

Original article:

Clinical and demographic profile and management of eyelid tumors at Pravara Rural Hospital Loni- A retrospective and prospective study

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ABSTRACT

Background and aim: Eyelid tumours are rarely lethal & completely treatable if detected early. But late diagnosis requires more invasive surgery-consequently adverse cosmetic effects. Accurate diagnosis of eyelid tumours is necessary to design management. The aim of this study was to evaluate clinical and demographical profile of 70 cases of eyelid tumour during a period of 3 and half years at a rural tertiary care hospital.

Material and method: A total of 70 cases of eyelid tumour treated at Pravara Rural Hospital from September 2014 to March 2018 were studied in detail. The demographics (age, gender), clinical profile (laterality, site of tumour, tumour topography, primary diagnosis), treatment modality and pathological diagnosis (benign/ malignant) of each patient were documented.

Results: A total of 70 cases were studied, all were from rural Indian population. The mean age of the study population was 40.95 (± 25.06) years. The mean age for benign and malignant tumours was 52.1 (± 25.9) years and 34.5 (± 26.66) years, respectively. Women were more commonly affected (58.57%). There were 88.57% benign tumours and 11.43% malignant tumours. Upper eyelid was more involved in benign tumour, whereas malignant tumours affected lower eyelid more. Among benign tumours, most common were tumours of epithelial origin i.e. 40.32%, followed by inflammatory tumours and melanogenic tumours i.e. 22.58% and 20.97%, respectively. Among malignant tumours, Sebaceous Gland Carcinoma was the most common.

Conclusion: Incidence of eyelid tumours, both benign and malignant, show geographical variation. Surgical excision remains the choice of treatment in majority of the cases. Histopathological diagnosis of every tumour is important for its proper management and good prognosis.

Key words: Eyelid tumours, benign tumours, malignant tumours, histopathological diagnosis, sebaceous gland carcinoma

INTRODUCTION

The eyelids play a very important role in protection of the eyes and maintenance of ocular integrity. They are also vital to the facial aesthetics. Though eyelids look comparatively simple, they consist of a complex structure composed of various layers including skin, areolar tissue, striated and non striated muscles, the tarsal plates, the conjunctiva, various glands and vessels and nerves supplying these structures. Tumours of the eyelids, thus, form a heterogeneous collection, involving these various structures and comprising of not only benign, but also of malignant

variety¹. Hence, histopathology of any eyelid tumour is very important for correct diagnosis and management.

The eyelid tumours represent more than 90% of ophthalmic tumours² and constitute about 40% of all tumour located in the orbital region.³ The eyelid region is one of the most common sites for nonmelanoma skin tumours. 90% of skin cancers occur in the head and neck region, out of them, skin cancers of eyelids account for 5-10%. Out of these, 95% of the tumours are basal cell carcinomas or squamous cell carcinomas.^{4,5}

The incidence of eyelid tumour is increasing.⁶⁻⁸ It varies depending upon the environmental factors like sunlight, ultra violet exposure and genetic factors including skin pigmentation. The prevalence also shows geographical variation.⁹⁻¹¹

Tumours of eyelid are completely treatable, if detected early and rarely lethal, but late diagnosis requires more invasive surgery- consequently adverse cosmetic effects.¹² Eyelid tumours thus form an important part of ophthalmology practice.

MATERIAL AND METHOD

The present study was an Observational Longitudinal study (Retrospective-Prospective) over a period of three and a half years (September 2014 to March 2018). IEC permission was taken for this study.

It included all consecutive cases of eyelid tumour that reported to the Department of Ophthalmology at Pravara Rural Hospital, Loni, a tertiary care hospital in rural Maharashtra, India, from September 2016 to March 2018. Written informed consent was taken, which was explained to the patient in local language to use his/ her medical records and clinical photographs for research purpose. The data from Sept 2014 to Aug 2016 was collected from Medical Records and Histopathology reports for retrospective study. Strict confidentiality was maintained regarding the details of cases from retrospective data.

Cases were studied for gender-age distribution, location of tumour, local examination of the tumour, treatment modality and incidence of malignant and benign tumours. Diagnosis of all operated cases was confirmed by histopathology & classified as per WHO International Classification²².

