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SQUAMOUS CELL CARCINOMA OF THE CONJUCTIVA- CASE REPORT

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Abstract

Presentation of a patient with a squamous cell carcinoma of the conjunctiva on his left eye

A 83-year –old man with a squamous cell carcinoma of the conjunctiva was examined and treated at the University Eye Clinic in Skopje, by the ophthalmologist, after an ophthalmological examination and observation in the small countryside-ophthalmology department for a year.

Near the temporal limbus at 3 o'clock there was present nodous and white tumorous lesion around 1,4 cm. weath with elevation from the eye surface of 0,5 cm. Around the tumor there was local vascularization. External photographs were taken to document the lesion.

The excision biopsy was performed. Topical antibiotic-steroid combination of eye drops was applied 3 times daily for 4 weeks after the primary excision of tumor.

The diagnosis was pathohistologically confirmed at the Institute of Pathology in Skopje.

Primary excision biopsy is preferably therapy and treatment. Also the primary excision biopsy is a golden standard for proper diagnosis for small squamous cell carcinoma of conjunctiva.

Keywords: squamous cell carcinoma, conjunctiva, eye, pathohistology.

Introduction

Squamous cell carcinoma (SCC) of the conjunctiva is a rare malignancy in the human population. However, it is the most common tumor on the surface of the eye. It originates from limbal stem cells and then propagates into the surrounding conjunctival and corneal tissue.

Advanced processes can invade the ocular and orbital structures, and although rarely can give distant metastases to the lungs or liver. The incidence of this disease in the world varies between 0.02 and 3.5 cases per 100 000 [1].

It is usually unilateral, although cases of bilateral affection have been described, especially in immunocompromised patients [2]. It is more often found in the elderly population, in males. The process can start de novo, but also in continuity of previous epithelial dysplasia of the conjunctival epithelium, similar to cervical cancer, in the so-called OSSN (ocular surface squamous neoplasia) spectrum of diseases [3].

We present a case of invasive squamous cell conjunctival carcinoma in an 83-year-old patient.

Case report

A 83-year–old man with a squamous cell carcinoma of the conjunctiva was examined and treated at the University Eye Clinic in Skopje, by the ophthalmologist, after a ophthalmological examination and observation in the small country side-ophthalmology department for a year.

The patient was examined by slit lamp bio microscopy. Also, external photographs of the lesion were taken. The best corrected visual acuity in the patient's right eye was 0.4 and in the left eye it was 0.5. The intraocular pressure was normal on both eyes 17,3 mmHg. Senile cortical cataract i.e. the opacification of the both crystal lenses was observed.

Fundus examination with loops, Goldman prism and anterior segment optical coherent tomography (OCT) were done. Arteriosclerotic changes of the arterial blood vessels were documented and foveal reflex was obscure.

Near the temporal limbus at 3 o'clock of the left eye, nodular and white papillomatous tumorous lesion about 1,4 cm wide with elevation from the eye surface of 0,5 cm was present. Around the tumor the sings of inflammation, leukoplakia and local vascularization of markedly dilated blood vessels was noticed. On palpation, the tumor was with medium consistency.

Magnetic resonance imaging was performed in order to rule out deeper invasion of the tumorous process in the rest of the ocular and orbital structures, as well as ruling out distant metastases.

An anterior segment optical coherence tomography of the eye was also performed, which showed an elevated lesion with a clear distinction from the surrounding healthy conjunctival tissue, with propagation to the cornea of several millimeters and a relatively well-defined border zone from the underlying structures.

