

A Histopathological Profile of Eyelid Lesions: Study at Tertiary Care Center

Nikhilkumar M. Sonagara¹, Shakera Baji², Viral Bhanvadiya³

¹Post-graduate Resident, ²Assistant Professor, Department of Pathology, B. J. Medical College and Civil Hospital, Asarwa, Ahmedabad, Gujarat, India, ³Assistant Professor, M.J. Regional Western Institute-B.J. Medical College, Department of Pathology, Civil Hospital, Asarwa, Ahmedabad, Gujarat, India

Abstract

Introduction: Eyelid lesions are common who present to ophthalmologists, dermatologist and general practitioners. Eyelid have wide range of tissues like skin, subcutaneous tissues including adnexa, striated muscle, gland, and palpebral conjunctiva so wide range of disease present.

Material and Method: In this retrospective study carried out the department of pathology in M. & J. Western regional institute of ophthalmology- civil hospital and B. J. Medical college- Ahmedabad. In this data of 205 eyelid lesion were identified over a period of 1 year (January 2018 to December 2018). In each cases details include age, gender, site of eyelid and final histopathological diagnosis were retrieved.

Result: The highest incidence of eyelid lesions was observed in the age group of 41-50 (15.60%) followed by 61-70 (14.3%), lowest incidence in age group more than 80 years (2.05%). Male were found to be more affected than female (54.1% > 45.86). Right upper lid (36.58%) was more commonly involved. Neoplastic lesion (52.68%) were more common than non-neoplastic (47.32%) lesion. Amongst the non-neoplastic lesions, prevalence of Dermoid cyst (12.68%) was the highest. Among the neoplastic lesions malignant (36.58%) lesion were common than benign (16.09%). In benign lesions Intradermal nevus (3.90%) was highest prevalence. In malignant lesions Squamous cell carcinoma (13.65%) was highest.

Conclusion: Epidemiology of eyelid lesions in this study population was different from population of other similar studies. All ophthalmic lesions removed surgically should always be subjected to histopathological examination to establish correct diagnosis for further management. Prevalence of Dermoid cyst was highest in non neoplastic lesions, Nevus was highest in benign lesions and Squamous cell carcinoma was highest in malignant lesions.

Keywords: Eyelid, histopathology, neoplastic versus non neoplastic lesions.

Introduction

In histopathology practice, lesions of eyelid are not uncommon. Histologically eyelid is composed of skin and subcutaneous tissue including its adnexa,

Corresponding author:

Dr. Nikhilkumar M.

Sonagara, Postgraduate Resident of Pathology, B. J. Medical College and Civil Hospital, Asarwa, Ahmedabad 380016, Gujarat, India.

E-mail: niks.m.sonagara@gmail.com

Phone number: +918460041650

muscles, tarsus with meibomian glands and palpebral conjunctiva. Several pathologic processes involving eyelids were treated by ophthalmologist, and a high percentage of surgically excised specimens submitted for histopathological evaluation were obtained for this site. The relative frequencies of different neoplastic and non-neoplastic eyelid lesion are variable in different geographical location in world. According to the epidemiology of various eyelid lesions in our location we improve the availability of appropriate treatment protocol in our hospital.

Material and Method

The study was carried out in the pathology department of M. & J. Western regional institute of ophthalmology B. J. Medical College Ahmedabad during January 2018 to December 2018 for 1 year. Total 205 biopsies & Resected specimen of tumours were obtained from M.J. Ophthalmic institute. A detailed history of each patient regarding name, age, sex, chief complaints, site and other radiological and ophthalmological finding with provisional diagnosis. Specimen fix in 10% neutral buffered formalin. Gross examination noted and several representative areas of tissue were taken from surgical specimen and routine paraffin embedding done. Blocks were prepared and routine Hematoxylin & Eosin stain used in all cases.

Ethical considerations: All procedures performed were in accordance with the ethical standards of the institution.

