

Frequency of Eyelid Lesions in Patients Presenting at Ophthalmology Department of a Tertiary Care Hospital

MOHAMMAD PARVEZ¹, SHAHID ANWAR BHATTI², FAISAL NAWAZ³, MUHAMMAD WASEEM⁴, ABDUL MUNIM⁵, NASEER AHMAD⁶

¹Assistant Professor Ophthalmology Muhammad college of Medicine Peshawar kp

²Associate professor of eye Sahara medical college Narowal

³Assistant Professor Ophthalmology vitreo retina Peshawar Medical College and Allied Hospitals Peshawar

⁴Associate Professor Ophthalmology Jinnah Medical College Peshawar /Jinnah Teaching Hospital Peshawar

⁵Assistant Professor Ophthalmology vitreo retina Peshawar Medical College and Allied Hospitals Peshawar

⁶District Eye Specialist Vitreoretina Peshawar Medical College and affiliated hospitals Peshawar

Corresponding Author: Shahid Anwar Bhatti, Email: drshahidanwar1968@gmail.com

ABSTRACT

Background: Approximately 5 percent of all skin cancers are eyelid tumors, which is also among the most prevalent location for head and neck neoplastic diseases. If diagnosed too late, malignant eyelid tumors necessitate more extensive surgery.

Objective: The aim of this study was to find out the Eyelid Lesions Frequency in patients presenting at Ophthalmology Department of a Tertiary Care Hospital

Methodology: The current study was conducted at the department of ophthalmology Ophthalmology Muhammad college of Medicine Peshawar from February 2022 to December 2022 after taking permission from the ethical board of the hospital. Overall 154 individuals who had surgery for eyelid abnormalities at the ophthalmology were included. Participants with eyelid lesions that may or may not be spreading to other tissues were enrolled in the research. Age, gender, lesion type, lesion location, histopathology assessment, therapy, and follow-up were among the details provided. Data was entered was Microsoft Excel sheet and present in tables in the form of frequency and percentage.

Results: A total of 154 individuals of both genders and different aged groups with lesions on their eyelids were examined in this study. There were 77 benign tumors and a similar amount of malignant ones. The most often diagnosed malignant lesion on the lid was carcinoma of squamous cells 46 (59.7%). Older men, farmers, and laborers with a history of prolonged sun exposure constituted the majority of those affected. It was followed by a benign lesion called epidermal inclusion cyst 26 (33.76%). Malignant lesions were seen in individuals older than 50, but benign lesions were found among individuals younger than 30. Of the 154 lesions, 26 (16.88%) had exenteration and 128 (83.11%) had excision biopsy. A biopsy was done on all 77 (100%) of them. Each of the 77 (100%) benign and 52 (67.5%) malignant lesions had a biopsy. Exenteration was done on 25 (32.4%) of the malignant tumors.

Conclusion: Our study concluded that squamous cell carcinoma and epidermal inclusion cyst are the most common eyelid lesions among individuals presenting to ophthalmology department.

Keywords: Frequency; Eyelid Lesions: malignant tumors

INTRODUCTION

Skin, mucous membrane, and the adnexal and supporting components together constitute the eyelids. Numerous epidermal and mucosal tumors in the eyelids are to be expected.¹ Approximately 5 percent of all skin cancers are eyelid tumors, which are also among the most prevalent locations for head and neck neoplastic diseases.² If diagnosed too late, malignant eyelid tumors necessitate more extensive surgery.³ A specific percentage of malignant tumors have the capacity to threaten life.⁴⁻⁵ One of the main causes of malignant eyelid tumors in elderly people is sun exposure.⁶⁻⁹ with an estimated 60,000 cases of malignant eyelid tumors being identified annually in the US.¹⁰⁻¹¹ Squamous papilloma, vascular tumors, nevi, cysts, & neural tumors are often observed benign eyelid abnormalities.¹² The most prevalent malignant lesions are sebaceous gland carcinoma (SGC), malignant melanoma (MM), squamous cell carcinoma (SCC), and basal cell carcinoma (BCC). The BCC is the most often used.¹³⁻¹⁵ Many different types of lesions, some inflammatory and others malignant, may affect the eyelids. An eyelid tumor may cause the individual's aesthetically pleasing disturbance and provide diagnostic challenges for the attending primary care doctors.¹⁶ Eyelid tumors, which comprise a wide range of benign and a few malignant tumors, are the most common neoplasms in ophthalmological practice.¹⁷ After reviewing several research on eyelid lesions published in the literature, it was discovered that different writers had classified the lesions using different methods. Some have categorized the lesions into two main groups: benign and malignant. Sunlight and UV exposure are two environmental variables thought to be responsible for the regional difference in the occurrence of different eyelid tumours. While many eyelid carcinoma forms may be identified clinically, some can only be identified using pathology specimens.¹⁸⁻¹⁹ various studies have shown varying frequencies of eyelid tumors. So this study was

carried out to determine the frequency of Eyelid Lesions presenting in Ophthalmology Department of a Tertiary Care Hospital

