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To Study the Histopathological Profile of Benign and Malignant Lesions of the Eyelids

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Abstract

Introduction: Tumors of the eyelid are by far the most commonly reported tumorous lesion in ophthalmological clinics and are most amenable to surgical removal. In routine practice, majority of the eyelid tumors are easily diagnosed from a clinical point of view and are not routinely subjected to histopathology for a confirmed definitive diagnosis. The literature is sparse upon frequency of different eyelid lesions across the world.

Aims: To study the histopathological profile of various benign and malignant tumors and tumor like lesions of the eyelids in hospital based population of Jammu region.

Methodology: The present study was carried out in Post Graduate Department of Pathology, Government Medical College, Jammu over a period of five years with effect from November 1st to October 31st 2015.

Observations: Our study included 80 eyelid lesions and were analyzed as per Performa annexed. During one year period from 1st November 2014 to 31st October 2015, 38033 patients attended Ophthalmology Department as per records. 68 patients were of benign lesions and 12 patients of malignant lesions. Incidence of benign lesions was 0.17% and incidence of malignant lesions was 0.03% in hospital based population of Jammu region.

Conclusion: In conclusion, the study confirms that benign tumors predominant over malignant ones. The overlapping presentations of benign and malignant lesions stresses the importance of histopathological diagnosis to increase the accuracy. This will help in planning proper treatment of these lesions especially the malignant ones, requiring less extensive surgeries and reconstruction.

Introduction

Tumours of the eyelid are by far the most commonly reported tumorous lesion in ophthalmological clinics **(Kumar R, 2010)** and are most amenable to surgical removal. In routine practice, majority of the eyelid tumors are easily diagnosed from a clinical point of view and are not routinely subjected to histopathology for a confirmed definitive diagnosis. The literature is sparse upon frequency of different eyelid lesions across the world.

The present study has been carried out to report the epidemiological traits of the very challenging eyelid tumors in a better perspective in a hospital based population of Jammu region. The goal of the ophthalmic pathology service is to enhance communication between the ophthalmic surgeon and the pathology laboratories and to provide detailed histopathological information that can be correlated with patient history and other clinical data. In this way histopathological studies have the greatest benefit to ongoing patient care.

The data pertains to the patients attending the Department of Ophthalmology OPD of Government Medical College and Hospital Jammu and hence will be useful for planning facilities for management of eyelid diseases in our hospital, specially malignant diseases, which need proper follow up.

Materials And Method

The study was conducted in the Post Graduate Department of Pathology, Government Medical college, Jammu. The Present study encompass 4 years retrospective and 1 year prospective analyses.

The present study was conducted in two parts

Retrospective study for a period of four years i.e from 1st November 2010 to 31st October 2014.

Prospective study for a period of one year from 1st st November 2014 to 31st October 2015.

During this period a total of 80 cases of eyelid lesions were diagnosed in the Department of Pathology, Government Medical College, Jammu and constituted the subjects of study. The cases with inadequate biopsy material were not included in the study. Inflammatory lesions like blepharitis and chalazion were excluded from the study.

Retrospective analysis was done by identifying the diagnosed cases of eyelid lesions from archives of histopathology division of the Department of Pathology, Government Medical College, Jammu. All the stained slides as well as corresponding paraffin blocks were retrieved. Also patient data whatsoever available, was retrieved from the histopathology records maintained in the department.

Haematoxylin and eosin(H&E) stained sections of the eyelid lesions were reviewed, and in those cases where slides were not available, fresh sections from the available paraffin blocks were cut and stained and then reviewed.

Prospective study material consisted of all resected eyelid lesions referred from Ophthalmology OPD, received in the histopathology section of the Department of Pathology w.e.f. November 1, 2014 to October 31st, 2015.

Data Analysis

The histopathological features of all eyelid lesions were described in detail and presented in the form of appropriate tables and diagrams. The age, sex,site, type and nature wise distribution of the eyelid lesions was analysed.

Observations

The present study was carried out in Post Graduate Department of Pathology, Government Medical College, Jammu over a period of five years with effect from November 1st to October 31st 2015.

The study was both retrospective and prospective in nature with retrospective study extending over a period of four years from November 1st 2010 to October 31st 2014 and prospective study extending over a period of one year from November 1st 2014 to 31st October 2015.