RESULTS

A total of 70 eyes of 70 consecutive subjects comprised this study, out of which 43 cases were prospective and 27 cases were retrospective. These included 62 (88.57%) benign cases and 8 (11.43%) malignant cases (Table 1). There were 41 female patients (58.57%) and 29 male patients (41.43%). A female preponderance was noted overall (M:F = 1:1.41) and in cases with benign tumours. There was no gender dominance seen in malignant cases. (Table 1)

In this study, age of the patients ranged from 2 years to 85 years. The mean age of the study population was 40.95 ± 25.06 years. The age distribution showed a peak in sixth decade (Mean age: 52.1 ± 25.9) for benign tumours, whereas malignant tumours were more common in seventh decade (Mean age: 34.5 ± 26.66) (Table 2)

According to the laterality and involvement of eyelid, significant variation was noted. Maximum number of malignant cases were seen on the lower eyelid (8.57%), mostly involving right eye (5.71%). While right and left upper eyelids (64.29%) were involved in majority of the benign cases, equally. The distribution according to laterality and location of malignant tumour shows, maximum involvement of right lower eyelid. (Table 3)

Among benign tumours (62 cases), most common tumours (40.32%) were of epithelial origin (epidermal cysts, keratinous cysts, sebaceous cysts) – 25 cases, followed by inflammatory tumour (chalazion) and Melanogenic tumours (nevus) i.e. 14 cases (22.58%) and 13 cases (20.97%), respectively (Fig. 1). The unclassified cases comprise of 2 viral warts. Female preponderance (37 cases- 52.86%) was noted in the incidence of benign tumours. Out of 62 benign cases, 38 were prospective and 24 were retrospective. The detailed histological classification of the benign tumours is summarized in Table 4.

Table 1: Gender distribution according to the type of eyelid tumours

NATURE OF TUMOUR	FEMALE	MALE	TOTAL(n=70)
BENIGN	37	25	62
	52.86%	35.71%	88.57%
MALIGNANT	4	4	8
	5.71%	5.71%	11.43%

Table 2: Age distribution according type of eyelid tumours

NATURE OF TUMOUR	<= 14 YEARS	15-45 YEARS	> 45 YEARS
BENIGN (52.1 ±25.9)	16	16	30
MALIGNANT (34.5 ±26.66)	1	3	4
TOTAT (n=70)	17	19	34

Table 3: Distribution according to site of involvement

SITE OF LESION	BENIGN		MALIGNANT		TOTAL
	RIGHT	LEFT	RIGHT	LEFT	
UPPER EYELID	22	23	0	2	47
LOWER EYELID	8	9	4	2	23
TOTAL	30	32	4	4	70

In this study, 8 malignant tumours were diagnosed (Fig. 2), which consisted of 3 cases of sebaceous gland carcinoma, 1 case of Basal cell carcinoma, squamous cell carcinoma, capillary hemangioma with malignant transformation, Kaposi's sarcoma and non-hodgkin lymphoma each. There was no gender variation seen in malignant cases (Table 5).

Out of total 70 cases, 62 cases (both benign and malignant) underwent surgical excision and the primary diagnosis was confirmed histopathologically.

One case of chalazion was treated with intratumoural triamcnenolone and 6 benign cases (5 Nevus, 1 Xanthelesma) were kept under observation. Out of 8 malignant cases, only one case of Kaposi's Sarcoma was left untreated due to unwillingness of the patient for the treatment.

We did not observe any cases of lymph node enlargement or distant metastasis in our study. One HIV positive case presented with Kaposi's Sarcoma. There was no significant systemic association with any other cases.

Table 4: Histological classification and age-gender distribution of benign tumors

TYPE OF TUMOUR (BENIGN)	<= 14 YEARS	15-45 YEARS	>45 YEARS	MALE	FEMALE	TOTAL
EPITHELIAL TUMOURS	3	6	16	10	15	25
MELANOGENIC TUMOURS	0	3	10	5	8	13
SOFT TISSUE TUMOURS	2	1	2	3	2	5
CHORISTOMAS	2	1	0	3	0	3
INFLAMMATORY TUMOUR LIKE TUMOURS	8	5	1	3	11	14
UNCLASSIFIED	0	1	1	1	1	2
TOTAL	15	17	30	25	37	--

Table 5: Histological classification and age-gender distribution of malignant tumours

TYPE OF TUMOUR (MALIGNANT)	<= 14 YEARS	15-45 YEARS	>45 YEARS	MALE	FEMAL E	TOTAL (8)
SQUAMOUS CELL CARCINOMA	—	—	1	—	1	1
BASAL CELL CARCINOMA	—	1	—	—	1	1
SEBACEOUS GLAND CARCINOMA	—	1	1	1	1	3
KAPOSÍ'S SARCOMA	1	—	—	1	—	1
CAPILLARY HEMANGIOMA WITH MALIGNANT TRANSFORMATION	—	1	—	1	—	1
NON-HODGKIN LYMPHOMA	—	—	1	—	1	1

