



Original article

Clinicopathological study of eye lid tumors in Hyderabad – A review of 57 cases

Siddharth Karan¹, Manisha Nathani¹, Tanveer Khan¹, Sucheta Ireni¹, Aftab Khader¹

¹Department of Ophthalmology, Deccan College of Medical Sciences, Kanchanbagh (PO), Hyderabad-500058, Telangana, India.

Article history

Received 22 March 2016
Accepted 22 April 2016
Early online 12 July 2016
Print 31 July 2016

Corresponding author

Siddharth Karan

Professor,
Department of Ophthalmology,
Deccan College of Medical Sciences,
Kanchanbagh, Hyderabad-500058,
Telangana, India.
Phone: +91-9959094935
Email: drsiddharthkaran@gmail.com

Abstract

An eyelid tumor leads to functional and aesthetic problems. The prevalence and distribution of eye lid tumors have considerable variation. The aim of this study was to categorize the prevalence and distribution of various eyelid tumors among population of Hyderabad over 3 years duration. This was a prospective study of 57 cases who reported to our tertiary hospital in Hyderabad from January 2013 to December 2015. The cases were analyzed for their sex distribution, tumor type, age distribution, incidence of malignant and benign tumors, tumor location, and complications at the time of presentation. The mean age of presentation of malignant tumors and benign tumors was 56 and 39 years respectively. The median age of presentation was 64 years for basal cell carcinoma, 50 years for sebaceous gland carcinoma (SGC) and 62 years for squamous cell carcinoma (SCC). The median age of presentation of various benign lesions were as follows: 33 years for dermoid cyst, 40 years for epidermal cyst, 36 years for capillary hemangioma, 54 years for squamous papilloma, 56 years for granulomatous lesion, 41 years for nevus, 19 years for keratoacanthoma, 58 years for sebaceous keratosis, 40 years for histiocytoma, 33 years for neurofibroma, 43 years for pleomorphic adenoma. The most common location of the tumor was upper lid (55.55%) for all the malignancies. Sebaceous gland carcinoma was the most common malignancy (55.5%) followed by basal cell carcinoma (33.3%) and squamous cell carcinoma (11.1%). Dermoid cyst was the most common type of benign lesion (37.5%). Surgical methods used were wedge excision with primary closure, wide excision, skin grafting and tarso-conjunctival flap. To conclude, sebaceous gland carcinoma was the most common malignancy and dermoid cyst was the most common tumor of benign origin. Hence it is our suggestion to have high degree of suspicion for these tumors for early diagnosis and intervention.

Key words: Dermoid cyst, Sebaceous gland carcinoma

DOI: 10.5455/jmas.221842

© 2016 Deccan College of Medical Sciences. All rights reserved.

The incidence of eyelid tumors is increasing¹⁻⁵. Eyelid tumors thus form an important part of ophthalmology practice, and are by far the most common neoplasms encountered in ophthal-

mic practice. Tumors of eyelids are common in people of both sexes and all age groups representing more than 90% of ophthalmic tumors⁶. Most of the tumors are diagnosed clinically. The treatment

depends on the site, extent of spread and invasiveness of the tumor. Fortunately majority of these cases are either inflammatory or non-malignant tumors; however many malignancies can mimic a host of benign neoplasms and need differentiation before definitive therapy is started.

Materials and methods

The present study was a prospective analysis of 57 cases of eyelid tumors that reported to the Department of Ophthalmology at our tertiary healthcare facility in Hyderabad. Patients having lid swelling secondary to infectious lesion like stye, angioneurotic edema, molluscum contagiosum, pyogenic granuloma and chalazion were excluded from our study. In all the cases, the clinical diagnosis was confirmed preoperatively by FNAC or histopathology. These cases were treated with wide local excision with 5-10 mm margin of normal tissue and are combined with split skin grafts, tarsoconjunctival flaps or Mustarde's flaps. A review of histopathological specimens was possible in the cases and the features which were evaluated include pattern, differentiation, stromal invasion, epithelial involvement and mitotic activity. The cases were analyzed for their sex distribution, tumor type distribution, age group distribution, incidence of malignant and benign tumors, age of presentation, tumor location, complications at the time of presentation.

Result

In our study the mean age of presentation of eyelid tumors was 41 years (range 08-72). The median age of presentation of basal cell carcinoma was 64 years (range 53-66), 50 years (range 30-68) for sebaceous gland carcinoma (SGC) and only case of squamous cell carcinoma (SCC) presented at 62 years of age. There was male preponderance among all eye lid tumors in our patients as 68.42% of the patients were males. The most common tumor location was upper lid (n=44). 9 out of 57 cases were malignant.