During this period, a total of 85 eyelid lesions were received in the Department of Pathology, Government Medical College, Jammu. Five lesions were not taken up for studies, as the biopsy was inadequate in these cases and no diagnosis could be signed out. Our study included 80 eyelid lesions and were analysed as per performa annexed.

Table 1: Histopathological distribution of Eyelid lesions

Eyelid Lesions	No. of Cases	Percentage (%)
Epidermal Inclusion Cyst	15	18.75
Nevus	9	11.25
Dermoid Cyst	9	11.25
Hemangioma	8	10.0
Squamous Cell Carcinoma	6	7.5
Neurofibroma	4	5.0
Seborrheic Kerotosis	3	3.75
Basal Cell Carcinoma	3	3.75
Sebaceous Cell Carcinoma	3	3.75
Lipoma	3	3.75
Fibroepithelial Polyp	2	2.5
Verrucoe vulgaris	2	2.5
Papilloma	2	2.2
Tricoepithelioma	2	2.5
Chondroid Syringoma	1	1.25
Spiradenoma	1	1.25
Molluscum Contagiosum	1	1.25
Xanthelasma	1	1.25
Sebaceous Hyperplasia	1	1.25
Fibroma	1	1.25
Bening fibromatosis Lesion	1	1.25
Granulomatous Pathology	1	1.25
Granulation tissue	1	1.25
Total	**80**	**100.00**

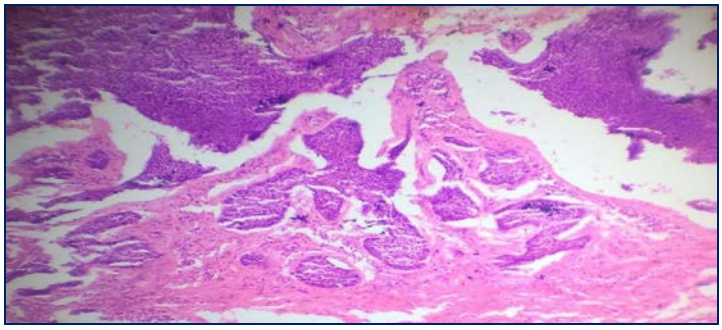

Fig 1: Basal cell carcinoma – The islands of tumor cells seen extending into the dermis in relation to a delicate specialized tumor stroma (HE X 100)

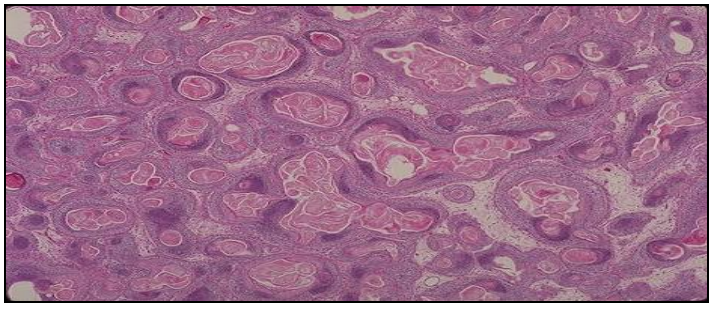

Fig 2: Tricoepithelioma – Dermal tumor with multiple, horn cyst of varying size (HE X 100)

Table 2: Distribution of Benign and Malignant Eyelid Lesions

Eyelid Lesions	No. of Cases	Percentage (%)
Benign	68	85
Malignant	12	15
Total	**80**	**100**

Table 3: Age-wise distribution of Eyelid Lesions

Age group (in years)	No. of Cases (%)
0-10	8 (10%)
11-20	14 (17.5%)
21-30	10 (12.5%)
31-40	15 (18.75%)
41-50	18 (22.5%)
51-60	8 (10%)
>60	7 (8.75%)
Total	**80 (100%)**

Table 4: Gender-wise distribution of Eyelid Lesions

Gender	No. of Cases	Percentage
Males	35	43.75%
Females	45	56.25%
Total	**80**	**100%**

Table 5: Gender-wise distribution of Benign and Malignant Lesions

Lesions	Males	Females
Benign	30(44.11%)	38(55.89%)
Malignant	5(41.66%)	7(58.34%)
Total	**35**	**45**

Discussion

Study of profile of a particular disease in a defined group of subjects or in a particular area, is conducted with an idea of obtaining data about the various lesions, their clinical behavior, frequency distribution as per age, gender, site of lesion and geographical distribution and comparison with similar studies from other regions.

