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EVALUATION OF EYELID TUMORS: RELATIVE FREQUENCY AND COMPARISON OF CLINICAL DIAGNOSIS WITH HISTOPATHOLOGICAL FINDINGS.

Pathology

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ABSTRACT

Background: Eyelid and periocular skin lesions are very common in patients. These lesions are numerous due to the unique anatomical features of the eyelid. The main aim of this study was to evaluate relative frequency of eyelid tumors and clinico-histological correlation.

Method: This was a prospective as well as retrospective study conducted in PBM hospital and associated group of hospitals in Bikaner zone and it included 93 cases of eyelid tumors which were examined histopathologically.

Result: Out of 93 cases, 79 were benign tumors and 14 were malignant. Most common benign eyelid tumor was epidermal cyst followed by dermoid cyst, nevus and pyogenic granuloma. Most common malignant eyelid tumor was basal cell carcinoma followed by sebaceous gland carcinoma and squamous cell carcinoma.

KEYWORDS

Benign Tumors, Epidermal Cyst, Basal Cell Carcinoma.

INTRODUCTION

Eyelids are beautiful curtains provided by nature to protect the eyeballs. Compared to any other organ of our body the eyelids have maximum variety of tissues per unit weight.[1] All the skin structures and its appendages, muscle, modified glands, and conjunctival mucous membrane are represented in the eyelid.[2] Benign tumours reported in an Indian study in eyelid include vascular tumours, neural tumours, dermoid cysts, squamous cell papilloma and naevi.[3] Malignancies in the eyelid account for approximately 5-10% of all skin cancers.[4] In general, the majority of malignant tumours affecting the eyelids are destructive lesions that distort or frankly destroy eyelid anatomy. Early diagnosis can significantly reduce morbidity and indeed mortality associated with malignant eyelid tumors.[5] The occurrence of eyelid skin tumour is mostly due to environmental factors including sunlight and ultra violet exposure and genetic factors including skin pigmentation. Therefore, the prevalence of these types of tumours shows a geographical variation. Among the malignant category, basal cell carcinoma (BCC) has been shown to have the highest incidence followed by sebaceous gland carcinoma (SGC), lymphoma, squamous cell carcinoma (SCC), and malignant melanoma.[3]

MATERIALS AND METHODS

The present study was a prospective as well as retrospective study and included 93 cases. Biopsies and whole specimen was received in 10% formalin. Gross features of the specimens received were recorded. Representative sections taken and after processing, tissue was embedded in paraffin wax to make blocks. After making section in microtome, staining was carried out with haematoxylin and eosin (H&E) stain. Special stains were done whenever necessary. INCLUSION CRITERIA- Patient with benign or malignant eyelid tumour who has given informed consent. EXCLUSION CRITERIA- 1. Infective Lesion of Eyelid. 2. Inflammatory Lesion of Eyelid.

RESULTS

Out of total 93 cases, 79 (84.95%) cases were benign tumours and 14 (15.05%) were malignant tumours. Among benign tumours, 43 (54.43%) were male and 36 (45.57%) were females. Out of 14 cases of malignant tumours, 6 (42.86%) were male and 8 (57.1%) were females (Table: 1)

Table 1: Relative Frequency of Benign and Malignant Eyelid Tumours

Sex / Tumor	Male (n=49)		Female (n=44)		Total
	No	%	No	%	
Benign	43	54.43	36	45.57	79
Malignant	6	42.86	8	57.14	`14
Total	49	100%	44	100%	93

The maximum patients having benign tumours were in 21-30 years of age group. The maximum numbers of patients having malignant tumours were in >70 years of age group. Out of total 79 cases of benign eyelid tumours, 30 (37.97%) were epidermal cysts, 10 (12.65%) were dermoid cysts, 9 (11.39%) were intradermal naevus, 7 (8.86%) were pyogenic granuloma, 6 (7.59%) were capillary hemangioma, 3 (3.79%) were squamous papilloma and sudoriferous cyst each, 2 (2.53%) were neurofibroma, seborrheic keratosis and trichilemmal cyst each and 1 (1.26%) case of meibomian duct cyst, calcinosis cutis each. (Table: 2)

Table 2: Relative Prevalence of Various Benign Eyelid Tumours

Benign tumour	No. of cases	Percentage
Epidermal cyst	30	37.97
Dermoid cyst	10	12.65
Intradermal naevus	9	11.39
Pyogenic granuloma	7	8.86
Capillary hemangioma	6	7.59
Sudoriferous cyst	3	3.79
Squamous papilloma	3	3.79
Neurofibroma	2	2.53
Trichilemmal cyst	2	2.53
Seborrheic keratosis	2	2.53
Meibomian duct cyst	1	1.26
Calcinosis cutis	1	1.26
Pleomorphic adenoma	1	1.26
Pilomatricoma	1	1.26
Lymphangioma	1	1.26
Total	79	

