Bilateral Squamous Cell Carcinoma in Right Nasal and Left Temporal Conjunctiva

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Abstract

***Purpose*:** To describe a case of bilateral squamous cell carcinoma in right nasal and left temporal conjunctiva, simulating bilateral pterygium

***Case report*:** A reddish fibrovascular pterygium-like lesion was observed in the nasal side of bulbar conjunctiva on the right eye and temporal conjunctiva of the left eye. Medical examination did not reveal any coexistent malignancy elsewhere. Excisional biopsy showed squamous cell carcinoma (SCC) insitu. Topical mitomycin C (0.02%) one drop 4 times daily was applied postoperatively. The outcome of the treatment was excellent.

***Conclusion*:** Bilateral pterygium-like lesion especially in the exposed area of conjunctiva to sunlight may be a malignant lesion; so early excisional biopsy with supplement of mitomycin C results in long time relief without systemic involvement or recurrences.

***Keywords*:** Bilateral Conjunctiva Squamous Cell Carcinoma, Treatment, Risk Factors

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Introduction

Squamous cell carcinoma (SCC) of the conjunctiva is a malignant epithelial neoplasm which was described for the first time by Lee and Hirst as an umbrella that encompasses intraepithelial area and invades conjunctiva and cornea.[1] It is characterized by invading basement membrane and giving distant metastasis. Epithelial tumors of the conjunctiva are similar to the cervical intraepithelial neoplasia.[2]

There are case reports that support the hypothesis that neurodermatitis and xeroderma pigmentosum are also risk factors for ocular surface squamous neoplasia (OSSN).[3,4]

The incidence of OSSN ranges from 0.02 to 3.5 per 100,000 population and varies geographically, with greater frequency near the equators. Bilateral involvement is extremely rare and here we report the biological characteristics of a bilateral SCC of the conjunctiva.[1,5]

Case report

A 70-year-old male farmer who complained of a bilateral foreign body sensation in his eyes attended to our eye clinic. In ophthalmic examination a sector of the nasal conjunctiva of the right eye and temporal conjunctiva of the left eye had a pterygium-like lesion.

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He had no history of ocular trauma or smoking. In ophthalmic examination visual acuity was (VA) $^{20}/_{20}$ in each eye. Biomicroscopic examination showed suspicious SCC, the gelatineous nodular elevation in both conjunctiva, clinically simulating a pterygium-like lesion, without invading the cornea (Figure 1).

Figure 1. Before operation

Fundoscopy was normal in both eyes. The patient which was suspicious to SCC underwent the complete excisional removal of the lesions with dimention of 7×5×4 mm in one eye and 10×5×4 mm of conjunctiva in the other eye. The patient received topical mitomycin 0.02% one drop four times daily in the eyes for 2 weeks postoperatively. Topical betamthason and choloramphenicol were administer every 6 hours during the first week postoperatively. Histopathological finding of excisional biopsy revealed a bilateral conjunctival SCC insitu. The histopathology report indicated hyperchromic nuclei, high nucleus to cytoplasm ratio, irregular nuclear borders. The margin of excised lesions were clear in both eyes (Figure 2).

