



SPECTRUM OF EYELID LESIONS OVER A PERIOD OF 2 YEARS- A RETROSPECTIVE HISTOPATHOLOGICAL STUDY

Pathology

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ABSTRACT

Background: Eyelid lesions are commonly encountered in histopathology practice and comprises of a wide variety of benign and malignant lesions. Here we present the histopathological features of eyelid lesions in patients presenting in RIMS Ranchi, Jharkhand. This study was undertaken to evaluate the distribution of various eyelid lesions and identify the clinicopathological correlation.

Objectives: To retrospectively carry out a histopathological analysis of eyelid lesions, specimens of which were received in the Department of Pathology of RIMS, Ranchi.

Methods: In this retrospective study, a total of 52 eyelid lesions were identified over a period of 2 years (January 2018 - December 2019). In each case, details including age, gender and final histopathological diagnosis were retrieved from histopathology registers and biopsy reports.

Result: Out of the 52 eyelid lesions, 42 were benign and 10 were malignant tumours. The most common eyelid lesion was epidermal cyst 8(19.05%) cases followed by chronic inflammatory lesion 6(14.29%) cases. The most common malignant eyelid lesion was Squamous Cell Carcinoma 6(60%) cases.

Conclusion: Epidermal cyst is the most common eyelid lesions requiring biopsy and sebaceous cell carcinoma is the most common malignant eyelid tumour. All surgically excised eyelid lesions must be subjected to histopathological examination without fail to provide a definitive diagnosis, proper management and continued patient care.

KEYWORDS

Eyelid lesions, epidermal cyst, Squamous Cell Carcinoma

INTRODUCTION

Eyes are vital organs essential for vision and are covered by a pair of Eyelids. In addition to protecting the crucial ocular adnexa, it also generates critical components of tear film. Eyelids harbour multiple tissue types consisting of epithelial, adnexal, histiocytic, vascular and neural components.

The unique histology of eyelid consists of skin and subcutaneous tissue with appendages sebaceous glands (Meibomian glands and glands of Zeis), apocrine glands (glands of Moll) and eccrine sweat glands, striated muscle (orbicularis oculi), tarsus and the palpebral conjunctiva. Hence the lesions of eyelid have diverse features and varied progression.

The eyelid neoplastic pathology is very polymorphic and mostly based on different types of skin cancer (basal cell carcinoma, squamous carcinoma, accessory glands carcinomas, and malignant melanoma). Many cutaneous and eyelid diseases are quite similar because of the common ontogenetic origin. Ninety percent of skin cancers arise to head and neck and 10% from them are located at eyelid level^[1].

Eyelid lesions are common concerns amongst patients and comprises of a wide range of benign and malignant lesions. These lesions can be aesthetically disturbing to the patient as well as diagnostically challenging for the doctors.

In ophthalmology clinic, eyelid tumours are by far the most common neoplasm. 15% of all tumours of face and 5-10% of all skin tumours are eyelid tumours^[1, 3, 4]. There are plenty of eyelid lesions due to presence of skin, appendages, modified glands and conjunctival mucous membrane in the eyelid.

The global distribution of eyelid swellings vary remarkably and their incidence appear to be increasing. Basal cell carcinoma is the most common malignant eyelid tumor in western countries, whereas in Asia, the frequency of sebaceous gland carcinoma and squamous cell carcinoma are relatively high^[7]. Most common benign lesions in various studies are dermoid cysts, nevi, epidermal cysts and papilloma^[14].

Lack of proper treatment of these lesions can result in debility, visual loss, facial disfigurement and also psychosocial impact. The diagnosis of diseased eyelid lesions plays a very important role in patient care^[8].

The present study aims at evaluation of the histopathological spectrum of lesions of eyelid to contribute to literature information on various eyelid lesions diagnosed in our institute and to improve the availability of proper treatment strategies in our hospital.

MATERIALS AND METHODS

Type of study and place of study: This is a retrospective study conducted over a period of 2 years (January 2018 to December 2019) in the Department of Pathology, Rajendra Institute of Medical Sciences, Ranchi, Jharkhand.

Sample collection and sampling method: A total of 52 eyelid biopsies were received from patients attending the department of ophthalmology of our institute.

Inclusion criteria: All eyelid lesions were studied as per histopathological and epidemiological data.

