

Case Report

## Squamous Cell Carcinoma of Conjunctiva - A Rare Interesting Case

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### ABSTRACT

**Background:** Squamous cell carcinoma, a malignant tumour of squamous epithelium, is very rare in conjunctiva, though most of the exposed part of conjunctiva lined by stratified squamous epithelium which is often exposed to all kind harmful and damaging effects including exposure to ultraviolet radiation from the sunlight. Squamous cell carcinoma of conjunctiva, which is termed as the end state of ocular surface squamous neoplasia (OSSN) which includes intraepithelial neoplasia [1] has a very low incidence, which is in the range of 0.02 to 3.5 per 100 000 population. [2] The incidence of squamous cell carcinoma is relatively higher in the countries such as Australia which fall in the region of low latitudes of equator. [3] Squamous cell carcinoma of conjunctiva occurs more commonly in elderly males and the most common risk factor for higher incidence of conjunctival squamous cell carcinoma exposure to sunlight, other less common risk factors include vitamin A deficiency, chronic infections as trachoma, HPV, chronic irritations with dust or other factors and HIV infection. [4]

Squamous cell carcinoma of the conjunctiva occurs more commonly in corneal limbus and presently grossly as gelatinous, velvety or papilliform, leukoplakic, nodular and diffuse. [6,7] Presented here is an interesting case of moderately squamous cell carcinoma which presented as tiny recurrent mass which was obviously being resected previously other obviously non-neoplastic reasons.

**Key words:** Eye, Conjunctiva, Squamous cell carcinoma, ocular surface squamous neoplasia (OSSN)

### INTRODUCTION

The phrase ocular surface squamous neoplasia (OSSN) was coined by Lee and Hirst in 1995 to describe the continuum of mild epithelial dysplasia to squamous cell carcinoma. Ocular surface squamous neoplasia (OSSN) is rare by their occurrence, which are most commonly located in the corneal limbus where there is transitional type of epithelium. Although the etiology is still remains unclear ultraviolet rays is known to be the primary cause of OSSN apart from exposure to various chemical carcinogens and viral infections, however role of individual agents is not well understood. [5] It affects older adults, the

mean age being around 60 years with an overall predisposition for male as 70% squamous cell carcinoma (SCC) occurring in males [1] Excision is advised in patients diagnosed with OSSN, they are put on radiotherapy /chemotherapy after surgery. Histopathological is the gold standard for diagnosis. Follow-up of these patients is advised as recurrence is seen in 24-50% of cases. Caution must be taken to evaluate for spread of disease.

### CASE REPORT

A rare interesting case being reported here is of 70 year old male who presented with recurrent mass in the right

conjunctiva since three years, which gradually and progressively increased in size that reached 2.5x1.5x1cm when it was resected. On gross examination, the specimen was in the form of multiple fragmented and slightly friable pieces, gray white in colour aggregating in all to 2x1.5x1cm.

On microscopic examination the conjunctival tissue showed a lining of stratified squamous epithelium which displayed mild to moderate dysplasia characterized by nucleomegaly and nuclear pleomorphism. Subjacent areas of the conjunctival tissue showed irregular sheets, nests, cord like arrangement of round to polygonal to ovoid cells with moderate to marked nucleomegaly, nuclear pleomorphism with prominent nuclei. Few atypical mitotic figures are noted in relatively more cellular areas. Also noted are few areas of haemorrhage and necrosis along with irregular areas of fibrosis with focal hyaline change with no evidence of angiolymphatic or perineural invasion implying a diagnosis of moderately differentiated carcinoma.

