



DEMOGRAPHIC PROFILE AND FREQUENCY OF EYELID AND CONJUNCTIVAL TUMORS; A NORTH INDIAN PERSPECTIVE.

Ophthalmology

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ABSTRACT

Background: Eyelid and conjunctival tumors are the most common tumors that are encountered by an ophthalmologist. There are innumerable benign and malignant tumors of eyelids and conjunctiva owing to their histological structure. Proper diagnosis both clinically and on histopathological examination helps in appropriate management in cases of both benign and malignant lesions. The purpose of this study was to assess the demographic profile and frequency of eyelid and conjunctival tumors in patients presenting in our OPD. **Materials And Methods:** A total of 78 patients attending our Eye OPD presenting with eyelid or conjunctival tumors were admitted in hospital and underwent surgical management or excision biopsy and specimens were sent for histopathological examination. The purpose was to study the demographic profile and frequency of benign and malignant eyelid and conjunctival tumors in patients presenting in our hospital. **Results:** Out of 78 patients, 42(53.84%) were cases of eyelid tumors and 36(46.15%) were of conjunctival growths. Mean age of presentation in cases of eyelid tumors was 54(range 3-75) years and conjunctival tumors was 40(range 8-68) years. Benign lesions were more common than malignant in both eyelids and conjunctiva. Females were affected more than males. **Conclusion:** In our study, we observed that most frequently observed eyelid and conjunctival growths were benign. Mostly growths were seen in females and study population was largely from rural areas who had cosmetic issues or visual disturbances as main complaints.

KEYWORDS

Eyelids, Conjunctiva, Benign, Malignant, Tumors.

INTRODUCTION

The most common tumors encountered by ophthalmologist are those arising from eyelids. Tumors of eyelids and conjunctiva occupy a large spectrum of benign and malignant lesions. Eyelids contain innumerable histological elements i.e. the skin, subcutaneous tissue, striated muscle, sub-muscular areolar tissue, fibrous tissue, non-striated muscle and palpebral conjunctiva that can be the origin of such lesions. ^[1] Eyelids are also rich in glandular tissue namely sweat glands of eyelid skin, accessory lacrimal gland of Krause and Wolfring, apocrine gland of moll, Meibomian gland and gland of Zeiss. ^[2]

Eyelid tumors can be benign or malignant ^[3] and are mostly of cutaneous origin, majority being epidermal which are further divided into epithelial and melanocytic tumors. Epithelial eyelid tumors are further classified based upon the histology into Benign, precancerous and malignant. Many inflammatory lesions simulating neoplasms are also common. Eyelid malignancies account for 5-10% of all skin cancers approximately. ^[4] Numerous eyelid tumors ranging from epidermal tumors, adnexal tumors, stromal tumors, secondary tumors and metastatic tumors can be seen.

Conjunctiva covers the anterior portion of globe and based upon the location can be divided into palpebral(tarsal), bulbar and forniceal conjunctiva. Conjunctival tumors can be congenital or acquired; benign or malignant. ^[5,6] They usually do not cause symptoms until they encroach the cornea or grow to a large size. A wide spectrum of tumors ranging from benign to malignant in several forms including epithelial, stromal, caruncular tumors, actinic keratosis, keratocanthoma, squamous papilloma, secondary and metastatic tumors can arise from the conjunctiva.

Clinical differentiation of such tumors is important and is based upon patient's age, size and site of lesion, duration of lesion, detailed ocular examination along with slit lamp biomicroscopy, medical history and overlying surface characteristics. ^[7] Diagnosis is confirmed with the aid of histopathological examination and any suspicious lesion should always be biopsied. Infiltration of cornea and sclera can occur in advanced cases of malignant conjunctival tumors along with metastasis in lymph nodes. ^[8]

American Joint Committee on Cancer (AJCC)'s 8th edition manual has provided recent classification for conjunctival carcinoma which also includes SCC and CIN. ^[9] Apart from aesthetic point of view, eyelid

and conjunctival tumors depending upon the site and location can block vision and alter the normal anatomical shape of eyelids. Therefore, early diagnosis and management is essential for adequate functioning and cosmetic outcomes. Treatment of most eyelid and conjunctival lesions with proper approach and management can be rewarding for the ophthalmologist and minimally disruptive for the patient.