The clinical features (laterality, tumour topography), indications for biopsies, demographics (age, sex), provisional clinical diagnosis and histopathological diagnosis were noted. All cases were processed by formalin fixation, paraffin embedding and haematoxylin and eosin staining. Special stains such as PAS stain were used whenever required.

The consent from all the patients was taken before using their slides for research purpose.

RESULT: A total 52 cases of different eyelid lesions were analysed during the 2-year retrospective study period of which 42 were benign and 10 were malignant lesions. Patients presenting with eyelid lesions ranged in age from 1 year to 80 years. The most common age group was 11-16 years followed by 0-10 years. The lowest prevalence of eyelid lesions i.e., 3 (5.77%) was found in the age group 71-80 years and 21-30 years (Table 1). Of the total number of cases, 29 (55.77%) were females and 23 (44.23%) were males with M: F ratio of 1:1.26. Female predominance was noted.

Table 1: Age distribution of patients with eyelid lesions

Age (Yrs)	No of Cases	Percentage
0-10	9	17.31%
11-20	16	30.77%

21-30	3	5.77%
31-40	7	13.46%
41-50	5	9.62%
51-60	4	7.69%
61-70	5	9.62%
71-80	3	5.77%
Total	52	100.00%

In the category of benign eyelid lesions, prevalence of epidermal cyst (8 cases) was the highest followed by chronic inflammatory lesions (6 cases), fibrocollagenous tissue and rhinosporidiosis. Among all the malignant eyelid lesions received, prevalence of squamous cell carcinoma was highest (60%, n=6). Other malignant lesions that were encountered included basal cell carcinoma, Non Hodgkins Lymphoma (NHL, small cell type), sebaceous adenocarcinoma and malignant melanoma, each constituting 10% (n=1) of total malignant cases (Table 3).

In the category of benign eyelid lesions, 3 cases were of hemangioma and 2 cases each of molluscum contagiosum, granulomatous lesions, vernal conjunctivitis & benign cystic swelling. One case of ocular cysticercosis and pilomatricoma was also identified. Other benign lesions were sebaceous adenoma, fibroepithelial polyp, benign lipomatous lesion, benign adenomatous lesion, simple ductal cyst, conjunctival dacroadenoma (Table 2).

Pediatric cases (less than 12 years of age) constituted 19.23% (10 cases), most of which was benign lesions.

Table 2: Pattern of common benign Eye lid Lesions

Si No	Benign Lesions	Number of Cases(%)
1.	Epidermal Cyst	8 (19.05%)
2.	Chronic Inflammatory Lesion	6 (14.29%)
3.	Fibrocollagenous lesion	5 (11.90%)
4.	Rhinosporidiosis	4 (9.52%)
5.	Haemangioma	3 (7.14%)
6.	Molluscum Contagiosum	2 (4.76%)
7.	Granulomatous Lesion	2 (4.76%)
8.	Vernal Conjunctivitis	2 (4.76%)
9.	Benign Cystic Swelling	2 (4.76%)
10.	Benign Lipomatous Lesion	1 (2.38%)
11.	Benign Adenomatous Lesion	1 (2.38%)
12.	Sebacious Adenoma	1 (2.38%)
13.	Simple Ductal Cyst	1 (2.38%)
14.	Fibro Epithelial Polyp	1 (2.38%)
15.	Ocular Cysticercosis	1 (2.38%)
16.	Conjunctival Dacroadenoma	1 (2.38%)
17.	Pilomatricoma	1 (2.38%)
Total		42 (100%)

Table 4: Comparison of recent data on eyelid lesions from different parts of world.

Variables	Present study	Mary HO et al ^[14]	Nithithanaphat C et al ^[7]	Rathod A et al ^[5]	Yasser h. Al-Faky ^[6]	Krishnamurthy H et al ^[13]
Number of cases	52	198	316	100	222	235
Mean age / age range	Age range= 1m to 80 years	54y (benign); 68y (malignant)	54.2 years Age range= 1(m) to 99y	37.02y (benign); 58.59y (malignant)	- Age range = 2y to 87y	- Age range = 3y to 85y
M:F ratio	1:1.6	1:1.6	1:1.5	1:1.08	1:1.5	1:1.5
Most common non neoplastic lesion	Epidermal cyst	Epidermal cyst	Epidermal cyst	Epidermal cyst	-	Epidermal cyst
Most common malignant lesion	SCC	BCC	BCC	BCC & SC	-	SC

SC: Sebaceous carcinoma; BCC: Basal cell carcinoma; SCC: Squamous cell carcinoma; m: Months; y: Years

Table 5: Comparison of incidence of Benign and Malignant eyelid lesions in various studies.