Out of total 93 cases of eyelid tumours, 39 (41.93%) involved right eye and 42 (45.16%) left eye. Among 79 cases of benign eyelid tumours, 21 (26.5%) cases involved right upper lid, 19 (24.0%) left upper lid, 15 (18.9%) and 11 (13.9%) involved right lower lid and left lower lid, respectively. Eleven (13.9%) cases of benign tumour involved more than one site and/or canthus. Out of total 93 cases of eyelid tumours, 14 (15.05%) were malignant. Malignant tumours included 4 cases of sebaceous gland carcinoma (SGC 28.57%), 8 basal cell carcinoma (BCC 57.14%) and 2 squamous cell carcinoma (SCC 14.29%). Out of total 14 cases of malignant eyelid tumours, 6 (42.86%) were male and 8 (57.14%) were female. There were 4 patients of sebaceous gland carcinoma, out of which 2 (50.00%) were male and 2 (50.00%) were female. Among 8 patients of basal cell carcinoma, 4 (50%) were female and 4 (50%) were male. Out of 2 patients of squamous cell carcinoma, both were female (100%). (Table: 3)

Table 3: Sex distribution of Malignant Eyelid Tumours

Malignancy	Male (n=6)		Female (n=8)	
	Number	%	Number	%
SGC	2	50.00	2	50.00
BCC	4	50.00	4	50.00
SCC	0	00.00	2	100.00
Total	6		8	

Out of 14 cases of malignant eyelid tumour, 5 (35.71%) cases involved left upper lid and left lower lid each, 2 (14.2%) right upper lid. Right lower lid involvement was seen in 1 (7.14%) cases. In one (7.14%) case, tumor involved more than one site or canthus.

DISCUSSION

Age group of the patients in present study ranged from 1 year to 89 years. Mean age of the study population was 38.92 years (Standard deviation ±21.54). Mean age of the patients having benign tumour in present study was 36.92 years (Standard deviation ±21.79) and ranged from 1 to 89 years. Abbas Bagheri et al (2013)[6] found that the mean age of patients with benign tumours was 46.4 years (Standard deviation ±20.7). Out of total 93 cases, 79 (84.95%) patients were found to be benign eyelid tumours on HPE which is nearly similar to that reported by Hemalatha Krishnamurthy et al (2014)[7] from Karnataka in which they found that 91.9% cases were benign eyelid tumours. Xu et al[8] from Beijing found 86.2% benign tumours involving 2638 patients, Deprez et al[9] found 84% benign lesion from study on 5504 cases, Paul S et al[10] found that 75.9% were benign and Obata H et al[11] who found 73% benign cases. However, studies by Abdi et al[3] from India and Bagheri A et al[6] from Tehran have reported 58.9% (n= 207 cases) and 45.5% (n=182 cases) respectively, showing comparatively lesser prevalence of benign lesions. Most studies shows that benign lesions largely constitute most frequent type of eyelid tumours out numbering the malignant category in general population.[8,9,10,11] Among patients having benign tumours, male (n=43; 54.43%) slightly outnumbered female patients (n=36; 45.57%) in present study. This was in contrast with study done by Hemalatha Krishnamurthy et al (2014)[7] from India who found male to female ratio 1:1.5. In present study, epidermal cyst (n=30; 37.97%) was found most common benign tumour, followed by dermoid cyst (n= 10; 12.65%), intradermal naevus (n=9; 11.39%). Our results are similar to study done by Hemalatha Krishnamurthy et al (2014)[7] from Karnataka in which the most common benign lesions were epidermal cysts (30.5%), nevi (17.5%), dermoid cysts (13.8%). In present study, histopathological examination confirmed the clinical diagnosis in 91.13% (72/79) specimens of benign lesions. However discordance between the clinical and histopathological diagnosis was noted in 8.86% cases (7/79) of the benign lesions. This is similar to discordance between clinical and HPE diagnosis study done by Özdal et al[6] (6.4%) and is higher than Kersten et al[12] (2.3%), AL-Faky et al[13] (4.1%).

The mean age of the patients having malignant tumour was 58.76 (Standard deviation ± 15.42) years and ranged 30-80 years. These results are similar to the results of a study done by Satish M. Kale (2012)[14] from India who observed the mean age for the eyelid malignancies was 59 years. Out of total 93 cases, 14 (15.05%) patients were found to be malignant eyelid tumours on HPE in present study. These results are in agreement with many similar studies done in India and abroad. Basal cell carcinoma (BCC, 57.14%) ranked first among malignant eyelid tumours, sebaceous gland carcinoma ranked second (SGC, 28.67%) and squamous cell carcinoma (SCC, 14.29%) was least common malignant tumour. Our results are in agreement with study done by Asproudis et al (2015)[15] and Abbas bagheri et al (2013)[6] who found BCC (86%) most common followed by SGC and SCC. Out of 14 cases of malignant eyelid tumour, 10 (71.42%) cases involved left eye and 3 (21.42%) cases involved right eye in present study and showed preference for left eye. In present study, histopathological examinations confirmed the clinical diagnosis in 78.57% (11/14) specimens of malignant lesions, and 21.42% (3/14) discordance was noted between the clinical and histopathological diagnosis of the malignant eyelid tumour.

CONCLUSION

Benign eyelid tumors are far more common than malignant (6:1). Mean age of the patients with benign tumor was lower as compared to malignant tumors. Discordance between clinical and histopathological diagnosis was more in malignant eyelid tumors (21.42%) as compared to benign tumors (8.86%).

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