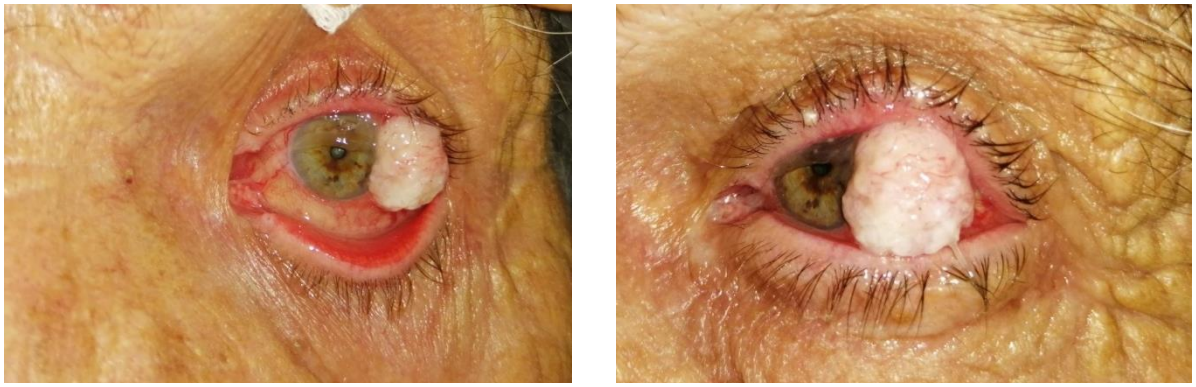

Figure 1. Exophytic, papillomatous, tumorous lesion present in temporal sector of eye, perilimbal.

Because the tumor had grown significantly over the past few months, surgical removal of it under a microscope was indicated. The lesion was excised with a 4 mm margin, dissecting down to the sclera without touching the tumor. For primary closure of the defect, mobilization from the surrounding conjunctiva with sutures was made.

Figure. Removal of the tumorous lesion in its entirety and suturing of the conjunctival edges.

At the Institute of Pathology in Skopje, the excised material was fixed in 10% formalin and processed by a paraffin fitting procedure, and then routinely stained with hematoxylin and eosin

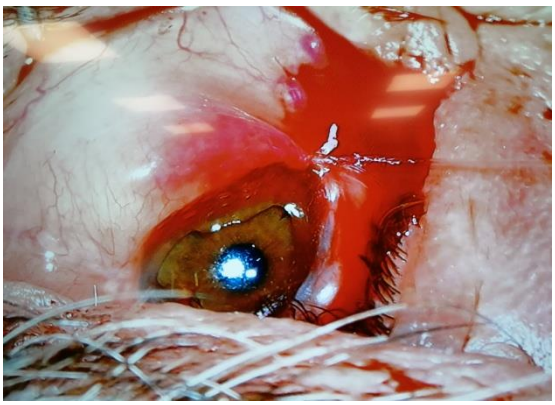

Figure 2. Removal of the tumorous lesion in its entirety and suturing of the conjunctival edges.

At the Institute of Pathology in Skopje, the excised material was fixed in 10% formalin and processed by a paraffin fitting procedure, and then routinely stained with hematoxylin and eosin (H&E). Microscopic analysis of the specimen showed a squamous epithelial lesion with acanthosis, parakeratosis, and surface keratinization.

In places the basement membrane was infiltrated with cells that protruded into the underlying stroma. Tumor cells were of moderate polymorphism and destratification of their nuclei. Increased nucleus-cytoplasm ratio and presence of hyperchromasia. In places, the pathologically changed epithelium had an attempt to form keratin pearls.

The underlying stroma, in places infiltrated with pathological epithelial cells, was moderately vascularized, without invasion of lymphatic and blood vessels, as well as the presence of numerous chronic inflammatory cells, as the body's response to the pathological process.

The ends of the lesion had clear histological borders of conjunctival tissue, also healthy tissue was observed in the depth of the excised operative material.

According to the pathohistological characteristics, a diagnosis of invasive squamous cell carcinoma of the conjunctiva was made, with moderate differentiation (Grade 2) and TNM classification T2N0M0 [4,5].

Topical antibiotic-steroid combination eye drops were applied 4 times daily about 3-4 weeks after the primary excision.

A few months later, a small cystic formation appeared perilimbally at the site of the suture, which was excised and histopathologically processed for possible tumor recurrence. Histological analysis showed the presence of granulation tissue, with an inflammatory infiltrate, but without the presence of tumor cells.

The patient comes for regular ophthalmological check-ups, and up to this moment, he has been without relapse of the disease for 9 months.