Studies	Benign	Malignant
Tesluk GC et al [10] (1985)	79%	21%
Abdi U et al [17] (1996)	58.90%	41.41%
Obata H et al [11] (2005)	73%	27%
Mondal SK et al [2] (2008)	60%	40%

Table 3: Pattern of malignant Eye lid Tumours

Si No	Malignant Tumours	Number of Cases (%)
1.	Squamous Cell Carcinoma	6 (60%)
2.	Basal Cell Carcinoma	1 (10%)
3.	Non Hodgkin's Lymphoma (small cell type)	1 (10%)
4.	Sebaceous Adenocarcinoma	1 (10%)
5.	Malignant Melanoma	1 (10%)
Total		10 (100%)

DISCUSSION

In histopathology practice, eyelid lesions encountered are mostly non-neoplastic but can be neoplastic as well. Among neoplastic lesions, benign tumours are much more common. The diagnosis of the disease plays an important role in patient care.

Literature search has revealed variable prevalence of benign and malignant eyelid tumours in different geographical locations. We compared the results of our study with the observation and results of various other similar studies and the findings are as follows:

As is evident from the Table 4, the overall sex distribution of benign eyelid tumours showed female preponderance in the present study which was comparable with studies by Mary HO et al^[14], Nithithanaphat C et al^[7], Rathod A et al^[5], Yasser h. Al-Faky^[6] and Krishnamurthy H et al^[13]. Also, the most common non neoplastic lesion in our study was epidermal cyst which was same as the observation in other studies shown below.

As evident from Table 5, benign eyelid lesions are by far more common than the malignant one. In our study, the most common malignant eyelid lesion was squamous cell carcinoma. In Western countries, Basal cell carcinoma is the commonest malignant eyelid tumour accounting for 80-90 % of eyelid cancers followed by Squamous cell carcinoma and Sebaceous gland carcinoma^[1,12].

CONCLUSION

There are diverse forms of eyelid lesions which vary in clinical presentation and prognosis. Early diagnosis and proper management helps in reducing the debility and loss of vision of patients and also help the attending ophthalmologists in shaping apt strategy for the diagnosis and management of eyelid neoplasm.

This 2-year retrospective histopathological study of eyelid lesions has shown epidermoid cyst as the most common eyelid lesion followed by chronic inflammatory lesions. Rare lesions include ocular cysticercosis, pilomatricoma, sebaceous adenoma, fibroepithelial polyp, benign lipomatous lesion, simple ductal cyst etc. Squamous cell carcinoma was the commonest among malignant eyelid lesions.

Hence, we can draw the inference that though benign lesions are common among the eyelid lesions, all eyelid lesions must be sent for histopathological examination to rule out the more dangerous malignant tumours.

Sanjay CC et al [8] (2009)	79%	12%
Coroi MC et al [18] (2010)	44%	56%
Paul S et al [23] (2011)	75.9%	24.1%
Shaikh IY et al [3] (2012)	78.1%	21.9%
Mary Ho et al [14] (2013)	86%	14%
Ramya et al [15] (2014)	52.3%	47.7%
Huang YY et al [16] (2015)	95%	5%

Garima MA et al [22] (2018)	69.56%	39.44%
Sushma TA et al [1] (2018)	92.67%	7.64%
Present study 2020	80.77%	19.23%

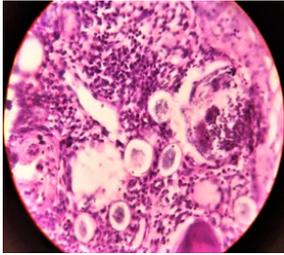


Figure 1: Rhinosporidiosis (H&E 10X)



Figure 2: Epidermal cyst

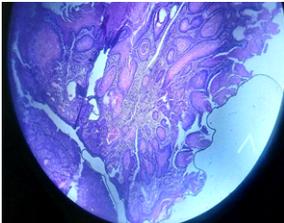


Figure 3: Squamous cell carcinoma

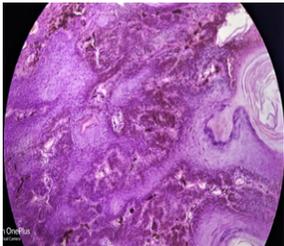


Figure 4: Basal cell carcinoma

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