We conducted our study, with a view of studying histopathological profile and relative frequency of various types of eyelid tumors in Government Medical College and Hospital based population of Jammu region.

Our study compilation presents data on 80 eyelid tumors presenting to Ophthalmology OPD clinics of GMC Jammu and their biopsy subjected to histopathology studies in PG department of Pathology, GMC Jammu, over a period of 5 years (4 years retrospective from 1st November 2010 to 31st October 2014 and 1 year prospective from 1st November 2014 to 31st October 2015).

Overall, it has been noticed that variety of lesions affect the eyelids because of its unique anatomical features. With increasing incidence and myriad presentation of eyelid lesions, they often pose a diagnostic dilemma to the attending ophthalmologist. Fortunately majority of the cases are inflammatory or nonmalignant neoplasms. As most of the malignant tumours tend to masquerade the benign lesions, all the studies previously done emphasize the role of histopathology for confirmation of the diagnosis .Concerning the frequency of various eyelid tumours in different regions limited data is available in the Indian literature. This study was hence designed to study the profile of eyelid tumours, benign and malignant, in hospital based population of Jammu region.

In the present study, out of the 80 eyelid lesions studied, epidermal inclusion cyst (n=15;18.75%) was most common lesion followed in frequency by nevus (n=9;11.25%) and dermoid cyst (n=9;11.25%). This is in accordance with study

conducted by Chauhan S *et al.* (2013) who found dermoid cyst (21%), epidermal inclusion cyst (14%) and nevus (12.25%) as frequently encountered eyelid lesions. Bastola P *et al.* (2013) also reported high incidence of dermoid cyst (21%), epidermal inclusion cyst (14%) and nevus(12.25%) among eyelid lesions.

In this series, for all the eyelid lesions we analysed, benign lesions comprised 85% of the total cases (n=68) and malignant lesions comprised 12 cases (15%). Thus, benign lesions comprised the vast majority of the cases in our study. Pornpanch K & Chindasub P (2005) also documented benign lesions in 89.2% cases and malignant lesions in 10.8% cases. A similar predominance of benign lesions was observed in the study done by Farhat F *et al.* (2010) in which benign lesions were 60.50% and malignant lesions were 39.50%. Paul S *et al.* (2012) documented benign lesions as 89.8% and malignant lesions as 10.2% in their study. In the study conducted by Ho M *et al.* (2013) benign lesions were 86% and malignant lesion 14%. Chauhan S *et al.* (2013) analysed benign lesions as 78.94% and malignant lesions as 21.0. Krishanmurthy H *et al.* (2014) reported higher incidence of benign lesions 91.9% than malignant ones 8.1%. Ramya BS *et al*. (2014) found high frequency of benign lesions 52.3% than malignant lesions 47.7%. Gosai J *et al.* (2014) found that benign lesions were 66% and malignant ones 34%. Asproudis I *et al.* (2015) noted higher prevalence of benign lesions 58.8% than malignant ones 41.2%.

The minimum and maximum age group of patient with eyelid tumors were 5 months and 65 years respectively. Our observed high range of age of patient is nearly same as reported by Faky YHA (2012) who observed minimum and maximum age of patient 2 and 87 years old.

In our study, mean age of patients with benign lesions was 33.24 years.

This younger age group is comparable to studies done by Xu XL *et al.* (2008), Bagheri A *et al.* (2013) and Gosai J *et al.* (2014) reporting mean age of 41 years, 47 years and 38.86 years respectively.

In this series mean age of patients with malignant lesions was 51.08 years.

Malignant lesions commonly involve older age groups. This is in accordance with Kal SM *et al.* (2012) study in which mean age of patients with malignant lesions was 59 years. Gosai J *et al.* (2014) also noted older age of 59.93 years involving malignant lesions.

Out of the 80 eyelid lesions studied, 35 were males and 45 were females giving M:F ratio of approximately 1:1.2. Thus female predominance was seen in our study.

