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Original Research Article

Clinical profile and histo-pathological profile of peri-ocular lesions

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ABSTRACT

Background: Eyelid carcinoma is the most common malignant lesion of eyelid region, and may involve either skin or tarus or inner layer of eyelid. The most common primary eyelid malignancy is basal cell carcinoma (BCC), squamous cell carcinoma (SqCC), sebaceous gland carcinoma (SGC), malignant melanoma, and Merkel cell carcinoma. The prevalence of these malignant lesion vary according to the geographical region. The aim of the study was to correlate the diagnosis of various peri-ocular lesions with the histological diagnosis.
Methods: This prospective longitudinal study was conducted over a period of two years in patients with ocular and periocular skin lesions. All the patients underwent incision biopsy of the lesion biopsy material was sent for histopathology examination. The histological profile of the tumour was confirmed by the report.
Results: The mean age in our study was 32.7±18.4 years with age range of 18 to 78 years, with 108 females (54%) and 92 males (46%). 173 (86.5%) were benign lesions and 27 (13.5%) were malignant lesions. Right eye was involved in more cases (n=104, 52%) as compared to left eye (n=96, 48%). Upper eye lid was involved more (n=102, 51%) than lower eye lid (n=98, 49%). Epidermal cyst was most common lesion (n=43, 21.5%), followed by dermoid cyst (n=28, 14%). Sebaceous gland carcinoma was most (n=15, 7.5%) malignant lesion, followed by basal cell carcinoma (n=7, 3, 5%).
Conclusions: All excised eyelid lesions must be submitted for histopathologic confirmation to achieve 100% accuracy in diagnosis and treatment. Early diagnosis remains essential for adequate functional and cosmetic lid reconstruction.

Keywords: Eyelid tumours, Histopathology, Malignancy, Cyst

INTRODUCTION

There are numerous skin appendages in the eyelids which give rise to a wide spectrum of skin lesions.[1] These lesions vary in their type and prevalence depending upon the geographical location, race, age, gender, skin type and genetics.[2] The initial clinical diagnosis is based on clinical history and appearance of the lesions, and final diagnosis is established on histopathology. Though ophthalmic tumors are not very common entities, they pose a challenge for diagnosis. Eyelid carcinoma is the most common malignant lesion of eyelid region, and may involve either skin or tarus or inner layer of eyelid.[3] The most common primary eyelid malignancy is basal cell carcinoma (BCC), which is rarely metastatic. Other carcinomas such as SqCC, SGC, malignant melanoma, and Merkel cell carcinoma are more spreading in nature to the surrounding structures and have a more pronounced metastatic potential.[4-6] The prevalence of these malignant lesion vary according to the geographical region. BCC accounts for upto 90-95% of all the eyelid malignancies, whereas SqCC and SGC make up only less than 10% of the malignancies.[7,8] However, in Asian countries, SGC is as common as BCC and accounts for upto 27-53% of all the eyelid malignancies.[9-11] Adverse prognostic features include involvement of the upper eyelid, a tumour size of 10 mm or more, and a duration of symptoms of over six months. The majority of the existing literature on focuses

mainly on the neoplastic masses but fails to throw light on the entire spectrum. The aim of the study was to correlate the diagnosis of various periocular lesions with the histological diagnosis.

METHODS

This prospective longitudinal study was conducted over a period of two years from March 2020 to February 2022 in the Ophthalmology department of Government Medical College, Jammu after obtaining ethical approval from the Institutional Ethics Committee. All the patients were informed about the purpose of the study and written informed consent was obtained. Patients who fulfilled the following criteria were included in the study.

Inclusion criteria

Patients with ocular and periocular skin lesions, above 18 years of age, willing to undergo skin biopsy, were included in the study.

Exclusion criteria

Patients with infective and traumatic lesion involving ocular and periocular region were excluded from the study.

A detailed history regarding the site, time of onset, progression, laterality of the lesion was obtained. General physical examination was done to rule out any systemic diseases. All the patients underwent incision biopsy of the lesion biopsy material was sent for histopathology examination. The histological profile of the tumour was confirmed by the report.

Statistical analysis

All the data was entered into Microsoft excel and subsequently analysed using Open Epi online software version 3. Qualitative data was expressed as percentages and proportions and quantitative data was expressed as mean±SD. A p value<0.05 was considered as statistically significant. All p values used were two tailed.

RESULTS

Out of 200 patients included in our study, there were 108 females (54%) and 92 males (46%) with female to male ratio of 1.18:1. The mean age in our study was 32.7±18.4 years with age range of 18 to 78 years.

Out of the total 200 diagnoses, 173 (86.5%) were benign lesions and 27 (13.5%) were malignant lesions. Right eye was involved in more cases (n=104, 52%) as compared to left eye (n=96, 48%). Upper eye lid was involved more (n=102, 51%) than lower eye lid (n=98, 49%). Among the gender distribution, female patients outnumbered male patients by ratio of 1.8:1 in benign lesions. Benign lesions were predominantly cysts and inflammatory lesions. Epidermal cyst was most common lesion (n=43, 21.5%), followed by dermoid cyst (n=28, 14%), hemangioma (n=25, 12.5%) and intradermal nevus (n=22. 11%). Other benign tumours included squamous papilloma, sebaceous cyst, pyogenic granuloma, compound naevus, ductal cyst, neurofibroma, trichilemmal cyst, verruca vulgaris (Table 1). Out of the total 200 diagnoses, 173 (86.5%) were benign lesions and 27 (13.5%) were malignant lesions. Right eye was involved in more cases (n=104, 52%) as compared to left eye (n=96, 48%). Upper eye lid was involved more (n=102, 51%) than lower eye lid (n=98, 49%). Among the gender distribution, female patients outnumbered male patients by ratio of 1.8:1 in benign lesions.

