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Original Research Paper

Pathology

# MALIGNANT TUMORS OF EYELID- HISTOPATHOLOGICAL STUDY IN A TERTIARY CARE CENTRE OVER A DECADE

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## ABSTRACT

**BACKGROUND:** Eyelid lesions both benign and malignant nature are common lesions in ophthalmic practice. A wide variety of malignant tumours can occur in the eyelid. The aim of this study is to explore the incidence of eyelid malignancies as diagnosed by histopathological examination in a tertiary care Hospital.

**METHODS:** In this retrospective study, a total of 131 cases were identified over a period of 10 years from January 2006 to December 2015, and the details like age, gender were obtained from the registers in the Pathology Department.

**RESULTS:** 131 eyelid cancers were identified of which, 62 cases(46.5%) were Sebaceous carcinoma, most common cancer in the study. Common age group affected was 51-70 years with mean age of 59.18 years. Females(93 cases) were more commonly affected than males(58 cases).

**CONCLUSION:** Sebaceous gland carcinoma is most common than Basal cell carcinoma and squamous cell carcinoma which are more prevalent in western countries.

**KEYWORDS** : Eyelid, Malignancy, Sebaceous carcinoma.

## INTRODUCTION:

Eyelid is a thin fold of skin which covers and protects the human eye. The eyelid is made up of several layers from superficial to deep: skin, subcutaneous tissue, orbicularis oculi, tarsal plate and conjunctiva. The meibomean glands are present within the eyelid and secrete the tear film. Because of its unique histology, a large variety of lesions can occur in the eyelid arising from the different cell type.

The incidence of eyelid tumors is increasing nowadays.[1-4] Eyelid lesions represent 15% of face tumors and 5-10% from all cutaneous tumors.[5] In Non-Asian countries, Basal cell carcinoma is the most common malignant tumour of eyelid, followed by Squamous cell carcinoma while Sebaceous gland cell carcinoma is rare. But In Asian countries, Sebaceous carcinomas are observed more commonly in eyelid than the other types.[5,6,7] Sebaceous gland carcinoma is a highly malignant neoplasm that arises from meibomian glands, glands of Zeis, and the sebaceous glands of caruncle and eyebrow. It is the third most common eyelid cancer which accounts for 15.5% of all eyelid malignancies.[8]

This study aimed to explore the distribution of eyelid malignancies diagnosed by histopathologic examination in a South Indian Tertiary care centre.

## MATERIALS AND METHODS:

This is a retrospective study conducted over a period of 10 years (January 2006 to December 2015) in the Department of Pathology, Regional Institute of Ophthalmology, Chennai, which is a tertiary care centre. The surgically excised specimes of eyelid tumor cases were processed by formalin fixation, paraffin embedding and Hematoxylin and Eosin staining. Only cases with histopathologically confirmed diagnosis of eyelid malignancies were included in the study. Secondary carcinomatous deposits in eye has been excluded from the study. A total of 131 malignant tumours of eyelid were identified and included in the study. Data regarding age, gender, topography and final histopathological diagnosis of eyelid lesions were collected from the Pathology registers.

## RESULTS:

Total number of eyelid malignancies reported during the study period was 131, of which Male patients were 58 in number whereas female cases were 93. (Table 1, Chart 3). Age of the patients ranges from 17 years to 95 years with mean age of 59.18 years. Common age group affected was 51-70 years.(chart 1)

Sebaceous gland carcinoma(Figure 1) was the common eyelid tumour observed in our study with 62 cases being 46.5%. The next commonly observed tumor was Basal cell carcinoma(Figure 2) in 35 cases(26.7%). Squamous cell carcinoma(Figure 3) was observed in 28 cases(21.3%) . 5 cases(3.8%) of Malignant melanoma and one case(0.76%) of Apocrine carcinoma was observed in our study.(Chart 2, Table 1)

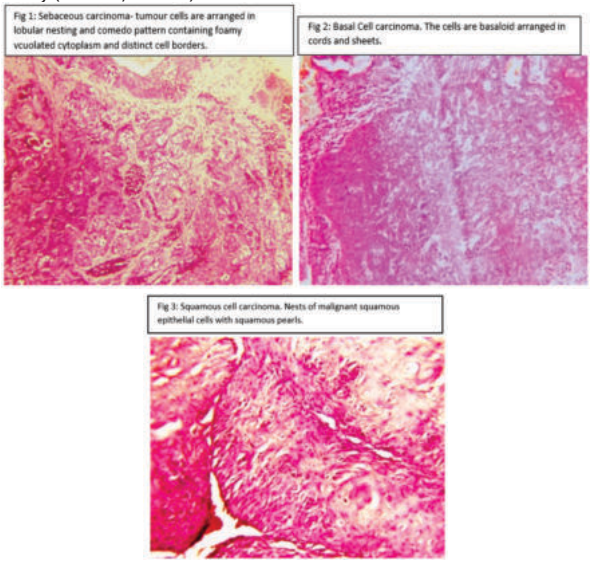


**Table 1: Histopathological diagnosis and Gender wise distribution of eyelid cancers.**

| S.No | Histopathological Diagnosis(N=131) | Male | Female | Number of cases | |
|---|---|---|---|---|---|
| | | N | N | N | Percentage |
| 1. | Sebaceous gland carcinoma | 33 | 29 | 62 | 46.56% |
| 2. | Basal cell carcinoma | 15 | 20 | 35 | 26.71% |
| 3. | Squamous cell carcinoma | 8 | 20 | 28 | 21.30% |

| | | | | | |
|---|---|---|---|---|---|
| 4. | Malignant Melanoma | 1 | 4 | 5 | 3.81% |
| 5. | Apocrine Carcinoma | 1 | 0 | 1 | 0.76% |
| | Total | 58 | 73 | 131 | 100% |

