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Case Report

Corneal Hemangioma. A Case Report

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Received: June 25, 2020; **Published:** August 30, 2021

Abstract

Introduction: Hemangioma is a benign vascular lesion with ocular locations such as the choroid, the conjunctiva and the episclera. The corneal location is rare, the corneal vascularization due to a hemangioma leads to its opacity and impairment of visual function.

Objective: To describe the clinical characteristics of corneal hemangioma, its diagnosis and complications.

Case Presentation: 59-year-old female patient who attended the consultation with corneal opacity in the right eye. The biomicroscopy of the anterior segment showed fan-shaped lower hemicorneal vascularization from H-5 to H-7 to the lower parapupillary sector, initially without visual impairment, it has continued to progress until covering the lower two thirds of the pupillary area, producing a decrease in visual acuity. Gonioscopy revealed increased corneal volume in the inferior sector with protrusion to the anterior chamber. It was evaluated by specialists in Angiology, Internal Medicine and Cardiology, ruling out the possibility of a systemic etiology, therefore a corneal hemangioma was diagnosed. She was treated with topical and systemic steroids, ocular hypotensives, and artificial tears. The nutritional vessels were cauterized in the operating room. He initially presented regression of the vascularization and after two months it had a recurrence. The patient is maintained with a follow-up in a specialized cornea and glaucoma consultation. She is awaiting photodynamic therapy with verteporfin (Visudyne; Novartis), which causes tumor destruction with minimal damage to adjacent structures.

Conclusion: Corneal hemangioma is a rare disease with a tendency to progression causing visual impairment without the possibility of corneal transplantation due to the high risk of graft rejection.

Keywords: *Hemangioma; Cornea; Corneal Angiogenesis*

Introduction

It is well known that the avascular character of the cornea is an important element for corneal transparency and therefore for achieving optimal visual quality.

Corneal angiogenesis or vascularization can be caused by different etiologies such as graft rejection, inflammatory diseases of the ocular surface, chemical burns, hypoxia related to the use of contact lenses, stromal ulceration, infectious keratitis, limbic cell insufficiency and congenital diseases [1,2].

Numerous publications report patients with ocular hemangiomas in different locations, including: eyelids, conjunctiva, iris, choroid, retina [3-6].

Corneal hemangioma is a rare disease that causes progressive visual impairment due to compromise of the visual axis. An exhaustive bibliographic review was carried out, only three publications of corneal vascular tumors were found [7-9].

The present case is reported in order to describe the clinical characteristics, its diagnosis and possible therapeutic options.

Presentation of the Case and Discussion

A 59-year-old female patient who is seen by the ophthalmic corneal specialty for presenting corneal opacity and progressive decrease in visual acuity in her right eye of 6 months of evolution. The ophthalmological examination revealed in the anterior slit lamp biomicroscopy, fan-shaped lower hemicorneal vascularization from H-5 to H-7 of the clock, to the lower parapupillary sector that has presented gradual progression until covering the lower two thirds of the pupillary area.

Figure 1: *Initial examination by anterior biomicroscopy (right eye).*

Initially without a great visual impairment, as the lesion has spread, it has produced a slow and progressive decrease in visual acuity. Best corrected visual acuity was 0.1.

Gonioscopy, revealed an increase in corneal volume in the inferior sector with protrusion to the anterior chamber, with angular narrowing of almost 90º.

Figure 2: *Initial examination by gonioscopy (right eye).*

It was evaluated by specialists in Angiology, Internal Medicine and Cardiology, ruling out the possibility of a systemic etiology.

Due to the clinical characteristics presented, the result of the diagnostic and the elimination of a systemic etiology, a corneal hemangioma was diagnosed, a neoplasm composed of hyperplastic and proliferative vascular endothelium [1,2,9].

Treatment regimens, that included topical and systemic steroids, ocular hypotensives, and artificial tears were indicated, and nutritional vessels were cauterized in the operating room. He initially presented regression of the vascularization and after two months it had a recurrence.