Similar female predominance were shown in the studies conducted by Chang CH *et al.*(2003), Pornpanich K & Chindasub (2005), Paul S *et al.* (2011), Toshida H *et al.*(2012), Elshazly LHM (2012), Ho M *et al.*(2013), Asproudis I *et al.* (2015) and Gundogan FC *et al.* (2015) giving M:F ratio of 1:2, 1:2.8, 1:1.3, 1:1.5, 1:1.4, 1:1.5, 1:1.02 and 1:1.15 respectively.

In our study, both benign lesions with M:F ratio of 1: 1.4 and malignant lesions with M:F ratio of 1:1.4 are more prevalent in females. Toshida H *et al.* (2012) too observed higher incidence of females, both in benign lesions with M:F ratio of 1 : 5.7 as well in malignant lesions with M:F ratio 1 : 1.54.

This is in agreement with study conducted by Ho M *et al.* (2013) in which benign lesions with M:F ratio of 1:1.57 and malignant lesions with M:F ratio of 1:1.54 were observed.

In our study, epidermal inclusion cyst were the commonest benign lesions (n=15; 22.05%). A similar predominance of epidermal inclusion cyst was found in study conducted by Farhat F *et al.* (2010). This is in agreement with study done by Krishanmurthy H *et al.* (2014) who too, found epidermal

inclusion cyst as commonest benign lesions comprising 30.5% of the total cases studied.

In the current study, basal cell carcinoma, squamous cell carcinoma and sebaceous cell carcinoma were frequently encountered malignant eyelid lesions. This is in accordance with studies done by Loeffler M *et al.* (1990) and Lober CW *et al.* (1991) who too found these lesions as commonly found malignant l In this series, squamous cell carcinoma (n=6; 50%) was found to be commonest malignant lesion. This is followed by equal incidence of basal cell carcinoma (n=3; 25%) and sebaceous cell carcinoma (n=3; 25%).This is in accordance with study done by Abe M *et al*. (1983) who reported squamous cell carcinoma as commonest malignant eyelid lesion in 48.1% cases. This is in contrast to studies conducted by Paul S *et al.* (2011), Farhal F *et al.* (2010), Wang JK *et al.* (2002), Asproudis I *et al.* (2015), Lee SB *et al.* (2015) and Bagheri A *et al.* (2013) who observed basal cell carcinoma as commonest malignancy in 71.8%, 73.46%, 62.2%, 86%, 84% and 83% cases respectively.

Kumar R (2010), Krishnamurthy H *et al.* (2014), Gosai J *et al.* (2014) and Ramya BS *et al.*(2014) found sebaceous carcinoma as commonest lesion in 40.5%, 31.6%, 46.34% and 41.4% cases respectively.

This study provides an interesting overview of eyelid neoplasms in the hospital based population of Jammu region. There is wide spectrum of benign as well as malignant eyelid lesions because of its unique characteristic of having maximum variety of tissues per unit weight.

In conclusion, the study confirms that benign tumors predominant over malignant ones. Despite wide spectrum of histological spectrum of histological subtypes, majority of the cases come under a category of few predominant subtypes. Moreover, the overlapping presentations of benign and malignant lesions stresses the importance of histopathological diagnosis to increase the accuracy. All the eyelid lesions, which are biopsied should be subjected to histopathological studies for a timely accurate diagnosis. This will help in planning proper treatment of these lesions especially the malignant ones, requiring less extensive surgeries and reconstruction.