Aim

The purpose of this study was to find the frequency and demographic profile of eyelid and conjunctival tumors in patients presenting in our department who underwent surgical management or excisional biopsy along with histopathological confirmation.

MATERIALS AND METHODS

A hospital based, prospective, cross sectional study of 78 patients who visited the eye OPD and were admitted in a tertiary care hospital with eyelid and conjunctival tumors for a period of one year was undertaken. Approval from the 'Institutional Ethics Committee' of the college was obtained.

Inclusion criteria was patients of either gender and any age group presenting to our eye OPD with eyelid or conjunctival growths and who underwent surgical management or excision biopsy of the tumor in our institute followed by histopathological examination. Exclusion criteria was patients presenting with inflammatory or infective conditions of eyelids and conjunctiva mimicking tumors, patients who lost follow up and those without histopathological confirmation.

Clinical examination of the lesions/ growths was done which included its location, size, shape, borders, margins, any ulceration or necrosis, status of overlying skin (in cases of eyelid growths), mobility and induration. Detailed history of symptoms was taken, presence of systemic diseases like hypertension, diabetes, breathlessness etc. was recorded. Routine investigation included Complete Blood count, fasting blood sugar, PT, PTI, BT, CT and serology for hepatitis B, C and HIV. In selected tumors, radiological investigation was done to see the extent of the lesion. A written consent was taken from each patient before they were taken up for the surgery and the specimens were sent for histopathological examination.

Data collected was stratified based upon the Age, gender, location of tumor, tumor size, tumor extent, type of tumor. Lymph node status,

clinical diagnosis, treatment details and histopathological diagnosis. Clinical photographs were taken in all cases for pre and post-surgical evaluation and recurrence if any. Data related to outcome was recorded on the basis of recurrence, Cosmesis, persistence of any symptoms if present earlier, lymph node or systemic metastasis and globe salvage.

RESULTS

A total of 78 patients with histopathology proven diagnosis of eyelid and conjunctival tumors were included in the study. Among these, 42 cases were of eyelid tumors (4 malignant and 38 benign) of which 28 were females and 14 were males. 36 cases were of conjunctival tumors (14 malignant and 22 benign) of which 20 were females and 16 were males. The mean age of presentation in cases of eyelid tumors was 54 years (range 3-75 years) and in cases of conjunctival tumors was 40 years (range 8-68 years). Age wise distribution is shown in Table 1. The upper eyelid was involved most commonly in about 27 patients (64.28%) and medial conjunctiva was involved commonly in cases of conjunctival growths i.e. in 15 cases (57.69%). The most frequent benign eyelid tumor was found to be epidermal cyst (26.31%) and most frequent malignant lesion found on eyelids was sebaceous gland carcinoma (50%). Conjunctival cyst (27.77%) and nevus (27.77%) were the most frequent benign conjunctival lesions and OSSN (ocular surface squamous neoplasia, 62.5%) was the most frequent malignant lesion.

Gender wise distribution of growths is shown in Table-2 and table 3. Female preponderance (n=41, 52.56%) was seen in cases of eyelid and conjunctival tumors. Benign lesions were found more commonly in females, out of 38 benign eyelid tumors patients, 21 were females and among 22 benign conjunctival tumors, 14 were seen in females. Malignant lesions were found more in males, 3 out of 4 malignant eyelid tumors and 9 out of 14 malignant conjunctival tumors were seen in males. Majority of the patients were from rural region.

DISCUSSION

Eyelids protect the eyes from external injury, protects tear film evaporation, helps in even distribution of tears. Conjunctiva is similar to other mucous membranes in the body and contributes to tear film by mucus production and acts as a barrier to eye infections. The frequency of benign and malignant eyelid and conjunctival lesions has been varying reported. Mohan *et al.* reported epidermal cyst and naevus as most common benign eyelid growths in their study.^[10] In a study by Mi Jung and Se Hyun, they reported intradermal naevus as the most common benign eyelid tumor followed by seborrheic keratosis and compound naevus.^[11] In our study, epidermal inclusion cyst was the most frequent benign eyelid lesion followed by naevus. Yuka *et al.*^[12] in their study observed epidermal cyst as the most common cystic lesion of the eyelid in a study of 35 patients conducted in Japan which is similar to our study results. Eyelid cystic lesions can be associated with occlusion of ducts or invagination of the epithelium.