Benign lesions were predominantly cysts and inflammatory lesions. Epidermal cyst was most common lesion (n=43, 21.5%), followed by dermoid cyst (n=28, 14%), hemangioma (n=25, 12.5%) and intradermal nevus (n=22. 11%). Other benign tumours included squamous papilloma, sebaceous cyst, pyogenic granuloma, compound naevus, ductal cyst, neurofibroma, trichilemmal cyst, verruca vulgaris (Table 1).

Out of the 27 malignant lesions, sebaceous gland carcinoma was most (n=15, 7.5%), followed by basal cell carcinoma (n=7, 3, 5%) and squamous cell carcinoma (n=5, 2.5%). The mean age of patients having malignant lesions was 57.28±9.8 years, with an age range of 34-77 years. The histopathological examination confirmed the diagnosis in 93.6% cases (162/173) of benign specimens and 85.2% cases (23/27) of malignant specimens. No recurrence was found in follow up of cases for upto 2 years of the study.

Table 1: Demographic data of patients.

Parameters		Percentage
Mean age (years)	32.7±18.4	
Gender distribution		
Males	92	46
Females	108	54

Table 2: Frequency distribution of different benign eye lid lesions.

Lesions	n	Percentage
Epidermal cyst	43	21.5
Dermoid cyst	28	14
Hemangioma	25	12.5
Intradermal nevus	22	11
Squamous papilloma	19	9.5
Sebaceous cyst	17	8.5
Pyogenic granuloma	10	5
Compound naevus	4	2
Ductal cyst	2	1
Neurofibroma	1	0.5
Trichilemmal cyst	1	0.5
Verruca vulgaris	1	0.5

DISCUSSION

In our study involving 200 patients, prospective data of patients was analysed over two years duration. Eyelid lesions are very common in ophthalmology practice and various cutaneous lesions are encountered due to their histologic similarity to the skin. Eyelid cancers represent approximately 5 to 10% of all cutaneous malignant tumours.[12] Prevalence of different types of eyelid tumours can be influenced by genetic factors, ethnicity, geographical region, latitude, and sunlight exposure.

Similar results have been reported in various studies conducted in India and other countries. Krishnamurthy et al from Karnataka reported 91.9% cases of benign eyelid tumours in their study.[13] Xu et al from Beijing reported 86.2% benign tumours involving 2638 patients, Deprez et al found 84% benign lesions in their study involving 5504 cases, Paul et al found that 75.9% were benign and Obata et al found 73% benign cases, in their respective studies.[14-17] However, Sihota et al reported 56.86% malignant lesions and 43.14% benign lesions in their study.[18] This could be attributed to referral pattern to a tertiary centre. Most of the studies have reported that benign lesions constitute a majority of the peri-ocular lesions, similar to our study.

Krishnamurthy et a from Karnataka reported epidermal cysts (30.5%), naevi (17.5%), dermoid cysts (13.8%) and papilloma (6.5%) as the most common benign lesions in their study.[13] However Abdi et al reported vascular tumours (21.3%), neural tumours (18.0%), dermoid cysts (16.4%), squamous cell papilloma (13.1%) and naevi (12.3%) as the common benign lesions, in their study.[19] Different studies have reported various frequencies of benign tumours, someof which are similar to our study. Ni et al from China reported papilloma (43.9% and 27.9%, respectively) to be the most common lesion, Bagheri et al (Tehran 35%), Obata et al (Japan 21.9%) and Ho et al (Hong Kong 27%) found nevus to be the most common benign lesion.[20-22]

In our series 27 (13.5%) cases were found to be malignant eyelid tumours which is similar to studies by Krishnamurthy et al (8.1%), Xu et al from Beijing (13.8%) and Deprez et al 16%.[13-15] Malignant tumours of the eyelid, which are of different histological types, are encountered in ophthalmic practice. These malignant tumours present differently, their progression varies and response to surgery differs. The three features with the highest Odd ratio in predicting malignancy were obliteration of lid margin (OR=17.3, p=0.001), ulceration (OR=12.5, p=0.006), and loss of eyelashes (OR=5.8, p=0.009). The acronym LUO (loss of eyelashes, ulceration, obliteration of lid margin) was created to assist in memory recall. The LUO triage key provides physicians with an evidence-based, easy-to-remember system for assisting in the triaging of these lesions. Sebaceous gland carcinoma was most (n=15, 7.5%), followed by basal cell carcinoma (n=7, 3, 5%) and squamous cell carcinoma (n=5, 2.5%), in our study. These results are similar to that reported by Krishnamurthy et al.[13] The study by Sihota et al found that there was an almost equal incidence of sebaceous gland carcinomas (32.58%), basal cell carcinomas (29.77%), and squamous cell carcinomas (28.08%).[18] These differences could be attributed to the different referral patterns.

Limitations

Only benign and malignant peri-ocular lesions were included in the study with no inflammatory lesions included. The follow up period was short to study any recurrence of the lesions.

CONCLUSION

All excised eyelid lesions must be submitted for histopathologic confirmation to achieve 100% accuracy in diagnosis and treatment. Early diagnosis remains essential for adequate functional and cosmetic lid reconstruction.

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