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Eyelid Malignancies – A Clinicopathological Study

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Abstract: Eyelid tumors are the most common neoplasms encountered in clinical ophthalmic practice. Eyelid malignancies are completely treatable if diagnosed early. A retrospective analysis of sixty cases of eyelid malignancies out of a total of 225 eye lid tumors diagnosed at the Department of Pathology, Sarojini Devi Eye Hospital, Hyderabad was done over a period of three years. The clinical data was retrieved from the case sheets. Hematoxylin and eosin stained slides of the cases were retrieved and studied. Malignancies more commonly occurred in elderly patients. Females were more commonly affected constituting 61% of the cases. The left eye was more often involved in 36 patients (60%). The upper lid being more frequently involved (55%). Sebaceous gland carcinoma was the most common malignant tumor (63.3% cases) followed by basal cell carcinoma (23.3%) and squamous cell carcinoma (6.6%). The wide geographic variation in the incidence of eyelid malignancies world-wide and within India is discussed. The incidence of malignant eye lid neoplasms and the histopathologicalspecrtrum are analysed in this study and correlated with clinical data.
Keywords: Eyelid Malignancies, geographic distribution, histopathology, Sebaceous gland carcinoma.

INTRODUCTION

Eyelid oncology is of growing importance as early diagnosis saves the visual system [1]. Eyelid cancers mainly include Sebaceous gland carcinoma, Basal cell carcinoma, and Squamous cell carcinoma and Malignant melanoma.

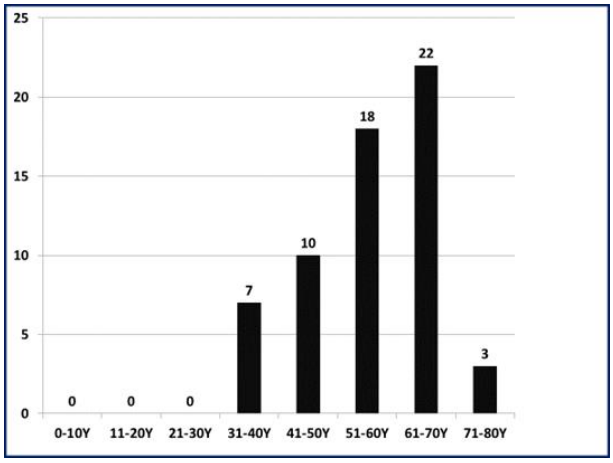
The histopathological spectrum and relative frequencies of eyelid malignancies showed differences between different ethnicities [2]. The clinical course and outcome of various lid malignancies is different [3]. Because of different tissues in the eyelid, a variety of tumors can arise, but most of these are carcinomas [4]. The treatment depends on the invasiveness of the cancer which in turn depends on the type of malignancy [5]. Long term follow up is needed after treatment of malignant eyelid tumors [6].

MATERIALS AND METHODS

A retrospective analysis of sixty cases of eyelid malignancies histopathologic ally proven was conducted over a period of three years from June 2013 to May 2016 at the department of Pathology, Sarojini Devi Eye Hospital, and Hyderabad. The clinical data such as age, sex, location of the tumor was noted by reviewing the case records. The histopathology slides of all the cases were reviewed. The collected data was analyzed to know the incidence, prevalence and the clinical &histopathological characteristics of eyelid malignancies.

OBSERVATIONS AND RESULTS

During the study period, a total number of 60 cases of malignant eye tumors were diagnosed out of 225 eyelid tumors. The ages of patients ranged from 30 years to 80 years. The mean age at presentation is 60 years. The age distribution of the cases is shown in diagram 1. There were 37 females (61.66%) & 23 males (38.33%). Malignancies occurred more commonly in the left eye in 36 patients (60%). Upper lid was involved in 55% of the cases. The incidence and histopathological spectrum of eyelid malignancies is shown in table.1. Sebaceous gland carcinoma (Fig.1 and 2) was the commonest malignancy in 38 cases accounting for 63.3%, followed by Basal cell carcinoma (Fig. 3) in 14 cases (23.3%) and four cases of Squamous cell carcinoma (6.6%) (Fig.4). There were two cases of metastatic deposits of poorly differentiated carcinoma accounting for 3.3% cases. Both of these patients had past history of breast cancer. A single case each of small round cell tumor and verrucous carcinoma (Fig.5) constituting 1.6% each are reported.