METHODOLOGY

The current study was conducted at the department of ophthalmology Ophthalmology Muhammad college of Medicine Peshawar from February 2022 to December 2022 after taking permission from the ethical board of the hospital .Overall 154 individuals who had surgery for eyelid abnormalities at the ophthalmology were included. Participants with eyelid lesions that may or may not be spreading to other tissues were enrolled in the research. Age, gender, lesion type, lesion location, histopathology assessment, therapy, and follow-up were among the details provided. Data was entered was Microsoft Excel sheet and present in tables in the form of frequency and percentage.

RESULTS

154 individuals of both genders and different aged groups with lesions on their eyelids were examined in this study. Out of which 79 (51.2%) were males and 75 (47.4%) were females of age 3-85 years. The Most prevalent age group in the study population was from 51 to 85 years 60(40.2) as presented in table 1. There were 77 benign tumors and a similar amount of malignant ones (table 2). The most often diagnosed malignant lesion on the lid was carcinoma of squamous cells 46 (59.7%). Older men, farmers, and laborers with a history of prolonged sun exposure constituted the majority of those affected. It was succeeded by a benign lesion called epidermal inclusion cyst 26 (33.76%). Malignant lesions were seen in individuals older than 50, but benign lesions were found among individuals younger than 30 as presented in Figure 1 and 3. Of the 154 lesions, 26 (16.88%) had exenteration and 128 (83.11%) had excision biopsy. A biopsy was done on all 77 (100%) of them. Each of the 77 (100%) benign and 52 (67.5%) malignant

lesions had a biopsy. Exenteration was done on 25 (32.4%) of the malignant tumors. The lower lid, upper lid, medial canthus, and lateral canthus were the sites of involvement in that order.

Table 1: Age and gender wise Prevalence of cases

Age	Male N (%)	Female N (%)	Total
03 – 30	22(27.8%)	28(37.33)	50(32.4%)
31 – 50	23(29.11%)	18(24)	42(27.27%)
51 – 85	34(43.0%)	28(37.33)	62(40.25%)
Total	79(51.2%)	75 (47.4%)	154 (100)

Table 2: Gender wise and type wise distribution of lesion in the study population

Type	Male	Female	Total
Benign	38(48.1)	39(52)	77(50)
Malignant	41(51.8)	36(48)	77(50)
Total	79(100)	75(100)	154(100)

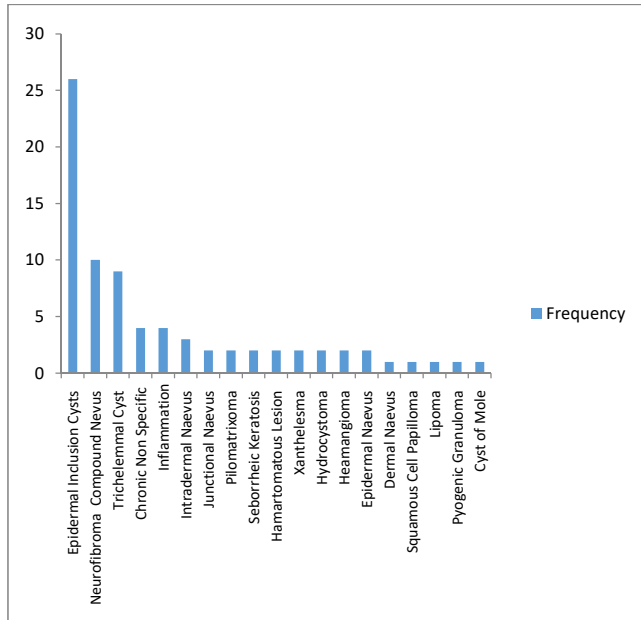


Figure 1: Distribution of benign lesions by Histopathologic identification

Table 3: Malignant lesion distribution according to histopathology diagnosis

Diagnosis	N (%)
Squamous cell carcinoma	46(59.7)
Basal cell carcinoma	14(18.18)
Sebaceous Carcinoma	8(10.38)
Spindle tumor	8(10.38)
Carcinoma in situ	1(1.29)
Total	77(100)