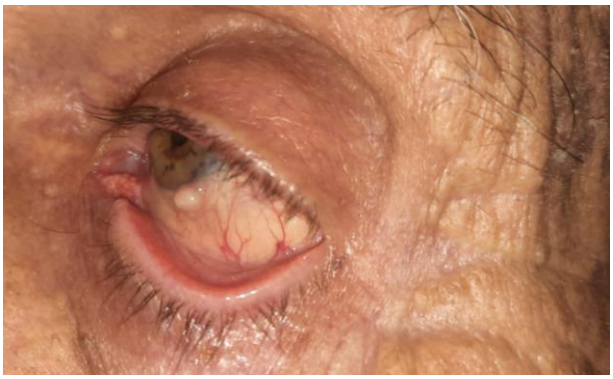

Figure 3. A few months after the initial surgery. A cystic formation is observed in the perilimbal temporal sector of the eye.

Discussion

Since the 1980s, the incidence of these diseases has been continuously increasing. The incidence of this disease in the world, today, varies between 0.02 and 3.5 cases per 100 000. According to Ivanovski and Ugrinski, only four cases of SCC were registered and pathohistologically confirmed at the clinic for eye diseases in Skopje in the period from 1950-1990 [6].

According to the data that we obtained, in the last 22 years, 15 cases of OSSN have been confirmed at the clinic for eye diseases in Skopje, of which only two, including ours, are invasive SCC of the conjunctiva, pathohistologically confirmed.

SCC of the conjunctiva is now considered to be a multifactorial disease. Several factors are related to the pathogenesis of this conjunctival lesion such as: exposure to ultraviolet light, various chemical carcinogens, biological agents such as HIV and HPV, cigarette smoking, vitamin A deficiency and others [7].

The pathophysiological mechanism for this disease is considered to be triggered by etiological factors, which damage the basal epithelial cells of the conjunctiva, making gene mutations that unblock the carcinogenic process.

Most often, the tumor has a nodular, exophytic growth, although lesions with papillary or plate growth have also been observed. The consistency of the tumor can be from gelatinous to solid, depending on the degree of keratinization [8].

SCC of the conjunctiva may initiate its growth de novo or from some previous ocular pathology, such as a chronic inflammatory process of the ocular surface or a dysplastic intraepithelial lesion.

Differential diagnostic challenges of this disease in clinical practice are pterygium and pinguecula, which can simultaneously coexist with SCC in the same patient [9].

Most often, growth begins perilimbally, in the nasal or temporal sector of the bulbar conjunctiva. Over time, the growth spreads toward the corneal surface, and gradually invades the underlying ocular structures. Neglected cases develop intraocular and intraorbital invasion. Although rare, this tumor has the ability to metastasize to the lungs and liver [10].

Pathohistological analysis is the gold standard for diagnosing these lesions. However, today there are a number of tools that are used in clinical practice to manage the diagnosis of this disease. Examples are: anterior segment optical coherence tomography, in vivo confocal, ultrasound biomicroscopy and aspiration or impression cytology [11].

Regarding the therapeutic approach, surgical excision in toto is still the gold standard for this disease. It is important that the excision is performed a few millimeters into healthy tissue (3-5mm) with clear pathohistological boundaries, to reduce the likelihood of recurrence.

In addition to surgical resection, other therapeutic modalities have been used in recent years together with it or independently. Some of them are: cryotherapy, radiotherapy or local chemotherapeutic agents. The most commonly used drugs are: IFNα-2b (interferon α-2b), MMC (mitomycin C), 5-FU (5-fluorouracil), Vitamin A, Cidofovir and anti-VEGF (anti-endothelial growth factor) [12,13].

SCC of the conjunctiva generally has a good prognosis, with a moderate rate of recurrence, and a low rate of distant metastases. Therefore, the general view is that it is a disease with a low mortality rate. Relapses encountered after tumor excision are mostly in the first six months. The main risk factor for their recurrence is the positive margins of the surgical excision [14].

Early diagnosis and treatment is important for surgical success. Due to the possibility of disease recurrence, regular ophthalmological monitoring of patients with this pathology is of great importance for the good results of the treatment.

Conclusion

SCC of the conjunctiva can cause significant morbidity, therefore timely clinical diagnosis, surgical excision with possible adjuvant therapy and pathohistological verification are extremely important in the management of this rare ophthalmic pathology.

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