Dirgrum-1: Shows the age distribution of the cases

Table-1: Shows the incidence and histopathological types of eyelid malignancies

Sl. No	Malignant Tumor	No. of Patients	% of patients
1.	Sebaceous Gland Carcinoma	38	63.3 %
2.	Basal cell Carcinoma	14	23.3%
3.	Squamous cell Crcinoma	04	06.6%
4	Metastatic Deposits	02	03.3%
5	Small round cell tumor	01	1.6%
6	Verrucous Carcinoma	01	1.6%
	Total	60	

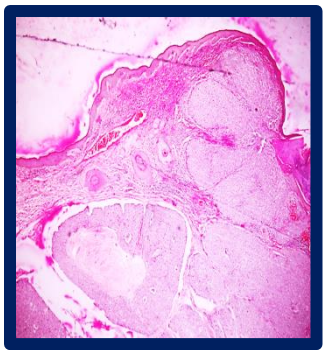


Fig-1: Lobules of tumor cells in comedo pattern H & E, 40x

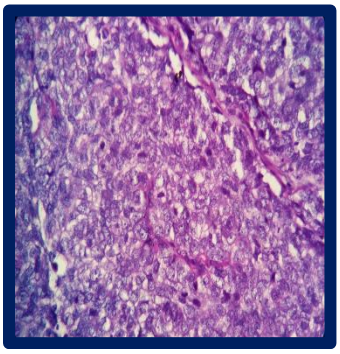


Fig-2: Vacuolated tumor cells Mitotic figures seen H & E, 400x

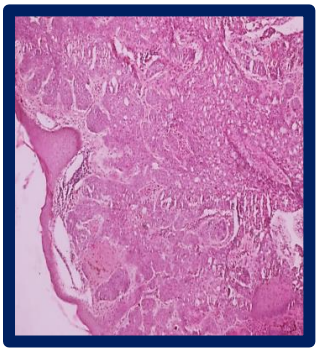


Fig-3: Basal cell Carcinoma nests of tumor cells H & E, 40x

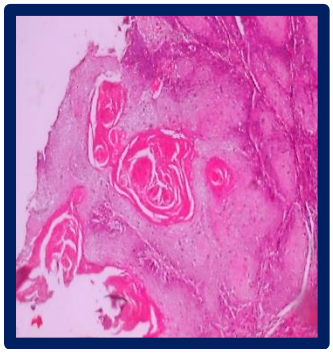


Fig-4: Well differentiated SqCC with keratin pearls, H& E, 400x

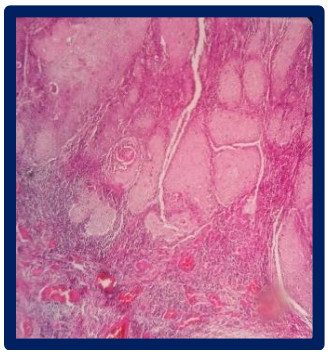
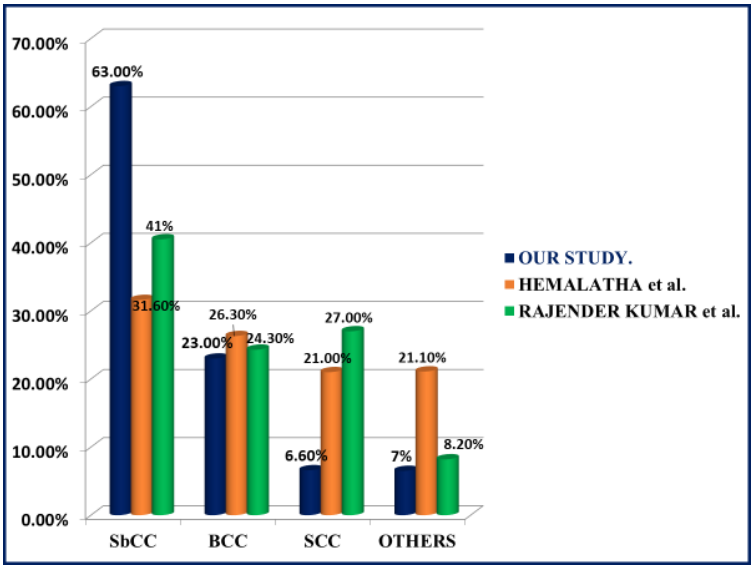