DISCUSSION

After reviewing several research on eyelid lesions published in the literature, it was discovered that different writers had classified the lesions using different methods. Some have categorized the lesions into two main groups: benign and malignant.¹⁸ The frequency of eyelid tumors varies depending on the study. In a research by Thiago et al.¹⁹ benign eyelid tumors were more prevalent than malignant ones. In our study 154 individuals with lesions on their eyelids were examined. The most often diagnosed malignant lesion on the lid was carcinoma of squamous cells 46 (59.7%) it was followed by epidermal inclusion cyst 26 (33.76%). these findings are similar with the study conducted by Silverman and Shinder they reported a high frequency of squamous cell carcinoma.²⁰ Our study results are also comparable to the study conducted by Naik, Vivek, et al.²¹ With the exception of a Taiwanese study²² that found sebaceous gland carcinoma to be the second most common eyelid cancer, studies conducted

globally also showed that basal cell carcinoma was the most common eyelid cancer, subsequent to squamous cell carcinoma.²³ In this study Malignant lesions were seen in individuals older than 50, but benign lesions were found among individuals younger than 30 which is similar to the study conducted by Naik, Vivek, et al.²¹ Neurofibroma 10 (12.9%) and epidermal inclusion cysts 26 (33.76%) were the most prevalent benign tumors in our investigation. The frequencies have been reported in a different sequence by other studies. According to Yu SS, the majority of eyelid tumors were epithelial in origin. There was a clear female majority in benign tumors, which were much more prevalent than malignant ones.²⁴ According to a different research, the percentage of BCC was greater among Caucasians than among Asians.²⁵ The two most prevalent malignant tumors in our analysis were carcinoma of basal cells and squamous cell carcinoma 46(59.7) respectively. Age, gender, geographic location, sun exposure, ethnicity, and genetic variables are some of the factors that influence the prevalence of various types of eyelid tumors. Patients in our research varied in age from 3 to 85 years, and we discovered that more than 50 % of patients with malignant eyelid tumors were older than 50. This indicates that age is a significant risk factor for malignant tumors and that there is a substantial correlation between growing older and malignancy. Additional research supports this.²⁶ The majority of our patients with squamous cell carcinoma were farmers and laborers by trade, which supported the idea that continuous sun exposure is a significant risk factor. The primary methods of diagnosis and treatment in our research were excision biopsy, MRI, and CT scan.

CONCLUSION

Our study concluded that squamous cell carcinoma and epidermal inclusion cyst are the most common eyelid lesions among individuals presenting to ophthalmology department. Patients who have been diagnosed should be informed about the possibility of recurrence and urged to follow up frequently while individuals at risk must be informed about potential risks and how to prevent them.

REFERENCES

- Balasubramanian A, Kannan NS. Eyelid Malignancies-Always Quite Challenging. J Clin Diagn Res. 2017; 11 (3): XR01-XR04. Doi:10.7860/JCDR/2017/23695.9582.
- Andreasen S, Kiss K, Mikkelsen LH, Channir HI, Plaschke CC, Melchior LC, et al. An update on head and neck cancer: new entities and their histopathology, molecular background, treatment, and outcome. APMIS. 2019; 127 (5): 240-264. Doi: 10.1111/apm.12901. Epub 2019 Feb 27.
- Rokohl AC, Kopecky A, Wawer Matos PA, Guo Y, Kakkassery V, Heindl LM. Complex techniques of eyelid reconstruction following extensive basal cell carcinoma resection. Front Oral Maxillofac Med. 2021; 3: 18. Doi: 10.21037/fomm-21-11
- Burgic M, Iljazovic E, Vodencarevic A, Burgic M, Rifatbegovic A, Mujkanovic A, et al. Clinical Characteristics and Outcome of Malignant Eyelid Tumors: A Five-Year Retrospective Study. Med Arch. 2019; 73 (3): 209. Doi: 10.5455/medarh.2019.73.209-212
- Arowojolu OA, Cypen SG, Tao JP. Clinical Features and Management of Eyelid Malignancies. US Opth Rev. 2020; 13 (2): 63. Doi: 10.17925/USOR.2020.13.2.63
- Armstrong BK, Krickler A. The epidemiology of UV induced skin cancer. J Photochem Photobiol B. 2001; 63 (1-3): 8-18. Doi: 10.1016/s1011-1344(01)00198-1.
- Corona R, Dogliotti E, D'Errico M, Sera F, Iavarone I, Baliva G, et al. Risk factors for basal cell carcinoma in a Mediterranean population: role of recreational sun exposure early in life. Arch Dermatol. 2001; 137 (9): 1162-1168. Doi: 10.1001/archderm.137.9.1162
- Green A, Whiteman D, Frost C, Battistutta D. Sun exposure, skin cancers and related skin conditions. J Epidemiol. 1999; 9 (6 sup): 7-13. Doi: 10.2188/jea.9.6sup_7
- de Grujil FR, van Kranen HJ, Mullenders LH. UVinduced DNA damage, repair, mutations and oncogenic pathways in skin cancer. J Photochem Photobiol B. 2001; 63 (1-3): 19-27. Doi:10.1016/s1011-1344(01)00199-3
- Pe'er J. Pathology of eyelid tumors. Indian J Ophthalmol. 2016; 64 (3): 177-190. Doi: 10.4103/0301-4738.181752.

