

Epidemiology of Benign Eyelid Lesions in Patients presenting to a Tertiary Eye Care Hospital of Saurashtra Region

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Abstract

Background and Aim: Eyelid tumours are the most common neoplasms encountered by oculoplastic as well as plastic surgeons. Therefore, this study will be aimed at evaluating the relative frequency of benign eyelid lesions presented to a medical college in Indian population to help clinicians prioritize their presumed clinical diagnosis according to the commonly presented lesions in the community.

Materials & Method: The present study is the descriptive and analytic study done in the tertiary care hospital. The reports of patients having eyelid lesions and who gave consent for research purpose use were included in the study. A total of 320 histopathological reports of the surgical specimens of eyelid lesions obtained from patients admitted in the hospital were analysed.

Results: A total 320 cases of the different eyelid lesions were analysed, the highest prevalence of eyelid lesions i.e., 80 was observed in the age group of 31-40 years. Owing to the gender distribution it was found that Males were more affected than females. Right upper eyelid was the most commonly involved and right lower eyelid was the least commonly involved location.

Conclusion: The demographic features of a lesion observed at the first patient examination are of great importance in directing the ophthalmologist to the diagnosis. Most eyelid lesions are benign and are more common in the younger population. A detailed examination using these data will facilitate the recognition of malignant lesions that may be life-threatening and will speed up the procedures required for definitive diagnosis and treatment.

Keywords: Benign Lesion, Descriptive Analysis, Eyelid Lesion

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Introduction

Eyelid tumours are the most common neoplasms encountered by oculoplastic as well as plastic surgeons. Eyelid tumours may arise from the epidermis, dermis, or eyelid adnexal structures. Most lesions develop from the epidermis which is the

rapidly growing superficial layer of the skin [1]. Although many of these lesions may occur on any part of the body skin, their appearance in the eyelids may be unique because of the special characteristics of eyelid skin and the

specialized adnexal elements. Sunlight & ultra violet exposure, skin pigmentation are important risk factors for eyelid tumours [2,3].

Wide varieties of lesions affecting the eyelid are encountered within routine ophthalmology practice. These lesions are numerous due to the unique anatomical features of the eyelid as the whole skin structures, appendages, muscle, modified glands, and conjunctival mucous membrane are represented in the eyelid [4,5].

Eyelid lesions can be divided into congenital, inflammatory, traumatic, or neoplastic (benign or malignant). Neoplastic lesions can be further classified according to their anatomical origin. A tentative clinical diagnosis based on the characteristic features is given then routinely confirmed by histopathological examination of the tissue specimen [6].

The concern is the off chance histopathological investigation which identifies a diagnosis different than the suspected clinical diagnosis with some diagnosis coming with deleterious implications. Histopathological evaluation enforces our clinical diagnostic skills and is extremely important in early detection of tumors, particularly in masquerade syndromes [7].

Most of the benign lesions are managed by observation or by simple excision while malignant neoplasms need multimodal approach with lid 2 reconstruction. The challenge of managing these cases lies in adequate tumour clearance with best suitable reconstruction and also ensuring a good cosmetic and functional outcome [8].

Therefore, this study will be aimed at evaluating the relative frequency of benign eyelid lesions presented to a medical college in Indian population to help clinicians prioritizing their presumed clinical diagnosis according to the commonly presented lesions in the community.

Material and Methods

The present study is the descriptive and analytic study done in the tertiary care hospital of Saurashtra region. The study was done for the period of two years. The ethical committee of the institute was informed about the study and the ethical clearance certificate was obtained, prior to the start of the study. A total of 320 histopathological reports of the surgical specimens of eyelid lesions obtained from patients admitted in the hospital were analysed.

Inclusion & exclusion criteria were as follows:

The reports of patients having eyelid lesions and who gave consent for research purpose use were included in the study.

A detailed history of each patient regarding age, chief complaints and other relevant findings was taken. Slides stained with Hematoxylin and Eosin stain were examined microscopically for detailed histopathological findings and final diagnosis was given. Special stains such as PAS stain were used whenever required. These findings were analysed and compared with findings of other studies. The consent from all the patients was taken before using their slides for research purpose.

Statistical analysis Simple statistical methods such as bar charts were used for descriptive purpose. Stratified analysis was done using SPSS statistics version 25.0 software.

Results

A total 320 cases of the different eyelid lesions were analysed, the highest prevalence of eyelid lesions i.e., 80 was observed in the age group of 31-40 years, which was followed by 76 eyelid lesions in 21-30 years of age group. The lowest prevalence of eyelid lesions i.e., 4 was in the age group more than 80 years. Owing to the gender distribution it was found that Males were more affected than females.