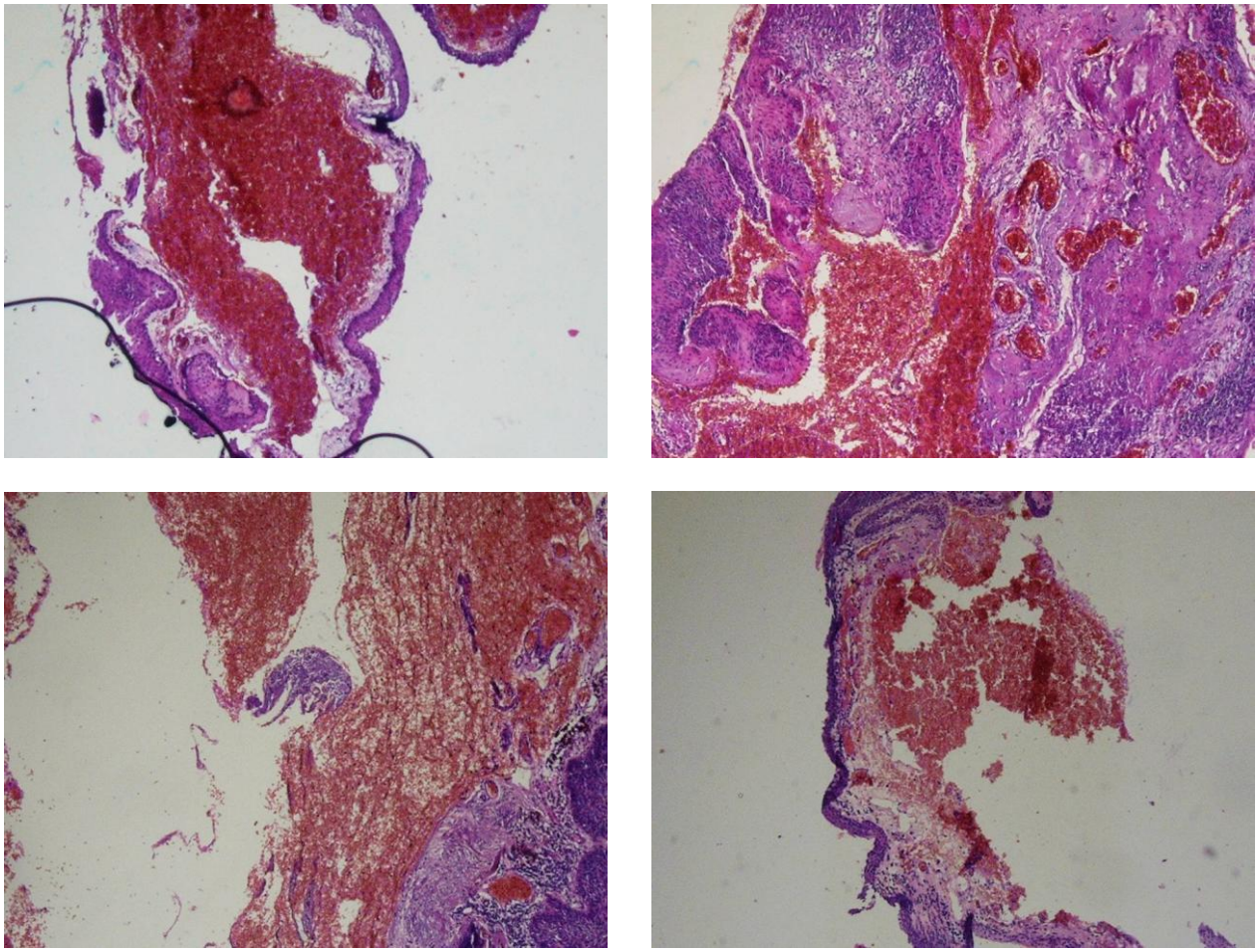

Figure 2. Pathology of the right eye (Right), pathology of the left eye (left)

The patient general health was normal and internist consultation could not find any history or sign of precancerous lesion of skin, mouth or malignancy elsewhere. Six years of follow-up of the patient did not show local or systemic recurrence or metastasis. The patient remained in good healthy condition (Figure 3)

Figure 3. After operation

Discussion

The etiology of bilateral ocular surface squamous cell neoplasia remains unclear. The causative factors that are believed to contribute in the development of unilateral conjunctival neoplasia include ultraviolet light exposure, ocular trauma, predisposing genetic factors and infection with human papilloma virus (HPV). It has been postulated that the interaction between HPV and ultraviolet light may have a role in the development of HPV related tumors in patients who are exposed to the sun.[6,7]

In spite of many reports of unilateral conjunctival SCC we found only a few cases of bilaterl involvement in the literature. The first documented three cases of bilateral conjunctival tumours were associated with HPV and multiple keratinising and verrucous lesions of the bulbar and tarsal conjunctiva.[8]

The two other reported cases of bilateral OSSN, one was associated with neurodermatitis and the other was seen in a xeroderma pigmentosum patient.[3,4] The only reported case in Iranian journal was a primary SCC of the cornea which is reported by Hosseini Tehrani et al.[9]

Therefore our case is not only a rare case of bilateral conjunctival SSC, but to our knowledge it is also the first reported bilateral case of contralateral bulbar conjunctival lesion without involving palpebral conjunctiva or associated systemic finding.

Our case is a primary bulbar conjunctival SCC which is located in the area exposed to the sun light which leads to the development of bilateral neoplasia as has been described by Barbaztto et al.[7] But it must be differentiated of hereditary benign intraepithelial dyskeratosis that is a rare autosomal dominant disorder with incomplete penetrance. It is characterized by bilateral limbal conjunctival plaques combined with similar changes in the oral mucosa.[10]

Unfortunately it was not possible to do immunohistochemical analysis in neoplastic cells to detect pankeratin, human papillomas virus. There are also a spectrum of conjunctival pathology including; pinguecula, pterygium, papilloma, conjunctival melanoma and paraneoplastic condition that must be remmebered in differential diagnosis.[11,12]

Among the several modalities of treatment of conjunctival squamous neoplasia, consisting of surgical removal, cryotherapy, photodynamic therapy. There are also topical therapies which offer a nonsurgical method for treating conjunctival tumors by delivering high drug concentrations to the ocular surface.[8,12] The present case showed a long-term efficacy and safety of adjunctive mitomycin therapy as was proposed by Zaki and Farid in their reported 10 cases.[13] The lack of recurrence may be due to the early stage of this cancer. How and which mechanism caused this long time relief?

Conclusion

This case was discussed to emphasis the importance of early detection of pterygium-like appearance malignant lesions to apply effective and prompt treatment. However, the pathophysiologic mechanisms of these lesions are unclear. The lack of well-established associations to other carcinogenic risk factors in our bilateral SCC case is note worthy, this case showed a long-term remissions that let us think of the other possible predisposing factors.

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