Observation and Result

A total 205 lesions were noted during the study period. These included 97(47.32%) cases of non-neoplastic lesions and 108(52.68%) cases of neoplastic lesions. The age distribution peak in 41-50 years 32 cases(15.60%) followed by 61-70 years(14.63%). Age of patients ranged from 1 month to 90 years. Lowest prevalence of eyelid lesions i.e. 7(2.05%) in age group of more than 80 years. Males were found more affected than females (54.14% versus 45.86%). Ratio of male:female was(1:1.18). Eyelid lesion most common affected in Right upper eyelid 75(36.58%) followed by left upper eyelid 57(27.80%). While right lower eyelid least common involved 34 (16.59%).

In this study non-neoplastic lesion were divided into cystic, inflammatory, infectious and miscellaneous lesion. Among this Cystic lesion 31 cases(15.12%) was most common. Overall most common in non-neoplastic lesion was dermoid cyst 26(12.68%) followed by Chronic inflammation lesion 20(9.75%) and granuloma pyogenicum and epidermal cyst 14(6.82%).

In neoplastic lesion were malignant lesion 75(36.58%) was more common than benign lesion 33(16.10%).overall most common neoplastic lesion was Squamous cell carcinoma 28(13.65%) followed by Meibomian gland carcinoma 23(11.21%). In benign lesion Intradermal nevus was most common 8(3.90%) followed by Seborrheic keratosis and Neurofibroma

6 cases(2.92%) noted. In uncommon lesion of eyelid were including Molluscum contagiosum, Hematoma, Schwannoma also noted.

TABLE:1- Prevalence of eyelid lesions ratio in Male and Female.

Gender	Total Cases
Male	111 (54.14%)
Female	94 (45.86%)

Discussion

Eyelid lesion encountered in histopathology practice are neoplastic as well as non-neoplastic. Among the neoplastic lesion Malignant tumors are common than benign. The most common benign eyelid lesions was variably reported in previous literature from different countries;

Highest prevalence of non neoplastic lesions in various study were: Bhavya P. Mohan et al reported epidermal cyst(14.3%)^[2], Pradya S Bhadarge et al reported Epidermal cyst(52%)^[3] Karan S et al, found Epidermal Cyst (30.5%)^[4], while in present study most common non neoplastic lesion was dermoid cyst (12.68%).

Highest prevalence of benign neoplastic lesions in various study were: Deprez M et areported papilloma(26%)^[1], Bhavya P. Mohan et al reported papiloma (11.3%)^[2], Rathod a et al reported Nevus (17%)^[5], Remya et al showed Capillary hemangioma(31.1%)^[6]. In present study Intradermal Nevus(3.90%) was most common benign lesion.

Highest prevalence of malignant neoplastic lesions in various study were: Bhavya P. Mohan et al reported Sebaceous carcinoma (2.4%)^[4], Chuhan sanjay et al reported SCC(18%)^[5], Garima Murlidhar anandani et al reported SCC(10.43%)^[6], Pual S et al reported BCC(17.30)^[7], Abdi UN et al showed most common Basal cell carcinoma (38.8%)^[8], Jahagirdar SS et al reported BCC(44.5%)^[9], Gupta P et al Sebaceous gland carcinoma(7.69%)^[10]. In present study SCC(13.65%) was most common malignant lesion.

In our study neoplastic lesion was common than non-neoplastic. We found Dermoid cyst (12.68%) was common in non-neoplastic lesion. Intradermal Nevus(3.90%) was most common benign lesion. In

malignant lesion Basal cell carcinoma is most common malignant tumor of eyelid in worldwide, Sebaceous carcinoma is more common in Asian. While In present study most common malignant tumor was Squamous cell carcinoma(13.68%) followed by Meibomian gland carcinoma(11.21%)..

The present study has analyzed the entire spectrum of eyelid lesions(non neoplastic and neoplastic) and hence the malignant tumors 75(36.58%) incidence is higher than other study. Overall prevalence of eyelid lesion:inflammatory(14.63%), Cystic(15.12%), Infectious(4.87%), Miscellaneous 97.80%), benign(16.09%) and malignant (36.58%).