## DISCUSSION

Conjunctival epithelial carcinomas, which are also lately referred to as Ocular surface squamous neoplasia (OSSN) are rare by their occurrence, which are most commonly located in the corneal limbus where there is transitional type of epithelium. Though exact aetiology is not known, interplay of multiple risk factors is known to play an important role in the aetiology. Several varied risk factors such as exposure to ultraviolet radiation, various chemical carcinogens and viral infections (HPV) are indicted in the aetiology of conjunctival squamous cell carcinoma. [5] Squamous cell carcinoma of conjunctiva usually affects older adults, the mean age being around 60 years with an overall predisposition for male as 70% squamous cell carcinoma (SCC) occurring in males. Red eye, photophobia, irritation, foreign body sensation and a white, painless,

progressive growth on the surface of the eye are common presenting symptoms. [1] SCC of the conjunctiva usually arises in the limbus region of the eye and spreads to the cornea and adjacent bulbar conjunctiva. It can lead to loss of vision and sometimes, in severe cases, to death. Although challenging in early stages histopathology is regarded as the gold standard for diagnosis of the lesion. Immunostaining enhances the accuracy of the histopathologic diagnosis in the case of malignant tumors. [4] These tumours may mimic benign conjunctival degenerations and present as slowly growing lesions. SCC may coexist with pinguecula and pterygia. Diffuse tumours in older patients may be misdiagnosed as a chronic unilateral conjunctivitis. [2] Clinical management of SCC ranges from simple topical 0.02% mitomycin C eye drops or total wide total surgical excision to exenteration based on the size of the lesion. [5] In advanced cases of malignancy and in cases of older patients radiotherapy and chemotherapy used as part of overall clinical management after surgery. Despite effective clinical management, some of the tumours, however, show increased incidence of recurrence at the same site or different site, which is seen in about 24-50% of cases diagnosed. With this kind of prognostic outcome, early diagnosis and regular clinical follow-up are hence mandated.

## CONCLUSION

Though squamous cell carcinomas are known to occur commonly in head and neck region, the occurrence of squamous cell carcinoma is a rare event in conjunctiva. The case reported is one such rare and interesting case which requires due diligence in differentiating early intraepithelial neoplasia from invasive squamous cell carcinoma, a task often not easy in case of conjunctival carcinoma in as much as timely diagnosis and clinical management entails excellent prognosis and prevents undesirable complications which could lead to permanent enucleation of the eye ball.

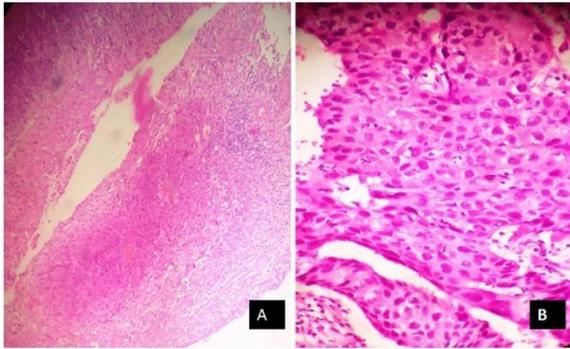


Figure1: A. Photomicrograph showing moderately differentiated squamous cell carcinoma, Low power (H and E); B. Photomicrograph showing sheets of squamous cells displaying moderate nucleomegaly and moderate to marked nuclear pleomorphism infiltrating the stroma of conjunctival tissue, High power (H and E).

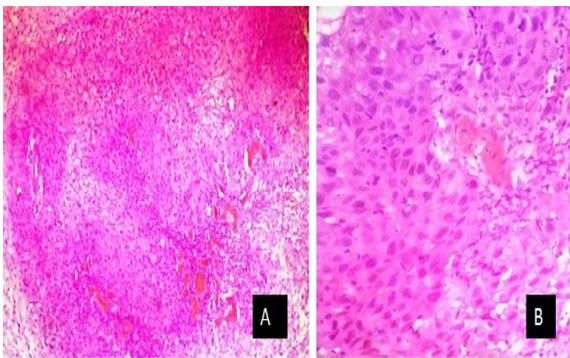


Figure2: A. Photomicrograph showing irregular sheets and nests of pleomorphic cells in the conjunctival stromal tissue, Low power (H and E); B. Photomicrograph showing nests and sheets of pleomorphic squamous cells infiltrating conjunctival stroma, High power (H and E).

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