When the upper and lower eyelids were compared in terms of presence of lesions it was found that lesions were more common in upper eyelids. Right upper eyelid was the most commonly involved and right lower eyelid was the least commonly involved location.

Many benign eyelid lesions were identified. Epidermal cysts were lined by squamous epithelium and containing accumulations of keratin. Dermoid cysts contained masses of keratin surrounded by a layer of squamous epithelium, along with adnexal structures, such as sweat and sebaceous glands and hair follicles. Various sections revealed proliferation of capillary channels and endothelial cells forming lobular architecture suggestive of capillary haemangioma. Many biopsy sections showed melanocytic proliferation at the dermoepidermal junction and extending into the epidermal and dermal

tissue along with epithelial hyperplasia which were consistent with the diagnosis of compound nevus.

Various sections studied showed fibroconnective tissue with multiple granulomas comprising of epitheloid cells, Langhan's and foreign body type of giant cells with lymphoplasmacytic cells and polymorphs. In the centre of granulomas, empty spaces reminiscent of fatty spaces were seen which were suggestive of chalazion. Sections showing lobules of acanthotic epithelium surrounding the characteristic intracytoplasmic inclusion bodies were diagnosed as infected with molluscum contagiosum. In the category of benign eyelid lesions, prevalence of nevus in 56 cases was the highest followed by epidermal cyst were diagnosed in 52 cases, dermoid cyst in 44 cases and haemangioma were found in 38 cases.

Table 1: Distribution of benign eyelid lesions

Sr. No.	Lesions	No. of cases
	Epidermal cyst	52
	Molluscum contagiosum	10
	Granuloma Pyogenicum	26
	Dermoid cyst	44
	Nevus	56
	Chalazion	12
	Haemangioma	38
	Seborrheic Keratosis	8
	Dermolipoma	18
	Other lesions	56
	Total	320

Discussion

Among tumors encountered by ophthalmologist the most common neoplasms are those of the eyelid. Benign lesions of the eyelid represent upwards of 80 percent of eyelid neoplasms, while malignant tumors account for the remaining, with basal cell cancer the most frequent malignant tumor [9]. It can be helpful to categorize eyelid lesions into inflammatory, infectious and neoplastic.

Chalazion presents as chronic, localized swelling of the eyelid and typically affects the meibomian glands or glands of Zeis [10].

Data on the frequencies is difficult to come by, but in one recent review chalazia represented nearly half of all eyelid lesions encountered in an ophthalmology practice. Epidermal inclusion cysts present as

elevated, smooth and progressively growing cysts that arise from entrapment of epidermal tissue in the dermis. Rupture with release of keratin can cause an inflammatory foreign-body reaction. The present study was conducted to evaluate clinicopathological characteristics of eyelid lesions [5-11].

The findings of this study were similar to the findings of the study of Paul S *et al.*, and Coroi MC *et al.*, in which benign lesions were common before 60 years of age. Males were found to be more affected than females in this study just like the study of Coroi MC *et al.*, in which 54.9% were males and 45.1% were females [12].

Chalazion is the most common lid lesion faced by the ophthalmologist but it was the not so common benign lesion in our series due to referral nature of our tertiary hospital. Nevus was not that common in our series due to the tertiary service nature of our hospital and referral policy. Ni reported pigmented nevi as the second leading lesions in his series [13]. In our study, intradermal nevi were reported in the vast majority of eyelid nevi that have no malignant potential while junctional nevus, which has low malignant potential, was reported in two biopsies. Molluscum contagiosum has peculiar clinical feature with high accuracy of clinical diagnosis. All our cases were reported in the pediatric age group, occurring in otherwise normal children, with the exception of the unexpectedly diagnosed syringocystadenoma papilliferum that occurred in the middle aged female [4-6]. Capillary hemangioma is frequently seen in pediatric population but rarely treated by surgical excision which explains the rarity of such a lesion in our study. However, one of our cases was large, localized and amenable to excision with meticulous hemostasis [14]. The other one was a rapidly growing, pedunculated, red lesion with bleeding, which placed keratoacanthoma in the differential diagnosis. Biopsy was essential

to confirm the diagnosis and to exclude other vascular lesions with recurrence potential such as a hemangioendothelioma or tufted angioma. Foreign body granuloma, coloboma, traumatic eyelid notch, and post-electrolysis fibrosis were rarely reported in this series as well as others.

Conclusion

The demographic features of a lesion observed at the first patient examination are of great importance in directing the ophthalmologist to the diagnosis. Most eyelid lesions are benign and are more common in the younger population. A detailed examination using these data will facilitate the recognition of malignant lesions that may be life-threatening and will speed up the procedures required for definitive diagnosis and treatment.

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