Case Report

Squamous cell carcinoma of the conjunctiva: A rare case report

Anubhav Chauhan, Shashi Datt Sharma[1]

Department of Ophthalmology, Dr. Yashwant Singh Parmar Government Medical College, Nahan, Sirmaur, [1]Department of Ophthalmology, Regional Hospital Hamirpur, Hamirpur, Himachal Pradesh, India

ABSTRACT

Ocular surface squamous neoplasia is a term that describes neoplastic changes of the cornea and conjunctiva ranging from squamous dysplasia to invasive squamous cell carcinoma (SCC). SCC of the conjunctiva is a rare tumor mainly affecting the elderly age group. Resemblance to common conditions such as pterygium and pinguecula may result in a wrong diagnosis on the part of an ophthalmologist. We present a rare case of SCC of the conjunctiva in a 41-year-old female.

Key words: Carcinoma, female, ocular

INTRODUCTION

Ocular surface squamous neoplasia (OSSN) ranges from areas of conjunctival intraepithelial neoplasia (CIN) to large invasive squamous cell carcinoma (SCC).[1] The incidence of invasive SCC varies from 0.02 to 3.5/100,000 population and is mostly unilateral and is seen in middle- to old-age groups. About 75% occur in men, 75% are diagnosed in older patients, and 75% occur at the limbus. Rarely, it is bilateral in immunosuppressed patients.[2] We present a case of conjunctival SCC in a 41-year-old female.

CASE REPORT

A 41-year-old female presented to the department of ophthalmology of a secondary care institute with a history of mass/growth in the left eye for the past 6 months and which was progressively increasing in size. There was no other complaint. She was a farmer and average built. There was no significant medical, surgical, personal, family, or drug abuse history. The patient was a nonsmoker, nonalcoholic, and vegetarian. Her general physical and systemic examination was within normal limits. Her visual acuity was 6/6 in both eyes; pupillary reactions, ocular movements, color vision, intraocular pressure, fundus examination, and B scan ultrasonography were normal. Torchlight and slit-lamp examination revealed "a fungating grayish-white lesion with irregular border and a feeder vessel" located in the conjunctiva of the left eye from 8 to 10 o' clock position just adjacent to the limbus but was not involving the cornea [Figure 1]. An immediate suspicion of OSSN was there.

Routine blood investigations were normal, and serology for human immunodeficiency virus (HIV) was negative. We planned a surgical excision biopsy of the lesion and the patient was fully informed of the procedure. Excision biopsy was carried out following "Shield's no touch technique" and the specimen was sent for histopathological examination. Postoperatively, the patient was put on topical antibiotic-steroids combination. Histopathology report showed clusters of isolated neoplastic squamous cells showing pleomorphism, irregular hyperchromatic

Address for correspondence: Dr. Anubhav Chauhan, Department of Ophthalmology, Dr. Yashwant Singh Parmar Government Medical College, Nahan - 173 001, Sirmour, Himachal Pradesh, India.
E-mail: chauhan.anubhav2@gmail.com

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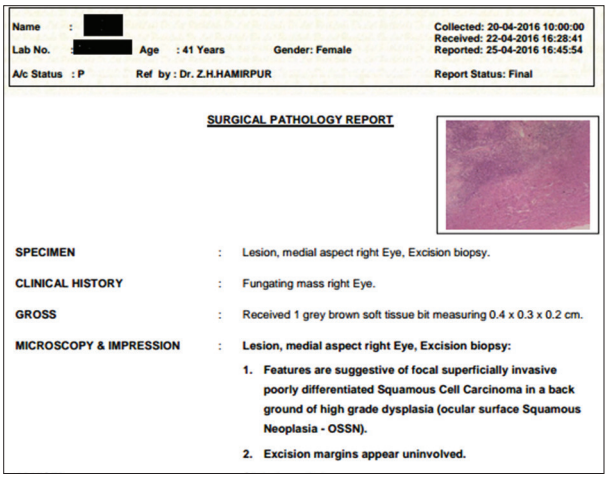
nuclei, and basophilic cytoplasm with prominent nucleoli confirming the diagnosis of an SCC [Figures 2 and 3]. Sections from all the surgical margins were free from tumor. Radiological investigations of the chest and abdomen did not reveal any metastasis. The patient was further advised consultation in Oncology Department of a tertiary care institute in case they consider any additional treatment modality. We are still awaiting another follow-up from her.