Fig-5: Verrucous Carcinoma

DISCUSSION

Malignancies of the eye lid are predominantly cancers of the skin. As with other tumors, malignant lesions of the eyelid increase with age [7]. There is wide geographic variation in the incidence of malignant eyelid tumors worldwide. Though basal cell carcinoma is the most common malignancy of eyelid worldwide, sebaceous gland carcinoma is more common in Asian Countries [8, 9]. In western population sebaceous gland carcinoma is rare with an incidence ranging from 0.2% to 4.7% of malignant epithelial eyelid tumors. Wang J K *et al*. [6]in their study showed that basal cell carcinomas constituted 62.2% and sebaceous gland carcinomas constituted 23.6%. In the study of IM Shukla*et al*. [10] in 1983 at Raipur, the incidence of sebaceous gland carcinoma is lowest similar to the studies of Deprez*et al*. [11] and FouziaFarhat*et al*. [12]. In our study sebaceous gland carcinoma was the commonest malignancy followed by Basal Cell Carcinoma and Squamous Cell Carcinoma. This is similar to the study of Karan et al, sihota*et al*. and Krishna murty*et al*. [13]. The results of our study are compared with that of others in Table 2 and Figure.2



Dirgrum-2: Comparison of our study with others

The median age at diagnosis of all eyelid malignancies is 60 years, similar to that found in studies of JK Wang *et al*. and studies in Singapore [14]but lower than that seen in japan. Females are more commonly affected in our study (61.6%). Sebaceous gland carcinoma is a highly malignant tumor which is common in elderly females. This tumor has a tendency to recur after surgical removal & can metastasize systemically to various organs. It has a higher mortality rate compared to Basal Cell Carcinoma. The average age of patients with SGC is 68 years in our study which is comparable to the study of JK wang et al where the average age is 62 years. It is higher than that seen in Shanghai study which reported a mean age of 57 years [15]. Our study reported greater involvement of upper eye lid by all malignant lesions which differ from the study of Wang et al and other previous studies [16, 17]. However Basal Cell Carcinoma occurred more commonly in the lower eyelid correlating with other studies [17-21] and Sebaceous gland carcinoma involved the upper lid more commonly in our study. This correlates with various studies [22, 23].

Table-2: Comparison of our study with others

	Our study	Wang *et al*.	Rajender Kumar *et al*. [24]
Total no. of malignancies	¼ of all lesions	¼ of all lesions	¼ of all lesions
Most common malignancy	Sebaceous carcinoma	Basal cell carcinoma	Sebaceous carcinoma
Next common malignancy	Basal cell carcinoma	Sebaceous carcinoma	Squamous cell carcinoms
Mean age	1 :1.6	1:1.2	1:1.4
Lid involvement	Upper lid> Lower lid	Lower lid>Upper lid	Upper lid>Lower lid

Verrucous carcinoma are rare variant of squamous cell carcinoma with low grade, well-differentiated, and very slow-growing malignancy [25]. Metastasis confined to eyelids is rare, representing less than 1% of malignant eyelid lesions [26].

CONCLUSIONS

Malignant eyelid tumors develop predominantly in elderly females involving upper lids more frequently. There is wide geographic variation in the incidence of malignant eyelid tumors worldwide. Though basal cell carcinoma is the most common malignancy of eyelid worldwide, sebaceous gland carcinoma is more common in some Asian Countries. Sebaceous gland carcinoma is the commonest malignancy in our study followed by Basal cell carcinoma and Squamous cell carcinoma. Sebaceous gland carcinoma being associated with an aggressive clinical course and poor prognosis, this tumor should be diagnosed early & deserves more aggressive treatment protocols. Eye lid metastasis can occur in patients with known systemic cancer or can present as the initial manifestation in an unknown primary. A high index of suspicion is needed for any painless lesion of the eyelids in patients with a history of breast cancer. Verrucous carcinoma is extremely rare eyelid tumors with better prognosis. They should be considered in the differential diagnosis of eyelid tumors.

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