



A Case Report: An Unusual Presentation of Ocular Surface Squamous Neoplasia

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Abstract

Ocular surface squamous neoplasia (OSSN) has a spectrum of presentation, the diagnosis of which depends on the histopathological results of the excised lesion. The term OSSN includes mild dysplasia on one end of the spectrum and invasive squamous cell carcinoma on the other end. The incidence of ocular surface neoplasia is strongly associated with factors like solar ultraviolet radiation, HIV and human papilloma virus (HPV) infections. Mostly this lesion occurs within interpalpebral fissure particularly the nasal side. Red eye and irritation are the most common presentation. Although, no tumor related deaths or metastasis are generally seen. In this article, we report a case of OSSN in a 75-year-old female with conjunctival mass involving the adjacent cornea in the left eye.

Excisional biopsy was done. Histopathological examination revealed a well differentiated squamous cell carcinoma.

Keywords: Ocular surface squamous neoplasia, carcinoma in situ, human papilloma virus (HPV).

Introduction

The ocular surface includes cornea, limbus and conjunctiva with ocular adnexa mucosa i.e, lacrimal gland and lacrimal drainage apparatus. Ocular surface squamous neoplasia (OSSN) represents a rare spectrum of disease ranging from mild dysplasia to carcinoma in situ to invasive squamous cell carcinoma of the ocular surface involving the conjunctiva and the cornea, usually found in the interpalpebral area, mostly at the limbus.¹ OSSN is more common in countries that are

closer to the equator and countries with excessive exposure to sunlight. Risk factors for OSSN include fair skin, ultraviolet light exposure, human papilloma virus (HPV) infection, human immune deficiency virus (HIV) infection, and smoking.² Clinically, the diagnosis is suspected by the appearance of the lesion and epithelial changes of the ocular surface. Slit-lamp examination shows leukoplakic, gelatinous, papilliform or nodular lesions.³ This condition closely mimics pterygium which usually presents as a triangular fleshy mass, starting on the sclera, but often goes on to invade the limbus and cornea.⁴ Histopathological evaluation is essential for the definitive diagnosis and also to differentiate the three type of lesions in the spectrum of OSSN i.e., epithelial dysplasia, carcinoma in situ and invasive squamous cell carcinoma. While complete excision with histopathologically proven tumour-free margins is the preferred treatment for smaller localised lesions. There are some alternative modalities like chemotherapy, immunotherapy have shown promise in recurrent and larger OSSN.⁵ Recently, immuno histochemically detectable p53 protein, bcl-2 protein, MIB-1 are being used as markers of proliferative potency having a possible prognostic value.

Case report

A 75-year old female patient presented with the chief complaint of conjunctival mass in her left eye for 2 years, which progressively growing in size, and associated with redness, watering and mild discomfortness in eye. The patient had no history of trauma or surgery to that eye in the past. She was on topical antibiotics and steroids on and off for the past 2 years. General examination and systemic examination were normal. There was no regional lymphadenopathy. On local ocular examination, best corrected visual acuity in her both eye were 6/36. Both eyes had

immature senile cataract. On slit lamp examination of the left eye, an irregular, elevated gelatinous, papilliform conjunctival mass lesion of approximate size 6 mm × 11 mm was present at the limbus between 4°-5° clock position, extending 1-2 mm into the cornea (Figure-1). Engorged conjunctival vessels were seen at the base of the lesion. Routine blood investigations were normal. Serology test for HIV was negative. Left eye ultrasonography was normal. Right eye findings were normal except immature senile cataract. A provisional diagnosis of OSSN left eye (LE) was made based on the clinical findings. As surgical excision is the predominant modality of management for OSSN, so surgical excisional biopsy was planned. Patient was informed and written consent was taken regarding surgical treatment, histopathological outcome and chances of recurrence of the lesion. Surgical excisional biopsy was and the specimen was sent for histopathological evaluation. After excision of conjunctival mass with adjacent 1-2mm normal conjunctival tissue, Amniotic Membrane Transplantation (AMT) done (Figure-2) and Postoperatively patient was given systemic oral antibiotics and anti-inflammatory with topical antibiotic drops and ointment for 3 days. After which topical antibiotic-steroid drops was given for one week then tapering done. Histopathology report showed sheets of malignant squamous cells with moderate nuclear pleomorphic and with foci of epithelial keratin pearl formation, confirming the diagnosis of a well differentiated squamous cell carcinoma (Figure 4). The stroma in between the tumor cells was infiltrated with diffuse sheets of inflammatory cells. Sections from all the surgical margins were free from tumour.

The patient was followed up at 1, 2 and 6 months, and no clinical sign of recurrence was found (Figure 3). He

has been advised to follow up every 6 months at this centre. Post-operative period was uneventful.