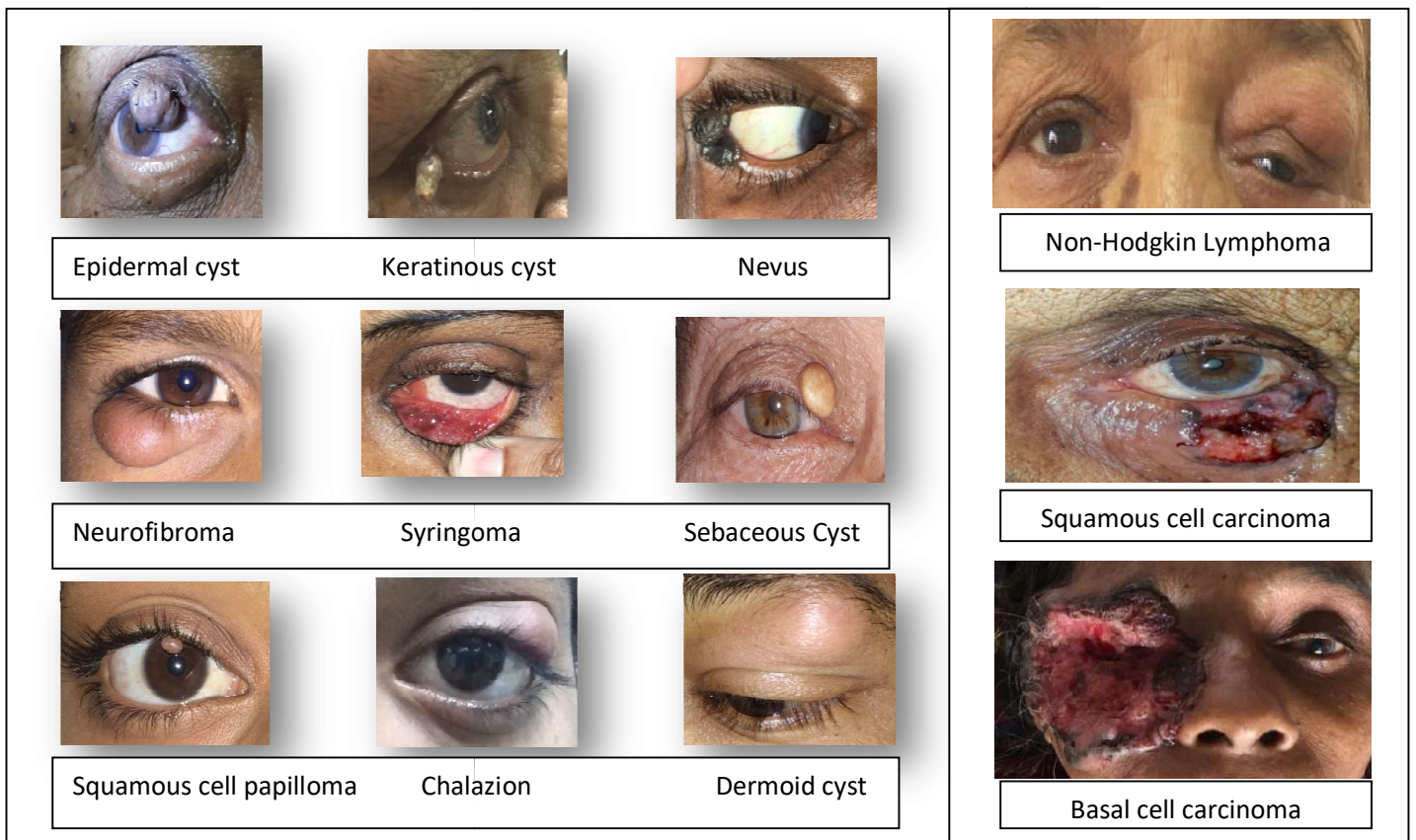
Table 6: Comparison of data from our study with various studies

Variables	Present study	Krishnamurthy H et al¹⁶	Rathod A et al²	Gupta P et al²⁵	Mohan BP et al²⁵	Chang CH et al¹¹	Pornpanich K et al¹⁰	Mary HO et al²³
Number of cases	70	235	100	52	414	144	297	198
M:F ratio	1:1.41	1:1.5	1:1.08	1:2.5	1:1.3	--	--	1:1.6
Mean age/ age range	40.95 (2y to 85 y)	3y to 85y	37.02	---	43.4	--	--	54
Most common benign tumour	Epidermal cyst	Epidermal cyst	Epidermal cyst	Sebaceous cyst	Epidermal cyst	Nevi	--	Epidermal cyst
Most common malignant tumour	SGC	SGC	BCC &SGC	SGC	SGC	BCC	SGC	BCC

