

Metastasis of Squamous Cell Carcinoma of Conjunctiva in Anterior Chamber: A rare Case Report

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Abstract

A 65-year-old male presented with the chief complaint of diminution of vision, redness and mass in right eye for 1 month who was then evaluated and investigated to know the cause. On examination and investigation diagnosis of squamous cell carcinoma of ocular surface was made which had metastasized to anterior chamber. Early diagnosis of SCC and commence of treatment is necessary to prevent its metastasis. Moreover, patient's compliance also plays a major factor to halt the progression.

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Keywords: Squamous cell carcinoma, Ocular surface, Metastasis

Introduction

Squamous cell carcinoma (SCC) of ocular surface occurs usually in interpalpebral area mostly at the limbus.¹ It represents a rare spectrum of disease ranging from mild dysplasia to carcinoma in situ to invasive squamous cell carcinoma. Depending upon the geographic location prevalence of SCC varies from 0.03-1.9 per million population.² Ocular Surface Squamous Neoplasia (OSSN) is a multifactorial disease. Various environmental factors play role in etiology and pathogenesis of SCC. Though it is rare in Indians, SCC is more common in equatorial countries and in population with excessive sunlight exposure. ultraviolet rays, Human Papilloma Virus (HPV), mutation of P53 gene, immunosuppression, smoking and exposure of petroleum products are some of the other risk factors. In early stage patients are usually symptomless and unaware of the disease. Approximately 95% of SCC lesions occur at the limbus, where the most actively mitotic cells reside. There are three major clinical variants of SCC: papilliform, gelatinous, or leukoplakic. Abnormal or dysplastic epithelium have a diffuse, granular appearance, differentiating it from normal epithelium.³ The abnormal squamous cells from limbus usually involve the cornea and have frosted appearance. Leukoplakic lesion may appear white and thickened due to hyperkeratinisation of the lesion. Fluorescein, lissamine green, or Rose Bengal are often used to highlight the lesion.⁴ In SCC the abnormal cells extend through the basement membrane into the conjunctival stroma, whereas in intraepithelial neoplasia (CIN) the malignant cells are confined to the surface epithelium. SCC has the potential to penetrate the corneoscleral lamella into the anterior chamber of the eye or can breach the orbital septum to invade the soft tissues of the orbit, sinuses, and the brain.^{5,6} These tumours may metastasize via lymphatics or blood during the course of disease. Owing to their possible aggressive behaviour, conjunctival SCCs are therefore known to be sight and life threatening.^{6,7} Diagnosis can be made by clinical examination with slit lamp biomicroscopy. However, overlap in clinical features in OSSN and masqueraders like pterygium, dyskeratosis, papilloma, scar tissue, corneal pannus, pyogenic granuloma, amelanotic melanoma, and sebaceous cell carcinoma can occasionally make diagnosis by clinical examination alone difficult.

Case Report

A 65-year-old male presented with complain of diminution of vision in right eye since 1 month which was gradual in onset and progressive in nature. It was also accompanied whitish discoloration of cornea and redness in right eye since 1 month. Patient also gave history of small mass over bulbar conjunctiva which was excised and sent for histopathological examination 4 months back. The biopsy report showed presence of atypical proliferation of squamous epithelial cells with pleomorphism and few epithelial pearls suggestive of well differentiated type of squamous cell carcinoma (SCC) for which some eyedrop was started but patient did not complete the treatment and never appeared for follow-up.

Investigation

On examination best corrected visual acuity of right eye was 1/60 and left eye was 6/18. On Slit Lamp Examination (SLE) there was mild congestion with a 2x2mm cystic mass over bulbar conjunctiva near the limbus nasally with cauliflower like growth in anterior chamber covering more than half of the anterior chamber and pupil as seen in (Figure 1). On USG B Scan posterior segment was normal. The other eye had grade II cataract with no sign of any mass with normal fundus examination. There was no enlargement of preauricular or submandibular lymph nodes.

Management

5-Fluorouracil 1% was administered topically 4 times daily for 1 week followed by a drug holiday of 3 weeks. 4 cycles were given and followed. But there was no response to the treatment so the patient underwent enucleation of the right eye after taking written consent. It was sent for histopathological examination. The histopathological examination confirmed it to be well differentiated type of squamous cell carcinoma with infiltration of the anterior chamber. It showed atypical proliferation of squamous epithelial cells with anisonucleosis and aniscytosis. Nuclei were large, pleomorphic and hyperchromatic with coarse and clumpy chromatin. Few epithelial pearls were also seen with keratinisation of cytoplasm. However, lymphatic embolus or perineural invasion were not found in the histopathology specimen.



Figure 1: SLE showing a 2x2mm cystic mass over bulbar conjunctiva near the limbus nasally with cauliflower like growth in anterior chamber covering more than half of the anterior chamber and pupil

After enucleation patient did not turn for follow-up so post-operative results and complications could not be documented.

Discussion

SCC commonly presents as avascularised lesion in interpalpebral area mostly at the limbus. It is usually symptomless and delay in treatment leads to metastasis to intraocular, intraorbital and distant areas. Otherwise, it is a slow growing lesion with less metastatic potential. The best-established form of treatment is surgical excision with "wide margin, no touch" technique. Nevertheless, recurrences of these lesions are common after surgical excision, depending on the involvement of the surgical margins. Recurrence rates following excision of SCC alone range from 15 to 52%, with an average of 30%. Recurrence rate is 5% when the surgical margins are free and 53% when the surgical margins are involved.⁸ Intra operative cryotherapy and brachytherapy, postoperative topical chemotherapy using Mitomycin C, 5-FU and interferon alfa-2b are adjunctive therapy to reduce recurrences. Treatment of conjunctival SCC is usually surgical excision followed by cryotherapy.⁹ After this procedure, Conjunctival SCC can recur 8-40% of the time.⁹ Radiation treatment, topical Mitomycin-C, and removal of the contents of the orbit, or exenteration, are other methods of treatment.⁹ Close follow-up is recommended, because the average time to recurrence is 8–22 months.⁹

Conclusion

In the above case though the patient reported early to the doctor the patient did not comply with the treatments hence even after the biopsy the metastasized to anterior chamber. Therefore, early diagnosis of the lesion with careful examination slit lamp followed by proper investigation is necessary to make correct diagnosis and start proper treatment. Patient compliance with regular follow-ups help in assessing the effect and complications of treatment. Regular follow-up also helps in early diagnosis of recurrence of lesion.

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