- 11 Piest KL. Malignant lesions of the eyelids. *J Dermatol Surg Oncol.* 1992; 18 (12): 1056–1059. Doi: 10.1111/j.1524-4725.1992.tb02783.x
- 12 Shukla M, Awan M. Radiation Therapy in the Management of Cutaneous Squamous Cell Carcinomas. In: *Radiation Therapy for Sarcomas and Skin Cancers, 2022:* (pp. 253-271). Springer, Cham.
- 13 Leventhal HH, Messer RJ. Malignant tumors of the eyelid. *Am J Surg.* 1972; 124 (4): 522–526. Doi: 10.1016/0002-9610(72)90079-7
- 14 Tesluk GC. Eyelid lesions: incidence and comparison of benign and malignant lesions. *Ann Ophthalmol.* 1985; 17 (11): 704. PMID: 4083660
- 15 Margo CE, Waltz K. Basal cell carcinoma of the eyelid and periocular skin. *Surv Ophthalmol.* 1993; 38 (2): 169–192. Doi: 10.1016/0039-6257(93)90100-I
- 16 Ho M, Liu DTL, Chong KKL, Ng HK, Lam DSC. Eyelid tumors and pseudotumors in Hong-Kong a ten year experience. *Hong Kong Med J* 2013; 19:150-5.
- 17 Coroi MC, Rosca E, Mutiu G, Coroi T, Bonta M. Eyelid tumors: histopathological and clinical study performed in country hospital of Oradea between 2000-2007. *Romanian J Morphol Embryol.* 2010; 51:111-5.
- 18 Ho M, Liu DTL, Chong KKL, Ng HK, Lam DSC. Eyelid tumors and pseudotumors in Hong-Kong a ten year experience. *Hong Kong Med J* 2013; 19:150-5.
- 19 Coroi MC, Rosca E, Mutiu G, Coroi T, Bonta M. Eyelid tumors: histopathological and clinical study performed in country hospital of Oradea between 2000-2007. *Romanian J Morphol Embryol.* 2010; 51:111-5.
- 20 Silverman N, Shinder R. What's New in Eyelid Tumors. *Asia Pac J Ophthalmol (Phila).* 2017; 6 (2):143-152. Doi: 10.22608/APO.201701
- 21 Naik, Vivek, et al. "A Histopathological study of eyelid lesions at a tertiary care Hospital." *Indian Journal of Clinical and Experimental Ophthalmology* 5.3 (2019): 348-351.
- 22 Chang CH, Chang SH, 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
- 23 Gundogan FC, Yolcu U, Tas A, Sahin OF, Ozun S, Cermik H et al. Eyelid tumors: clinical data from an eye centre in Ankara Turkey. *Asian Pac J Cancer Prev.* 2015; 16:4265-9
- 24 Yu SS, Zhao Y, Zhao H, Lin JY, Tang X. A retrospective study of 2228 cases with eyelid tumors. *Int J Ophthalmol.* 2018; 11 (11): 1835-1841. Doi: 10.18240/ijo.2018.11.16.
- 25 Takamura H, Yamashita H. Clinic pathological analysis of malignant eyelid tumor cases at Yamagata university hospital: statistical comparison of tumor incidence in Japan and in other countries. *J Ophthalmol.* 2005; 49 (5): 349–354. Doi: 10.1007/s10384-005-0229-5
- 26 Baş Z, Sharpe J, Yaghy A, Zhang Q, Shields CL, Hyman L. Eyelid Cancer Prevalence And Associated Factors In The AAO IRIS® Registry. *Invest Ophthalmol Vis Sci.* 2021; 62 (8): 76-76. Doi: 10.1016/j.xops.2022.100227.