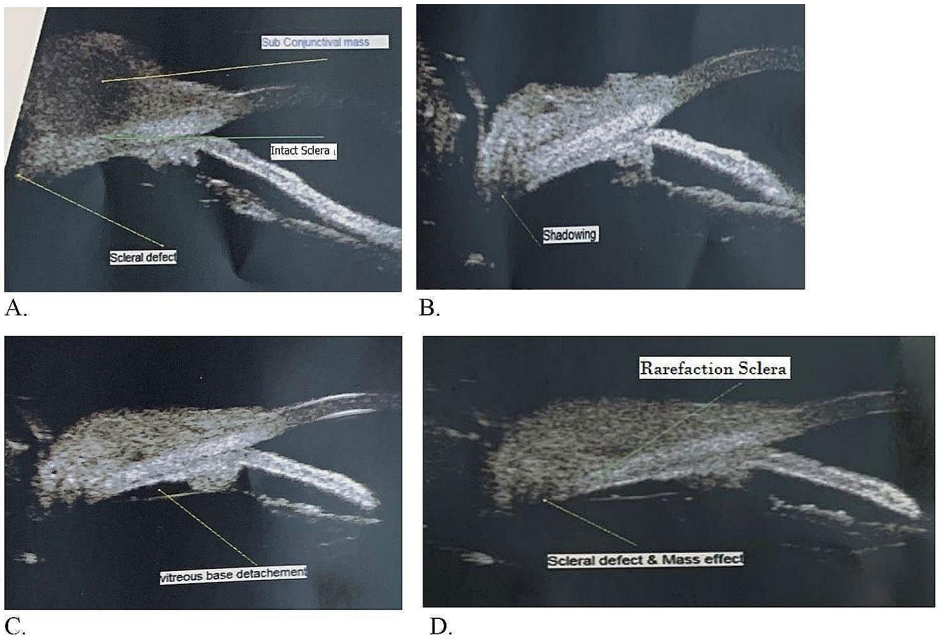
cryotherapy (AT). After tumor excision (Fig. 3) no intraocular extension was noted intraoperatively.

Histopathology and microscopic examination with hematoxylin and eosin staining showed large vascular channels lined by endothelial cells and filled with red blood cells separated by fibrous interstitium (Fig. 4). No sign of malignancy or necrosis was seen. Therefore a diagnosis of the conjunctival cavernous hemangioma was made. The patient showed no sign of recurrence after six months of follow-up.

Discussion/conclusion

The presented case is unusual first in that based on the appearance of the lesion in the interpalpebral conjunctiva, slit-lamp examination, and UBM, the most probable differential diagnosis in an elderly man was a conjunctival malignant melanoma and the patient was treated as one. Second that the histopathologic evaluation revealed a diagnosis of cavernous hemangioma, a benign lesion, although did not seem like one. Lastly, the lesion first appeared 3 weeks before the presentation, although there is a possibility that the lesion was present but small enough to be missed by the patient.

Vascular tumors of the conjunctiva are rare entities, with the most common being lymphangiomas and pyogenic granuloma and one of the rare ones being cavernous hemangioma [2]. Conjunctival cavernous hemangiomas can appear at any age and have a multiloculated appearance sometimes associated with other vascular syndromes like Sturge–Weber syndrome [2]. Hemangiomas are true non-reactive proliferative neoplasms based on an international study of vascular tumors and conjunctival hemangioma is a rare entity comprising about 4% of nonmelanocytic tumors of the conjunctiva [3].



A. B. C. D.

Fig. 2 Ultra-biomicroscopy of the patient showing the homogenous mass with shadowing suspicious of intraocular extension (**A**, **B**, **C** & **D**)

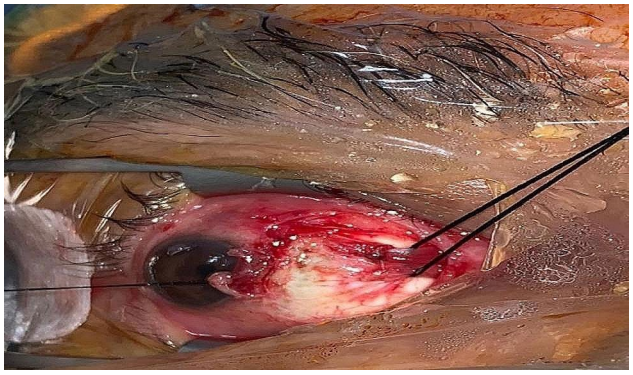
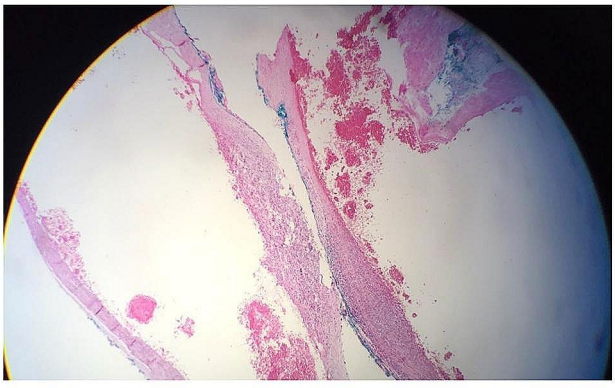
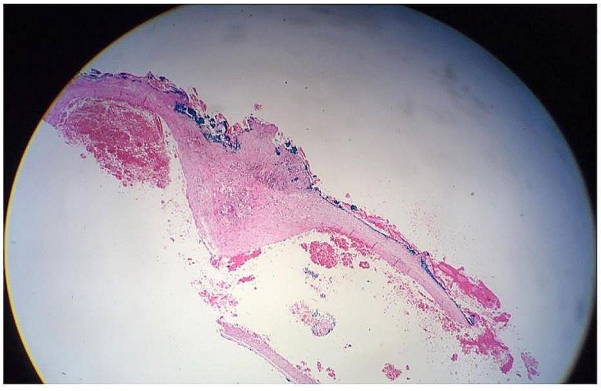


Fig. 3 Perioperative view of the surgical field showing intact sclera



A.



B.

Fig. 4 Histopathology showing large vascular channels filled by red blood cells separated by fibrous interstitium (Hematoxylin and eosin. 40 ×) (**A**&**B**).

Cavernous conjunctival hemangiomas have been reported in patients from 17 to 76 years old of age, with no age, sex, and race predilection [4]. The main complaint of patients is the cosmetic appearance and they can either be followed or an excisional biopsy can be done with good results [4] as our patient.

The initial diagnosis for our patient was malignant conjunctival melanoma, a malignant tumor, as opposed to the benign conjunctival cavernous hemangioma, which can be easily treated without systemic dissemination and was ultimately confirmed as the final diagnosis. It is important to think of conjunctival cavernous hemangioma as a differential diagnosis of conjunctival malignant melanoma. This may reduce the patient's stress as well as change the surgical approach for treatment.

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Dr. Tavallai and Prof. Rezaei wrote the main manuscript text and Dr. Mousavi prepared figures and refrences and revised the case report. All authors reviewed and approved the manuscript.

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Data availability
No datasets were generated or analysed during the current study.

Declarations

Ethical approval
We report this case with the written informed consent of the index case, ethical approval of our research center, and adherence to Helsinki tenets.

Competing interests
The authors declare no competing interests.

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