

PTERYGIUM - a case report

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Abstract

A sporadic case of bilateral nasal and temporal pterygium on both eyes is presented in this abstract. After four operations on all pterigia with limbal conjunctival autotransplantation from superior and inferior part of the bulbar conjunctiva there was no recurrence of the pterygium. The postoperative vision was improved. Patohistological investigation of the pterygium samples confirmed the diagnosis.

Key words: pterygium, limbal conjunctival autotransplantation, histopathology of pterygium

Introduction

Pterygium is an active, invasive, infiltrative process, resulting of a local limbal failure on the cornea (1). Chronical limbal exposure to ultraviolet rays which breakdown concomitantly, causes damaging of the limbal barrier and a subsequent conjunctivization of the cornea, which explains the shape and formation of a primary pterygium (2). Pterygium is probably the most obvious ophthalmohelioses. From its triangular shape of fibro vascular tissue or wing shape, the pterygium derives its name. Usually the infiltrative process takes place in the medial cantus of the eye bulbus (3). It has been substantiated that the pterygium is located nasally in 74% of the cases examined in a study, 15% are located temporally and 11% of the pterigia are located both nasally and temporally (3). The incidence of pterygium in the white population is frequent and varies from 1% - 7,7% (3). Also, the incidence of pterigium is increased directly proportional to the equator: in Ecuador 82%, Tunis 14% (3,4).

Although the first observations had been done in 1918, the pathogenesis of pterygium and its etiology when now are not completely clear, which led to no satisfactory explanation. (1-3, 5,7). Nonetheless, the following causes have been confirmed:

1. Ultraviolet exposure and hot, sunny, climate
2. Micro trauma (dust, wind, trichiasis, concrement, Meibomians cysts, ...)
3. Tear film abnormalities (hypo secretion)
4. Angiogenetic growth factor

5. Immunologic theory

6. Genetic theory (autosomal dominant inheritance)

7. p 53 Tu suppressor gene of the conjunctiva

8. Theory of limbal corneal stem cells dysfunction (5-8).

Case report

The patient was a 65-years-old man with 4 pterigia located both nasally and temporally on both eyes. From the heteroanamnesis, we know that his father had pterygium on both eyes, accompanied by low vision, and has been operated from both cataract and pterygium. We have found pterygium on his two brothers as well. One of them is a professional driver and the older is a farmer. The patient is a farmer and he has been working outdoors since earliest childhood. He has spent all his life in the Polog Basin, where the climate is hot with lots of sunny and windy days. Five years ago he had a radioactive therapy on the CA basocellulare of his capilicium.

Status of the eye:

Preoperative vision was VOD=0,2 s.c., VOS=0,3 s.c. Javal was irregular.

Nasal pterygium OD encroaches the limbus into the cornea 6mm.

Temporal pterygium OD encroaches the limbus into the cornea 4mm.

Nasal pterygium OS encroaches the limbus into the cornea 5mm.

temporal pterygium OS encroaches the limbus into the cornea 4mm.

A Stockers line was seen anterior to the advancing head of the nasal pterygia on both eyes.

The secretion of the glandule lacrimalis was examined and hyosecretion was found. Because pterygia were inflamed and there was ectropium on both eyes, non-steroid anti-inflammatory drugs were prescribed for a short period of time before the operation.

Operation steps

The nasal pterygium on the right eye was excised. Limbal transplant of the conjunctiva from the temporal inferior quadrant of the same eye was grafted on the place of the excision. After a week the nasal pterygium on the left eye was excised with the same surgical method (8).

After a month, the temporal pterygium of both eyes were excised as well. The surgical method was identical to the one used for the nasal pterygium, using the free limbal conjunctival graft but this time from the temporal superior quadrant.

All of the pterygia were adherent to the underlying structures. The postoperative therapy was consisted of corticosteroid drops combined with antibiotic ointment.

The excised material was histopatologically examined. The results of the examination on the four pterygia were identical to results of a typical pterygium. The stromas of the pterygia showed elastosis and presence of vasculature. The structure of the four samples of pterygia were examined using electron microscope, and what was noticed was a multiplication and degeneration of elastic and collagenous fibers, and blood vessel multiplication. All of the above test results confirmed the already stated diagnosis of pterygium (9).

Postoperative follow up

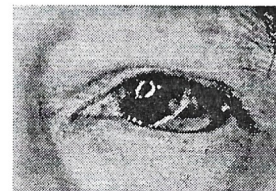
The patient was examined 1, 3, 6, 12 months, and 3 years after the operation. There was no recurrence found at any examination. The vision was improved. The postoperative vision was VOD= 0,5 s.c., VOS= 0,6 s.c.



1. Patient with bilateral nasal and temporal pterygium on both eyes



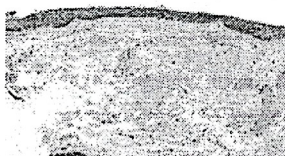
2. Day after the excision of the nasal pterygium and limbal conjunctival auto transplantation on the right eye



3. Day after the excision of the temporal pterygium with limbal conjunctival auto transplantation on the left eye



4. The patient after 3 months



5. Pterygium with stromal elastosis



6. The stroma of the conjunctiva shows elastosis and presence of vasculature

Conclusion

Using the case study of this patient, several of the above mentioned etiological causes of pterygium can be confirmed, such as:

1. Ultraviolet exposure and a sunny climate, which

can be acknowledged by

- the patient's work outdoors (farmer)
- Ca basocellulare of the capilicium
- 2. Inheritance
 - patient's father and both brothers had a diagnosis of pterygium
 - they had a similar configuration of the eye bulbus as well
- 3. Mechanical irritation from dust and wind
 - caused by the patient's work outdoors
- 4. Hyposecretion and dysfunction of glandula lacrimalis
 - increased evaporation of tears caused by ectropium

The prevention of pterygium is very important, especially in countries with hot climates and for outdoor workers. A use of caps with a peak is a must.

We recommend the surgical method of excision of pterygium with limbal conjunctival autotransplantation, because it's a safe surgical method which causes no early or late complications. There was no recurrence of pterygium in our patient and his postoperative vision was improved. We are recommending this surgical procedure for primary, advanced and recurrent pterygium and for bilateral nasal and temporal pterygium on the same eye.

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