Few eyelid tumors which are representatives of their sub-groups or were interesting cases are described below.

Basal cell carcinoma

Three cases of basal cell carcinoma were noted in our study. The patients were aged between 40 and 70 years. All the three cases were treated by wide local excision and reconstruction. All the three cases were treated surgically by Mustarde's technique for lower lid reconstruction by cheek rotation flap for the lower lid cases. Mustarde's technique for upper lid reconstruction using the lower lid was used to recon-

struct the upper eyelid defect. The excised sample was sent to histopathological examination and found to be well circumscribed. The single most important histopathological feature described by Margo and Waltz was whether the tumor was circumscribed or of an infiltrating type, since this has considerable prognostic implications.

Table 1: Distribution of cases according to the type of lesion

Type	Number	%	Male	Female
Malignant	09	15.79	02	07
Benign	48	84.21	37	11
Total	57	100	39	18

Table 2: Incidence of malignant tumors

Type	Number	%	Male	Female
Basal cell carcinoma	3	33.33	00	03
Sebaceous cell carcinoma	5	55.56	01	04
Squamous cell carcinoma	1	11.11	01	00
Total	9	100	02	07



Fig 1. Dermoid cyst: Pre and post operative state

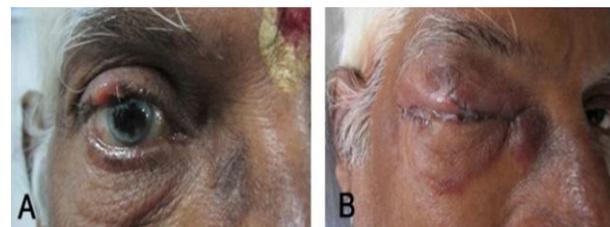


Fig 2. Sebaceous gland carcinoma: Pre and post operative state



Fig 3. Squamous cell carcinoma: Pre and post operative state

Sebaceous cell carcinoma

Five cases of sebaceous cell carcinoma were noted. All the cases on histopathological examination was found to be well differentiated to moderately differentiated types. All the cases were treated by Mustarde's technique of upper eyelid reconstruction by a lower lid rotation flap. They had excellent post-operative results with respect to eradication of the tumor, maintenance of functional integrity of the eyelid and cosmesis.

Local excision with plastic reconstruction is preferred for tumors in the early stages and within amenable limits. Mustarde's method of reconstruction has been considered the best suitable procedure (Hussain A and Gogi HN, 1981).

Squamous papilloma

Four cases of squamous papilloma were noted and were treated by simple excision. On histopathology, typical cysts lined by stratified squamous epithelium, filled with keratin were observed.

Hemangioma

Five cases were found. A conservative approach with 6 monthly follow up was advised. Three out of five cases were treated by simple excision and two lesions are treated by intralesional steroid injection.

Neurofibromatosis

One case of plexiform neurofibromatosis of the face was noted. The upper eyelid presented as large tortuous mass making the lid flabby and pendulous.

Keratocanthoma

Two cases of keratocanthoma were noted both were males. They presented with history of a swelling appearing on the right upper lid since few months gradually increasing in size. The lesion was excised successfully.

Discussion

57 cases of eyelid tumors were studied over a period of three year between January 2013-December 2015.

In the present study, benign tumors presented with male to female ratio of 37:11 and malignant lesions with male to female ratio of 2:7. In a study done by Gosai et al from June 2007 to July 2009, 120 patients of eyelid tumors were studied where male to female ratio was 1.4:1 for benign tumors whereas amongst the malignant cases females outnumbered males with ratio of 1.16:1 which correlates with our study⁷. In a retrospective study done by Sharma et al on 135 cases, female to male ratio was 1.3:1 in malignant

cases and thus showed preponderance of female patients in malignant tumors⁸.

Benign lesions accounted for 84.21% of all the cases, while malignant lesions accounted for 15.79%. Hence, the non-malignant lesions were almost 6 times more common than malignant lesions. In a similar study conducted in Siriraj Hospital from 2000 to 2004, the majority of tumors were benign, while malignant tumors contributed only 10.8% of the total eyelid lesions⁹. In a study by Rathod et al, there were 61 benign and 39 malignant cases out of a total of 100 cases of eyelid tumors⁶. In a similar study by Aurora and Bloodi in 1970 comprising of 892 cases, non-malignant lesions accounted for 76% of all the cases, while malignant cases accounted for 24%. Hence, they found that non-malignant cases were 3 times more common than malignant¹⁰.