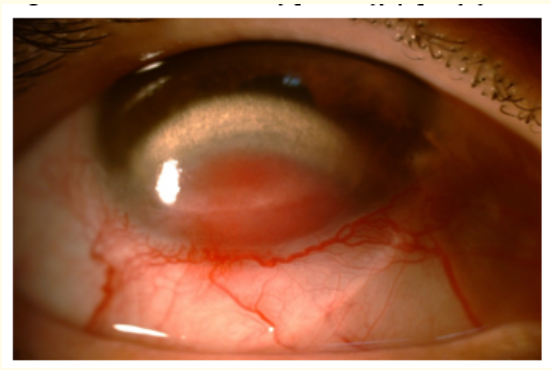

Figure 3: *Regression of the vessels one month after cauterization (right eye).*

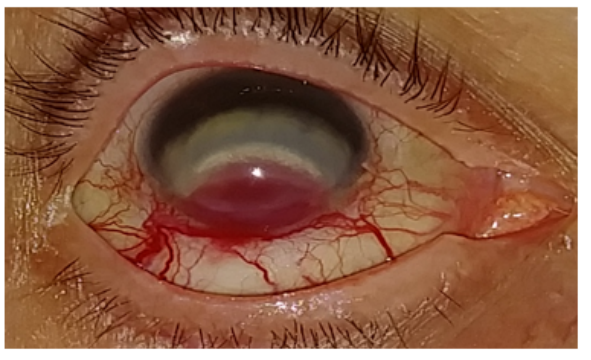

Figure 4: *Revascularization 3 months after cauterization (right eye).*

Photodynamic therapy with verteporfin (Visudyne; Novartis) is awaiting in the patient, which causes tumor destruction with minimal damage to adjacent structures [9,10].

She has had intraocular hypertension in her right eye, and she has been treated in the glaucoma clinic with ocular hypotensive eye drops and her intraocular pressure has been controlled.

The patient is maintained with a follow-up in a specialized cornea and glaucoma consultation.

Conclusion

Corneal hemangioma is an infrequent disease entity with a tendency to progression towards the entire cornea causing visual deterioration without the possibility of corneal transplantation due to the high risk of graft rejection due to the existing corneal vascularization.

Bibliography

1. Feizi S. "Corneal Angiogenesis: Etiologies, Complications, and Management". In book: Simionescu D, Simionescu A. Physiologic and Pathologic Angiogenesis - Signaling Mechanisms and Targeted Therapy. Shahid Beheshti University of Medical Scien: Intech Open (2017).

2. Mirabelli P. "Inhibitors of corneal inflammation and angiogenesis: Prospectives and challenges". Linköping University Electronic Press (2019).

3. Fleitman C. "Hemangioma capilar periocular en 2018: curso natural, indicaciones para el tratamiento y opciones terapéuticas". *Revista Mexicana de Oftalmología* 93.3 (2019): 142-148.

4. Torres JL., *et al*. "Angioma de iris: a propósito de un caso". *Revista Mexicana de Oftalmología* 91.4 (2017): 209-212.

5. Subirà O., *et al*. "Choroidal haemangioma and photodynamic therapy. Anatomical and functional response of patients with choroidal hemangioma treated with photodynamic therapy". *Archivos de la Sociedad Española de Oftalmología* 92.6 (2017): 257-264.

6. Kase S and Ishida S. "Photocoagulation for juxtapapillary retinal hemangioma in a young girl: A case report". *Molecular and Clinical Oncology* 10.5 (2019): 521-523.

7. Loewenstein A and Foster J. "Two unusual sclera-corneal neoplasms". *British Journal of Ophthalmology* 32.1 (1948): 1-12.

8. Knobloch R. "Scleral and corneal hemangioma". *Ceskoslovenska Oftalmologie* 7.5 (1951): 336-337.

9. Villalobos C., *et al*. "The Contest-Thea Trophy 2015-2016".

10. Yoon KC. "Photodynamic Therapy with Verteporfin for Corneal Neovascularization". *American Journal of Ophthalmology* 144.3 (2007): 390-395.

Volume 12 Issue 9 September 2021