



SQUAMOUS CELL CARCINOMA ON OCULAR SURFACE: A RARE CASE REPORT

Oncopathology

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ABSTRACT

A 60 year old female presented with painful orbital mass arising from right lower eye lid for last 3 months. CECT of PNS reveals enhancing mass with lobulated contour in the anterolateral aspect of right orbit involving lateral rectus. MRI of orbits was suggestive of possibility of malignant mass, FNAC of the mass was done & it shows cyto-morphological features suggestive of squamous cell carcinoma. Patient underwent wide local excision of right eye followed by temporalis flap. On gross examination of the specimens it measured (5.5×5×3.5) c.m and the whole orbit was distorted. On microscopic examination of the mass shows features of well differentiated squamous cell carcinoma (conjunctiva) involving whole anterior chamber with lacrimal gland infiltration with TNM staging T4aN₁M₀. The prevalence of ocular squamous cell carcinoma are 0.09% and 2.42 cases/1000000 populations. Therefore this has been chosen for presentation due to its rarity.

KEYWORDS

squamous cell carcinoma, conjunctiva, orbital mass

INTRODUCTION:

Squamous cell carcinoma (SCC) on ocular surface is an uncommon disease. But it is more common than basal cell carcinoma (BCC) in this site. It is at the end a spectrum of diseases referred to as ocular surface squamous neoplasia (OSSN). Conjunctival squamous cell carcinoma occurs in sun damaged ocular surface usually at the limbus in elderly person.^{1,2,3,4} Females are more affected than males. Primary risk factors for SCC are ultraviolet B radiation & others are human papilloma virus, human immunodeficiency virus and allergic conjunctivitis.⁵ Histopathological examination is the confirmatory diagnostic modality. Treatment options include topical cytotoxic drugs, radiation & surgery. If the cancer grows into the eyes or orbit there is significant likelihood of recurrence. The mortality rate is generally low about 4% - 8%.^{6,7,8,9} Here we present one of such cases of SCC of ocular surface for its rarity, which would generate awareness among concerned health care professionals for its early diagnosis to ensure a better prognostic outcome.

Case:

A 60 year old female presented to the ophthalmology OPD with painful orbital mass arising from right lower eyelid, persisting for 3 months & gradually increasing in size. Contrast enhanced CT Scan (CECT) of right orbit was done & it revealed that there was an enhancing mass with lobulated contour in the anterolateral aspect of right orbit involving lateral rectus. Subsequently Magnetic Resonance Imaging (MRI) of orbit was done & findings suggested that there was an extraocular soft tissue mass lesion involving inferior lateral part of right orbital cavity with possibility of malignant lesion. FNAC from the mass was performed. On microscopic examination, there were clumps and scattered neoplastic squamous cells in keratinous basophilic background.

Cyto-morphological features were suggestive of squamous cell carcinoma. Following exenteration of right orbit along with temporalis flap, specimen was sent for histopathological examination. The whole orbit was grossly distorted whose largest antero-posterior dimension 4.5 cm. On cut section, mass was identified involving anterior chamber, sclera & upper eyelid (figure 1). Microscopic examination showed severely dysplastic squamous epithelial lining of conjunctiva with infiltration into the stroma forming nests & cords. Keratin pearls were also seen. Features were suggestive of well differentiated squamous cell carcinoma, conjunctiva (figure: 2,3). Infiltration of malignant cells into the sclera, muscle & lacrimal gland was observed. Upper eyelid showed replacement of whole palpebral conjunctiva by nests of dysplastic squamous cells & lower eyelid showed focal dysplasia of palpebral conjunctiva (TNM staging T₄N₁M₀).

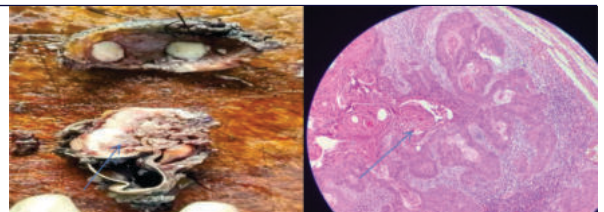


Fig 1: Mass involving ocular surface, orbit and Inner surface of lower eyelid

Fig 2: Nests of dysplastic squamous cells with pearls infiltrating the stroma (H&E, 100x)

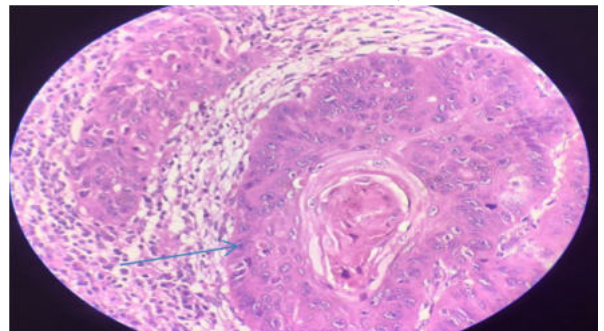


Fig 3: Dysplastic squamous cells with pearl (H & E, 400x)

DISCUSSION:

The most common non-melanocytic tumour of the eyeball is squamous cell carcinoma, which usually develops on the bulbar conjunctiva. Worldwide, its prevalence is ranging from 0.02 to 3.5 cases /100000 populations with racial and geographical variations. SCC conjunctiva usually grows in a papillary or exophytic pattern, it may invade globe or orbit.^{10,11} The gold standard for the diagnosis of SCC is histopathological evaluation following an excisional biopsy.⁷ In general conjunctival squamous cell carcinoma is regarded as a nonaggressive malignancy. The high recurrence rate and possibility for invasion into intraocular structures, the orbit and the sclera make it potentially fatal or life threatening. Mortality from metastatic lung disease had been reported by Seregard and Kock and Alkatan et al.^{12,13,14} & Erie et al¹¹ suggested that the lesion involving the cornea might be indicative of aggressiveness of the lesion.

CONCLUSION:

Conjunctival squamous cell carcinoma is rare but curable malignancy and in presence of suspicious conjunctival lesion, a very low threshold for biopsy should be maintained to make a diagnosis of squamous cell carcinoma at earliest. Misdiagnosis can lead to loss of time in treatment and in worst cases disease progression may be life threatening.

Declarations:

Ethics Approval And Consent To Participate:

All written informed consent for medical procedures and the patient's medical information study were obtained from the patient and her legal guardians to publish this case report. All ethical principles for medical research studies established by our hospital have been followed.

Consent For Publication:

All written informed consent for medical procedures and the patient's medical information study were obtained from the patient to publish this case report and accompanying images.

Conflict Of Interests:

The authors declare that they have no competing interests.

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