In present study, age of presentation of malignant tumors ranged from 30 to 70 years and the most common age group was 41-50 years; benign tumor ranged 0-70 years and most common age group was 31-40. Wang et al reported 127 cases of malignant eyelid tumor with a mean age of presentation of 62.6 year¹¹. Rathod et al reported 100 cases of eyelid tumors with mean age of malignant eyelid tumors presentation was 58.59±11.271 and benign tumors was 37.02±16.847⁶.

Of all the malignant tumors, sebaceous gland carcinoma accounted for 55.56%, basal cell carcinoma accounted for 33.33% and squamous cell carcinomas accounted for 11.11%. In the study by Gosai et al in M & J Western Institute of Ophthalmology from June 2007 to July 2009, amongst the malignant tumors mebiomian gland carcinoma was maximum (46.34%) followed by basal cell carcinoma (29.26%) and then by squamous cell carcinoma (21.93%)⁷.

In a study done in Central India by Jahagirdar et al where a series of 27cases of eyelid malignancies were analyzed, sebaceous cell carcinoma (37%) was almost as prevalent as basal cell carcinoma¹².

In another study by Sharma et al, sebaceous cell carcinoma constituted 44.4% of all malignancies which was almost similar to our study⁸.

In a study done by Ramya et al sebaceous gland carcinoma was commonest malignant tumor (47.7%) followed by basal cell carcinoma (26.8%) and squamous cell carcinoma (21.9%)¹³. Sihota R et al (1996) performed a retrospective study of 313 tumors of the eyelids in the Indian population. There was almost equal incidence of sebaceous gland carcinoma (32.56%), basal cell carcinomas (29.77%) and squamous cell carcinoma (28.08%) among malignant tumors¹⁴.

Table 3: Incidence of benign tumors

Type	Number	%	Male	Female
Dermoid cyst	18	37.50	14	04
Epidermal cyst	8	16.66	6	2
Capillary hemangioma	5	10.41	4	1
Squamous papilloma	4	8.33	3	1
Granulomatous lesion	4	8.33	3	1
Nevus	3	6.25	3	-
Keratoacanthoma	2	4.16	2	-
Sebaceous Keratosis	1	2.09	-	1
Histiocytoma	1	2.09	-	1
Neurofibroma	1	2.09	1	-
Pleio-adenoma	1	2.09	1	-
Total	48	100	37	11

Table 4: Distribution of cases according to duration of the lesion at presentation

Duration	Malignant tumors	Benign tumors
0-1 yr	-	-
1 yr – 2 yrs	2	15
2 yrs – 3 yrs	4	13
3 yrs – 4 yrs	1	8
4 yrs – 5 yrs	1	6
> 5 yrs	1	6

In our study most of the benign tumors noted were dermoid cyst (37.50%), followed by epidermal cyst (16.66%), capillary hemangioma (10.41%), squamous papilloma (8.33%), granulomatous lesion (8.33%), intradermal nevus (6.23%). Also 2 cases of keratoacanthoma and 1 case each of seborrheic keratosis, histiocytoma, neurofibroma and pleomorphic adenoma was encountered (Table 3). In a study of clinical and pathological analyses of 269 cases of eyelid tumors by Xu et al reported that the most common benign tumors are inflammatory lesions, melanocytic nevus, papilloma, dermoid cyst and epidermal cyst¹⁵. It is reported by Shields and Shields that the dermoid cyst is the most common of all cystic lesions accounting for 37%¹⁶.

In Bastola et al study (2013), the conclusion was made that the most common benign lesion was dermoid cyst (21%) which was followed by epidermal inclusion cyst (14%) and then dermal nevus (12.2%)¹⁷.

Malignant lesions had a history of shorter duration at presentation, which was between 1 year and 5 years.

One case was for more than 5 years. Benign cases had a longer duration at presentation. Usual duration of presentation in both groups was 1-3 years (Table 4). This is probably due to the fact that malignant lesions are rapidly growing.

There was marked predilection for right eye in both benign and malignant lesions. Benign lesions had preponderance in the upper lids. The lid margins were more frequently involved in malignant lesions.

Malignant cases had a maximum incidence of complications at presentation. 7 out of 9 malignant tumors, presented with one or more complications and few upper lid tumors presented with mild to severe ptosis.

Both malignant and benign lesions did not have any postoperative complications.