Reference

1. Abe MY, Ohnishi Y, Hara Y, Shinoda Y, Jignu K. Malignant tumor of the eyelid-Clinical survey during 22-year period. *Jpn J Ophthalmol* 1983; 27:175-84
2. Asproudis I, Sotiropoulos G, Gartzios C, Raggos V, Bai AP, Ntountas I, *et al.* Eyelid tumors at the university eye clinic of Ioannina, Greece: A 30- year retrospective study. *Middle East Afr J Ophthalmol* 2015; 22(2):230-2.
3. Bagheri A, Tavakoli M, Kanaani A, Zavareh RB, Esfandiari H, Aletaha M, *et al*. Eyelid masses:A 10-year survey from a tertiary eye hospital in Tehran. *Middle East Afr J Ophthalmol* 2013; 20(3):187-192.
4. Bastola P, Koirala S, Pokhrel G, Ghimire P, Adhikari RK. A clinico-histopathological study of orbital and ocular lesions; A multicentric study. *JCMC* 2013; 3(4):40-4.
5. Chang CH, Chang SM, Lai YH, Huang J, Su MY, Wang Hz, *et al.* Eyelid tumors in Southern Taiwan: A 5- year survey from a medical University. *Kaohsiung J Med Sci* 2003; 19:549-54.
6. Chauhan S, Shah S, Solanki P, Shah F, Shah C, Shah N. Accuracy of clinical diagnosis of eyelid lesion in a medical college in Gujarat. *Int J Res Med* 2013; 2(1):114-7.
7. Elshazly LHM. Eyelid tumours: A clinicopathological study. *Med. J. Cairo Univ* 2012; 80(2):95-101.
8. Faky YHA. Epidemiology of benign eyelid lesions in patients presenting to a teaching Hospital. *Saudi J Ophthalmol* 2012; 26(2):211-6.
9. Farhat F, Jamal Q, Saeed M, Ghaffar Z. Evaluation of eyelid lesions at a Tertiary Care Hospital,Jinnah

Postgraduate Medical Centre, Karachi. *Pak J Ophthalmol* 2010; 26(2):83-6.

10. Gosai J, Mehta D, Pherwani K, Bhatt R, Agrawal K, Tandel D. Clinical study of lid tumors in adult patients of western region of India. *JEMDS* 2014; 3(73):15364-15373.
11. Gundogan FC, Yolcu U, Tas A, Sahin OF, Unzun S, Cermik H, *et al*. Eyelid tumors: Clinical data from an eye center in Ankara, Turkey. *Asian Pac J Cancer Prev* 2015; 16(10):4265-9.
12. Ho M, Liu DTL, Chong KKL, Ng HK, Lam DSC. Eyelid tumours and pseudotumours in Hong Kong:a ten-year experience. *Hong Kong Med J* 2013; 19:150-5.
13. Kale SM, Patil SB, Khare N, Math M, Arvind J, Jaiswal S. Clinicopathological analysis of eyelid malignancies-A review of 85 cases. *Indian J Plast Surg* 2012; 45(1):22-8.
14. Krishnamurthy H, Tanushree V, Venkategowda H, Archana S, Mobin G, Silva AD, *et al*. Profile of eyelid tumors at tertiary care institute in Karnataka:A 5-years survey. *JEMDS* 2014; 3(50):11818-32.
15. Kumar R. Clinicopathologic study of malignant eyelid tumors. *Clin Exp Optom* 2010; 93(4):224-7.
16. Lee SB, Saw SM, Eong KGA, Chan TK, Lee HP. Incidence of eyelid cancers in Singapore from 1968 to 1995. *Br J Ophthalmol* 1999; 83:595-7.
17. Loeffler M, Hornblass A. A characteristics and behavior of eyelid Carcinoma (basal cell, squamous cell, sebaceous gland and malignant melanoma). *Ophthalmic Surg.* 1990; 21(3):5-7.
18. Paul S, Vo DT, Silkiss RZ. Malignant and benign eyelid lesions in San Francisco:Study of a diverse urban population. *American Journal of Clinical Medicine* 2011; 8(1):40-6.
19. Pornpanich K & Chindasub P. Eyelid tomors in Siriraj Hospital from 2000-2004. *J Med Assoc Thai* 2005; 88(9): S11-4.
20. Ramya BS, Dayananda SB, Chinmayee JT, Raghupati AR. Tumors of the eyelid-A histopathological study of 86 cases in Tertiary Hospital. *International Journal of Scientific and Research Publications* 2014; 4(11):1-5.
21. Toshida H, Mamada M, Fujimaki T, Funaki T,Ebihara N, Murakami A, *et al*. Incidence of benign and malignant eyelid tumors in Japan. *Int J Ophthalmic Pathol* 2012; 1(2):1-3.
22. Wang JK, Liao SL, Jou JR, Lai PC, Kao SCS, Hou PK, *et al*. Malignant eyelid tumours in Taiwan. *Eye* (2003); 17:216-20.
23. Xu XL, Li B, Sun Xl, Li LQ, Ren RJ, Gao F, *et al*. Eyelid neoplasms in the Beijing Tongren eye centre between 1997 and 2006. *Ophthalmic Surg Lasers Imaging* 2008; 39:367-372.