**Chart 1: Agre wise distribution of eyelid cancers**

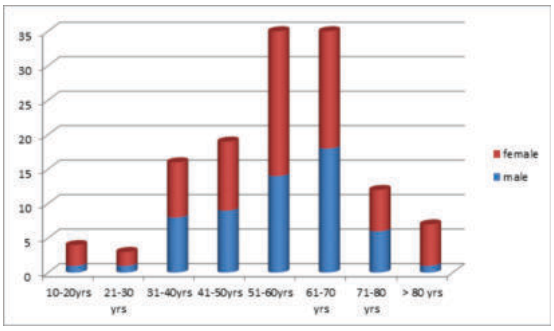


**Chart 2: distribution of Eyelid malignancies**

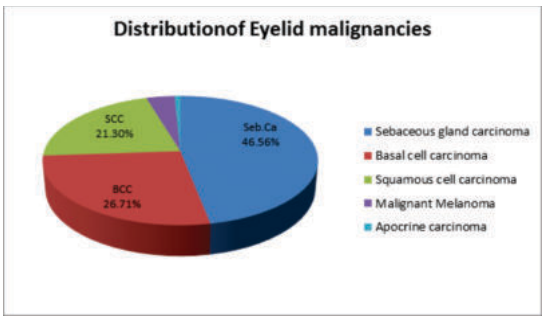


**Chart 3: Genderwise distribution of Eyelid malignancies**

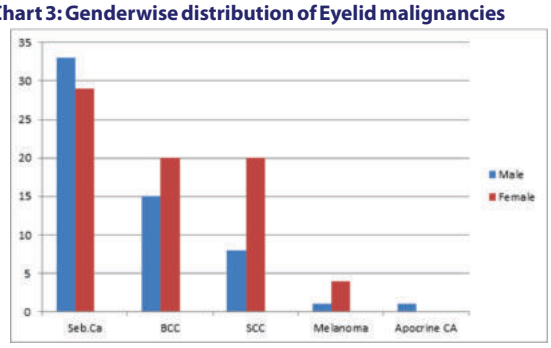


**Table 2: Comparison of data of current study with various studies**

| | Current study | Gupta et al | Bhavya P Mohan et al | Deprez et al | Wang et al | Cook be et al | Mihaelia Cristiana et al |
|---|---|---|---|---|---|---|---|
| Sebaceous carcinoma | 46.5% | 44.4% | 10 cases | 3% | 23.6% | - | 1.1% |
| Basal cell carcinoma | 26.7% | 11.1% | 6 cases | 86% | 62.2% | 90.8% | 39.2% |
| Squamous cell carcinoma | 21.3% | 22.2% | 9 cases | 7% | 8.7% | 8.6% | 10.5% |
| Malignant Melanoma | 3.81% | 11.1% | - | - | 3.9% | 0.6% | 3.2% |

## CONCLUSION:

Because of the diversity of the tissues in eyelid a variety of lesion can occur of which eyelid cancers accounts for a significant percentage. The geographical variation in the distribution of eyelid cancers is interesting since Sebaceous carcinoma was the most common eyelid cancer observed in India, which corresponds with the current study. Early diagnosis helps in the proper treatment and favourable prognosis.

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The topography analysis of malignant lesions of eyelid shows increased frequency of occurrence in Upperlid(56.7%) than in lowerlid(43.3%).

## DISCUSSION:

Eyelid lesions can be non neoplastic or neoplastic. Benign neoplasms of eyelid are more common than malignant tumors of eyelid. Among the malignant tumours of eyelid, Basal cell carcinoma is the most common eyelid malignancy worldwide,[1,2,3]But in Asian countries, Sebaceous carcinoma is the most common tumour of eyelid.[9,10]

In the present study, Sebaceous carcinoma was the most common eyelid tumour(46.5%), followed by Basal cell carcinoma(26.7%) and Squamous cell carcinoma(21.3%). This is similar to the other studies of Asian countries.

Gupta et al, observed Sebaceous cell carcinoma as the predominant eyelid cancer(44.4%), followed by squamous cell carcinoma(22.2%) and Basal cell carcinoma(11.1%).[11]

In India, Bhavya p mohan et al., found that Sebaceous cell carcinoma(10 cases) is the most common eyelid cancer followed by squamous cell carcinoma(9 cases) and Basal cell carcinoma(6 cases).[12]
In the study by Deprez et al, malignant neoplasms of eyelid were represented by basal cell carcinoma (86%), followed by squamous cell carcinoma (7%) and sebaceous carcinoma (3%).[5]

Wang JK et al., analysed 127 eyelid cancers, found 79 basal cell carcinomas (62.2%), 30 sebaceous gland carcinomas (23.6%), 11 squamous cell carcinomas (8.7%), five malignant melanomas (3.9%), one Kaposi'ssarcoma (0.8%), and one metastatic cancer (0.8%).[13]

Cook be et al., studied 174 eyelid tumours of which 158(90.8%) were Basal cell carcinomas, 15 cases (8.6%) were squamous cell carcinomas and one case (0.6%) was Malignant melanoma.[14]

Mihaela-cristiana coroi et al., analysed the malignant eyelid tumors and observed basal cell carcinoma with 185 cases (39.2%), squamous carcinoma with 50 cases (10.5%), sebaceous carcinoma in five cases (1.1%) and malignant melanoma in 15 cases (3.2%).[15]