Conclusion

This study of 57 cases of eyelid tumors was undertaken in the department of Ophthalmology at our institute between January 2013 and December 2015. Benign lesions were more common (84.21%) than malignant (15.79%). There was male preponderance with male:female ratio of all cases was 13:6. There was a significant variability in age incidence amongst the two groups. Malignant tumors presented maximally in the fifth decade of life, while benign lesions were maximum in the fourth decade. Sebaceous cell carcinoma and dermoid cysts had highest occurrence amongst malignant and benign tumors respectively. Malignant cases presented with shorter duration of disease whereas benign cases presented with relatively longer duration. There was predilection for right eye in both the groups. The upper eyelids were more frequently involved than the lower eyelid in both groups. The eyelid margins were more commonly involved in malignant lesions. This is a significant finding when considering surgical management. The most common mode of management of malignant cases was by wide local excision followed by reconstructive plastic surgery. The most frequent mode of management of benign tumors was by simple excision.

Acknowledgements: Nil

Conflict of interest: Nil

References

1. Abdi UN, Tyagi V, Maheshwari V, Gogi R, Tyagi SP. Tumors of eyelid: A clinicopathologic study. J Indian Med Assoc. 1996; 94(11):405-409, 416, 418.
2. Abe MY, Ohnishi Y, Hara Y, Shinoda Y, Jingu K. Malignant tumor of the eyelid Clinical survey during 22-year period. Jpn J Ophthalmol. 1983; 27(1):175-184.

3. Al-Buloushi A, Filho JP, Cassie A, Arthurs B, Burnier MN Jr. Basal cell carcinoma of the eyelid in children: A report of three cases. *Eye (Lond)*. 2005; 19(12):1313-1314.
4. Shields JA, Demirci H, Marr BP, Eagle RC Jr, Shields CL. Sebaceous carcinoma of the eyelids: Personal experience with 60 cases. *Ophthalmology* 2004; 111(12):2151-2157.
5. Wang JK, Liao SL, Jou JR, Lai PC, Kao SC, Hou PK, Chen MS. Malignant eyelid tumours in Taiwan. *Eye (Lond)* 2003; 17(2):216-220.
6. Rathod A, Pandharpukar M, Toopalli K, Bele S. A clinicopathological study of eyelid tumours and its management at a tertiary eye care centre of Southern India. *MRIMS Journal of Health Sciences* 2015; 3(1):54-58.
7. Gosai J, Mehta D, Pherwani K, Bhatt R, Agrawal K, Tandel D. Clinical study of lid tumors in adults patients in western region of India. *Journal of Evolution of Medical and Dental Sciences* 2014; 3(73):15364-15373.
8. Sharma M. Eyelid tumors: A retrospective analysis of 135 cases of a referral centre in western India.
9. Pornpanich K, Chindasub P. Eyelid tumors Siriraj Hospital from 2000-2004. *J Med Assoc Thai*. 2005; 88(Suppl 9):S11-14.
10. Aurora AL, Blodi FC. Reappraisal of basal cell carcinoma of the eyelids. *Am J Ophthalmol*. 1970; 70(3):329-336.
11. Wang JK, Liao SL, Jou JR, Lai PC, Kao SC, Hou PK, Chen MS. Malignant eyelid tumors in Taiwan. *Eye (Lond)*. 2003; 17(2):216-220.
12. Jahagirdar SS, Thakre TP, Kale SM, Kulkarni H, Mamtani M. A clinicopathological study of eyelid malignancies from central India. *Indian J Ophthalmol*. 2007; 55(2):109-112.
13. Ramya BS, Dayanand Sb chinmayee, Raghunatha AR. Tumors of the eyelids-a histopathological study of 86 cases in a tertiary hospital. *International Journal of Scientific and Research Publication* 2014; 4:1-5.
14. Sihota R, Tandon K, Betharia SM, Arora R. Malignant eyelid tumors in Indian population. *Arch Ophthalmol* 1996; 114(1):108-109.
15. Xu XL, Li B, Sun XL, Li LQ, Ren RJ, Gao F. Clinical and pathological analysis of 2639 cases of eyelid tumours. [Article in Chinese]. *Zhonghua Yan Ke Za Zhi* 2008; 44(1):38-41.
16. Shields JA, Shields CL. *Eyelid, conjunctival and orbital tumours: an atlas and textbook*, 3rd ed, Philadelphia (PA): Wolters Kluwer, 2016.
17. Bastola P, Koirala S, Pokhrel G, Ghimire P, Adhikari RK. A clinico-histopathological study of orbital and ocular lesions: A multi centre study. *Journal of Chitwan Medical College* 2013; 3(4):40-44.