Figure 1: Conjunctival lesion



Name : [redacted]
Lab No. : [redacted] Age : 41 Years Gender: Female
A/c Status : P Ref by : Dr. Z.H.HAMIRPUR
Collected: 20-04-2016 10:00:00
Received: 22-04-2016 16:28:41
Reported: 25-04-2016 16:45:54
Report Status: Final

SURGICAL PATHOLOGY REPORT

SPECIMEN	:	Lesion, medial aspect right Eye, Excision biopsy.
CLINICAL HISTORY	:	Fungating mass right Eye.
GROSS	:	Received 1 grey brown soft tissue bit measuring 0.4 x 0.3 x 0.2 cm.
MICROSCOPY & IMPRESSION	:	Lesion, medial aspect right Eye, Excision biopsy:

1. Features are suggestive of focal superficially invasive poorly differentiated Squamous Cell Carcinoma in a back ground of high grade dysplasia (ocular surface Squamous Neoplasia - OSSN).
2. Excision margins appear uninvolved.

Figure 2: Pathology report

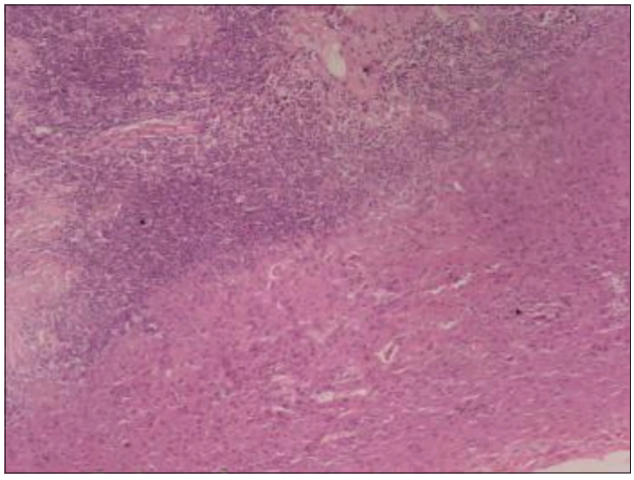


Figure 3: Pathology report (enlarged image)

DISCUSSION

The etiological agents implicated in SCC are increased ultraviolet light exposure, genetic defects as in xeroderma pigmentosum and immunosuppressive conditions such as HIV and human papillomavirus infections. Other risk factors implicated are smoking, eye injury, petroleum products, arsenic, Vitamin A deficiency,[3] increased p53 expression, pemphigoid, chronic blepharoconjunctivitis, and atopic eczema. The patient can be asymptomatic or may complain of pain and visual loss. Clinically, the lesion appears as an elevated, vascularized mass in the interpalpebral area with limbus being the most common site. It can also appear as a papilliform, gelatinous, or leukoplakic lesion.[4] The presence of a nodular lesion with feeder vessels and intrinsic vascularity should raise a suspicion of invasive SCC.[2]

The definitive diagnosis is by histopathological examination of the lesion after a biopsy. Diagnosis is based on the presence of the universal cytological criteria which includes nuclear enlargement, hyperchromasia, irregular nuclear outline, coarse nuclear chromatin, and prominent nucleoli.[5]

The histopathological classification of ocular surface squamous neoplasia:[6]

Benign:
- Squamous papilloma
- Pseudoepitheliomatous hyperplasia
- Benign hereditary intraepithelial dyskeratosis.

Preinvasive:
- CIN
- CIN I (mild dysplasia) – confined to the basal third of the conjunctival epithelium
- CIN II (moderate dysplasia) – extends into the middle third of the conjunctival epithelium
- CIN III (severe dysplasia) – extends into the superficial third of the conjunctival epithelium
- CIS (carcinoma-*in-situ*) – full thickness dysplasia.

Invasive:
- SCC
- GX – grade cannot be defined
- G1 – well differentiated
- G2 – moderately differentiated
- G3 – poorly differentiated
- G4 – undifferentiated
- Mucoepidermoid carcinoma.

The role of toluidine blue 0.05% vital staining,[7] *in vivo* confocal microscopy,[1] and anterior segment optical coherence tomography[5] in diagnosing this condition has also been reported.

Differential diagnosis includes pterygium, pinguecula,[6] chronic blepharoconjunctivitis, and sclerokeratitis. These tumors rarely metastasize though intraocular, intraorbital, and distant metastasis has been reported.[4] The management of SCC consists of wide local excision and cryotherapy. Topical mitomycin-C, 5-fluorouracil and interferon are considered in recurrent tumor.[8] The use of topical bevacizumab[9] and *Aloe vera*[10] with good results has also been advocated by some authors.

CONCLUSION

SCC is a rare neoplasm and is present not only in elderly male but also in young and middle-aged patients like the female in our case. A high degree of suspicion and immediate treatment are the keys to success in eliminating the disease.

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Conflicts of interest
There are no conflicts of interest.

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