Kalki *et al.* in their study on 536 Asian Indian patients found sebaceous gland carcinoma (SGC) as the most common malignant eyelid tumor followed by basal cell carcinoma.^[13] Basal cell carcinoma is most common malignant eyelid tumor in the west^[14,15] but our findings are consistent with other studies conducted in Asian countries like India, Nepal, Japan where they observed SGC as most common malignancy.^[16,17,18,19] Porpanich and Chindasub in their study reported similar findings and SGC as most common eyelid malignancy.^[20] In our study we reported similar results and found SGC as most frequent among cases of malignant eyelid tumors.

In a study conducted by Lauren *et al.*^[21] OSSN was found to be the most frequent conjunctival malignancy followed by melanoma. Afshan *et al.* in their study observed that OSSN along with conjunctival melanoma and lymphoma were the most common ocular surface tumors.^[22] Our results are comparable to this study and we also observed that OSSN was seen in majority of the patients diagnosed with malignant conjunctival lesions. OSSN includes a spectrum of malignancies which ranges from mild epithelial dysplastic changes, like conjunctival intraepithelial neoplasia (CIN), to more severe invasive carcinoma such as squamous cell carcinoma.^[5]

In our study we observed that majority patients presenting with eyelid and conjunctival growths had benign lesions. Eyelid tumors were seen in Female patients predominantly, similar to a study conducted in south India.^[10] Conjunctival tumors were common in males in our study. Epidermal inclusion cyst was found to be the most frequently

observed benign eyelid lesion followed by naevus, dermoid cyst, haemangioma and sebaceous cyst in order of their frequency. Among benign conjunctival tumors, conjunctival cyst and nevus were found most frequently followed by limbal dermoid.

Most frequently observed malignant eyelid lesion was found to be sebaceous gland carcinoma involving the upper eyelid followed by basal cell carcinoma. Squamous cell carcinoma of eyelids has male predilection and usually presents at an age of 60 years and above.^[13] In our study we observed only one case of SCC and the age at presentation was 68 years. Most common conjunctival tumor reported was OSSN involving medial conjunctiva followed by squamous cell carcinoma and melanoma.

CONCLUSION

We observed in our study that epidermal inclusion cyst and sebaceous gland carcinoma was the most common benign and malignant eyelid tumors respectively. In cases of conjunctival growths, conjunctival cyst and naevus were the most common benign growths and OSSN was the most frequent malignant lesion. Majority of the patients were females and coming from rural areas. Early diagnosis and management of such tumors is rewarding for both the patient and the treating clinician.

Table 1: Age Wise Distribution Of Patients.

Age range (years)	No. Of Patients	Males	Females	Percentage (%)
1-15	9	6	3	11.54
16-30	11	5	6	14.10
31-45	26	10	16	33.33
46-60	22	12	10	28.20
61-75	10	4	6	12.82

Table 2: Benign And Malignant Eyelid Lesions In Males And Females.

Benign eyelid tumors	Males(n,%)	Females(n,%)
Epidermal cyst	4 (9.5%)	7 (16.6%)
Naevus	2 (4.7%)	7 (16.6%)
Dermoid cyst	1 (2.3%)	4 (9.5%)
Capillary hemangioma	1 (2.3%)	3 (7.1%)
Sebaceous cyst	2 (4.7%)	3 (7.1%)
Squamous papilloma	1 (2.3%)	3 (7.1%)
Malignant eyelid tumors		
Sebaceous gland carcinoma	1 (2.3%)	1 ((2.3%)
Basal cell carcinoma	1 (2.3%)	0
Squamous cell carcinoma	1 (2.3%)	0
Total	14 (32.7%)	28 (66.3%)

Table 3: Benign And Malignant Conjunctival Lesions In Males And Females.

Benign conjunctival growths	Males (n,%)	Females (n,%)
Conjunctival cyst	3 (8.3%)	5 (13.8%)
Naevus	2 (5.5%)	6 (16.6%)
Limbal dermoid	2 (5.5%)	4 (11.11%)
Malignant conjunctival growths		
Conjunctival intraepithelial neoplasia	8 (22.2%)	4 (11.1%)
Squamous cell carcinoma	0	1 (2.7%)
Conjunctival melanoma	1 (2.7%)	0
Total	16	20

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