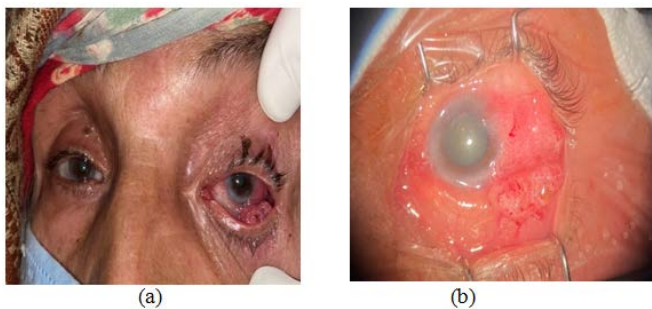


Figure 1: Ocular surface squamous neoplasia (left eye): preoperative appearance showing fleshy mass (a), (b)

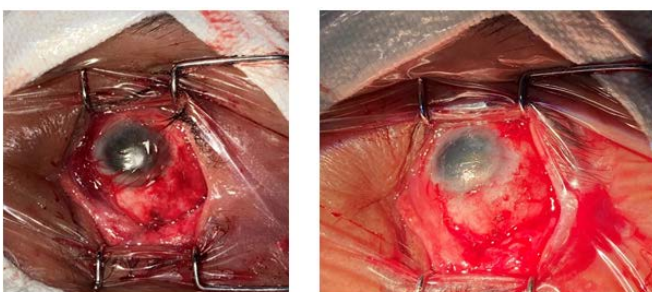


Figure 2:- Ocular surface squamous neoplasia (left eye): Per-operative appearance and application of AMT

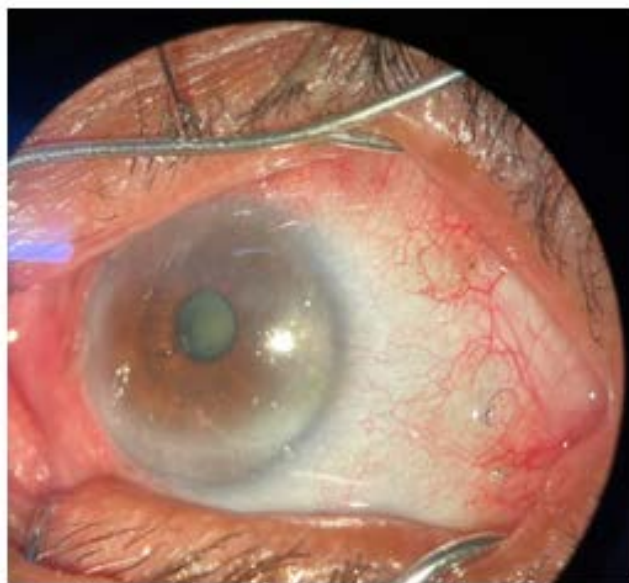


Figure 3: Ocular surface squamous neoplasia (left eye): postoperative appearance after 2 months.

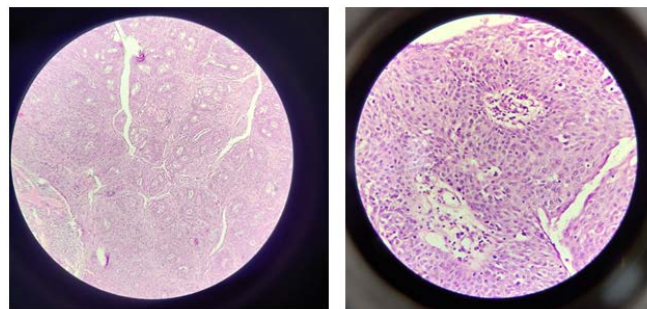


Figure 4:- Ocular surface squamous neoplasia (left eye): histopathological appearance (a) under low power and (b) high power.

Discussion

Ocular surface squamous neoplasia (OSSN) can be benign, pre-malignant and malignant or slowly progressive epithelial lesions. Ocular surface tumours are relatively rare with an incidence of 0.13–1.9 per 100,000.⁶ Advanced age, male gender, exposure to solar ultraviolet light, immunosuppression and infection with HIV and infection with human papilloma virus (especially type 16) are major risk factors in the development of OSSN. OSSN has a varied clinical presentation, and the definitive diagnosis of which is based on histopathological examination of the excised lesion.⁷ In the early stages, it may be difficult to distinguish OSSN from other common conjunctival lesions such as pterygium and pinguecula. Presence of a feeder vessel and high index of clinical suspicion, especially in elderly patients, should draw attention and help in early diagnosis of OSSN.

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