TABLE: 2 Incidence of Eyelid lesions(Non-Neoplastic & Neoplastic)

• NON-NEOPLASTIC LESIONS OF EYELIDS		
1) Cystic lesions	Cases	Percentage
Epidermal cyst	14	6.82%
Dermoid cyst	26	12.68%
Sebaceous cyst	01	0.48%
2) Inflammatory		
Chalazion	10	4.87%
Chronic nonspecific inflammation	20	9.75%
3) Infectious		
Tuberculous granuloma	5	2.43%
Xanthogranulomatous lesion	2	0.73%
Other granulomatous lesion	2	0.97%
Molluscum	1	0.48%
4) Miscellaneous		
Granuloma pyogenicum	14	6.82%
Hamartoma	2	0.97%
TOTAL	97	47.32%

• Neoplastic Lesions Of Eyelids		
1) Benign		
Intradermal nevus	8	3.90%
Papilloma	2	0.97%
Seborrhoeic keratosis	6	2.92%
Capillary hemangioma	2	0.97%
Neurofibroma	6	2.92%
Schwannoma	2	0.97%
Lipoma	1	0.48%
Verrucas vulgaris	2	0.97%
Cavernous hemangioma	2	0.97%
Lymphangioma	1	0.48%
Benign adnexal tumors	1	0.48%
TOTAL	33	16.09%

2) Malignant Lesions		
Basal cell carcinoma	15	7.31%
Squamous cell carcinoma	28	13.65%
Meibomian gland carcinoma	23	11.21%
NHL	4	1.95%
Poorly differentiated Carcinoma	2	0.97%
Rhabdomyosarcoma	1	0.48%
Spindal cell sarcoma	2	0.97%
TOTAL	75	36.58%

Conclusion

Eyelid lesions are diverse and vary different in clinical presentation and prognosis. Early and accurate histopathological diagnosis of lesions is essential for proper management and favorable prognosis. The epidemiology in this study was different of similar other studies. This difference in the prevalence of eyelid lesions amongst males and females and predominance of benign compared to malignant was found to be statistically significant.

Source of Funding: Self

References

- 1) Deprez M, Uffer S. Clinicopathological features of eyelid skin tumors. A retrospective study of 5504 cases and review of literature. Am J Dermatopathol. 2009;31(3):256-62.
- 2) Mohan BP et al, Profile of eye lid lesions over a decade: a histopathological study from a tertiary care center in South India IJAM journal-2017 oct;4(5):1406-1411.
- 3) Pradnya S bhadarge, Dr. Sonali S Datar, Dr. Alok C Shrivastava, Dr Pradeep S Umap, Dr Anuradha V Shrikhande et al, A Study of Common and Uncommon Eyelid Lesions - Telescoping Through HistopathologyJMSCR volume 4, issue 12 December 2016
- 4) Karan S, Nathani M, Khan T, Ireni S, Khader A. Clinicopathological study of eye lid tumors in Hyderabad - A review of 57 cases. J Med Allied Sci. 2016;6(2):72-6.
- 5) Rathod A, Pandharpurkar M, Toopalli K, Bele S. A clinicopathological study of eyelid tumors and its management at a tertiary eye care centre of Southern India. MRIMS J Health Sci. 2015;3(1):54-8.
- 6) Ramya BS, Dayananda SB, Chinmayee JT, Raghupathi AR. Tumours of the eyelid-A histopathological study of 86 cases in a tertiary hospital. International Journal of Scientific and Research Publications, Volume 4, Issue 11, November 2014 1 ISSN 2250-3153
- 7) Paul S, Vo DT, Silkiss RZ. Malignant and benign eyelid lesions in San Francisco: study of a diverse urban population. Am J Clin Med. 2011;8(1):40-46.
- 8) Abdi UN, Tyagi V, Maheshwari V, Gogi R, Tyagi SP. Tumors of eyelid: A clinicopathologic study. J Indian Med Assoc. 1996;94:405-9.
- 9) 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):109-12.
- 10) Gupta P, Gupta RC, Khan L. Profile of eyelid malignancy in a Tertiary Health Care Center in North India. J Cancer Res Ther. 2017;13(3):484-86.