(M: Male, F: female, Y: years SGC: Sebaceous gland carcinoma, BCC: Basal cell carcinoma)

Fig. 1

Fig. 2



DISCUSSION

Eyelid tumours are one of the most common pathology presenting to ophthalmology OPD. Benign eyelid tumours are the most frequent type of eyelid tumours in the general population^{10, 13}. In our study of 70 cases, benign tumours (88.57%) were more common than malignant tumours (11.43%). Among benign tumours, we found epidermal cyst as the most common (40.32%), followed by inflammatory tumours (22.58%) and melanogenic tumours (20.97%), respectively. These results were similar to the studies done by Krishnamurthy H et al (Karnataka), Rathod A et al (Hyderabad), Mohan BP et al (South India)^{2, 16, 24}. On the contrary, Deprez and Uffer (Switzerland) and Kersten (United States) reported papilloma (26%,

43.9% and 27.9%, respectively) and Chi and Beak (South Korea) found nevus (57.1%) as the most common benign eye lid tumour^{13, 26}. (Table 6)

We found, the overall incidence of eyelid tumours (including benign tumours) to be more in females with M: F ratio 1:1.41. Other studies by Pornpanich K et al, Yasser H et al, Krishnamurthy H et al, have also shown a female predominance of eyelid tumours^{10, 14, 16} (Table 6). Whereas, in our study, there was no variation according to gender among malignant tumours was noted (equal incidence). In this study, age distribution showed a peak in 5th decade (mean age 40.95 ±25.06 years). Similar studies from Asia have reported mean age of presentation as 43.2 years in Bangladesh, 52.4

years in Thailand and 62.6 years in Taiwan.^{18,19} Benign and malignant tumours were more common in sixth and seventh decades, respectively. (Table 6)

There was significant variation in the eyelid involvement among benign and malignant tumours. Maximum cases of malignant lesions were seen on the right lower eyelid. While right and left upper eyelids were involved in maximum number of the benign cases, equally. These results were found to be similar to the findings of Chang CH et al and Pornpanich et al studies^{10,11}.

This study has analyzed the entire spectrum of eyelid tumours (benign and malignant) and hence the malignant tumour incidence is low when compared to other studies. In the present study (Table 6), Sebaceous Gland Carcinoma (SGC) was the most common malignant tumour (3 cases out of 8). Rest malignant tumours were found one case each i.e. squamous cell carcinoma (SCC), Basal cell carcinoma (BCC), capillary hemangioma with malignant transformation, Kaposi's sarcoma and non-Hodgkin lymphoma. These results were consistent with the results found by Karan S et al, Gupta P et al, Mohan BP et al, Pornpanich K et al and Krishnamurthy H et al^{10, 15, 16, 24, 25}. As against, Abdi UN et al, Abbas et al, Derpez et al and Cook et al, showed BCC as the most common malignant tumour^{4, 6, 9, 13}. Though BCC is the most common malignant tumour of the eyelid worldwide, SGC is more common in Asian countries^{16, 20, 21}. We have found similar results in our study. It is thus observed that the

incidence of SGC has a geographical variation. SGC is an aggressive malignant tumour with sebaceous differentiation. Higher incidence of SGC can be attributed to oily nature of the skin among Indians. Low incidence of BCC and SCC can be due to more melanin in Indian population which provides protection from sunlight.

These types of eyelid malignancies have different clinical presentation, prognosis and treatment response. Thus to summarize, in our study, 62 cases were surgically treated, while medical line of treatment was given in only 1 case of chalazion. One case of basal cell carcinoma required exentration. Recurrence was seen in only one case of capillary hemangioma, which showed malignant transformation 3 months after excision. It was treated with revised excision and steroids. Being a rural area, patients preferred surgical line of treatment even in few medically treatable lid tumours (chalazion, capillary hemangioma), as it gave immediate cosmetic rehabilitation. This had an added advantage for confirmation of diagnosis by histopathology after surgical excision of the eyelid tumour.

CONCLUSION

Incidence of eyelid tumours, both benign and malignant, shows geographical variation. Surgical excision remains the choice of treatment in majority of the cases. Histopathological diagnosis of every tumour is important for its proper management and good prognosis.

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