A histopathological study of ophthalmic lesions

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ABSTRACT

Ophthalmic lesions include a wide spectrum of conditions ranging from benign lesions to precancerous lesions and malignant lesions. The diagnosis of these lesions is based on the clinical as well as histopathological features. This was a prospective study of ophthalmic lesions conducted in the department of pathology of Nepal Medial College teaching hospital over a period of one year (September 2012 – August 2013). In this study period, we received total 11 ophthalmic biopsies. Out of these, 54.5%cases were conjunctival lesions and 45.5% cases were eye lid lesions. The age range was from 8 years to 40 years with the mean age of 25.5 years. All the cases were benign lesions, papilloma being the most common clinical and histopathological diagnosis. Other lesions like inclusion cyst, dermoid cyst, seborrheic keratosis, pilomatrixoma, nevus and molluscum contagiosum are also included in our study.

Keywords: Ophthalmic lesions, benign, histopathology, papilloma, pilomatrixoma, seborrheic keratosis, molluscum contagiosum.

INTRODUCTION

Ophthalmic biopsies are one of the rare biopsies we receive in the department of pathology. But we should never forget that ophthalmic pathology is unique in many respects as it encompasses wide range of tissues and shows wide range of diseases.[1] Among the ophthalmic lesions the most common lesion are those that occur in the conjunctiva. Conjunctival lesions comprise a large variety of conditions from benign lesions like squamous papilloma or nevus to malignant lesions like melanoma or squamous cell carcinoma.[2] Eyelids are affected by variety of lesions and they may be epithelial, adnexal, vascular, neural, histiocytic, melanocytic or inflammatory in origin. Moreover, eyelids are also affected by different systemic diseases. Many lesions are identified by clinical appearance and its behaviour, however there are few diagnostic challenging cases which need histopathological evaluation.[3]The accuracy of clinical diagnosis ranged from 50.87% to 96%.[1]

The goal of histopathological study of ophthalmic lesions is to enhance communication between the ophthalmic surgeon and the pathologist and to provide detail histopathological information that can be correlated with patient's history and other clinical data giving greatest benefit to ongoing patient care.[4]

Objectives of this study were to determine the prevalence of ophthalmic lesions in a patient population treated over one year period in a teaching hospital and also to study the clinicopathological correlation.

MATERIALS AND METHODS

The is a prospective study conducted in the department of Pathology of Nepal Medial College teaching hospital over a period of one year (September 2012 to August 2013). All ophthalmic biopsies received in the Department of Pathology during the study period were included in this study.

After receiving the biopsy in 10% formalin, they were fixed for 24 hours before the tissue is processed. The prepared slides were stained with Hematoxylin and Eosin (H & E) stain and microscopic features were studied. Patient's history, clinical diagnosis and any significant preoperative or operative findings were obtained from the patient's record file and histopathological forms. The final diagnosis was given after examination of H & E stained slides.

RESULTS

A total of 11 patients comprising 7 males (63.6%) and 4 females (36.4%) having ophthalmic lesions were studied. Out of the 11 patients, 3 patients (27.3%) were children (under 14 years of age). The age ranges from 8 years to 40 years with mean age of 25.5 years. Out of the total ophthalmic lesions, 6 cases (54.5%) were from conjunctiva and 5 cases (45.5%) were from eyelid.

Clinical diagnoses of these ophthalmic lesions were tabulated in Table-1. Papilloma was the common clinical diagnosis. One case of eyelid mass was sent without any clinical diagnosis which came out to be seborrheic keratosis. Table-2 shows the histopathological diagnosis where papilloma

Table-1: Clinical diagnosis of ophthalmic lesions

Clinical diagnosis	n (%)
Papilloma	6 (54.5%)
Sebaceous cyst	2 (18.2%)
Conjunctival cyst	2 (18.2%)
Eyelid mass	1 (9.1%)
Total	11 (100%)

Table-2: Histopathological diagnosis of ophthalmic lesions

Histopathological diagnosis	n (%)
Papilloma	4 (36.3%)
Inclusion cyst	2 (18.2%)
Dermoid tumor	1 (9.1%)
Seborrheic keratosis	1(9.1%)
Pilomatricoma	1(9.1%)
Junctional nevus	1(9.1%)
Molluscum cantagiosum	1 (9.1%)
Total number of patients	11 (100%)

Table 3: Clinical accuracy

Clinical diagnosis	Histopathological diagnosis	Clinical accuracy (%)
Papilloma (54.5%)	Papilloma (33.3%)	66.7% (4 out of 6 clinically diagnosed papillomas)
	Junctional nevus (9.1%)	
	Dermoid tumor (9.1%)	
Sebaceous cyst (18.2%)	Pilomatricoma (9.1%)	0%
	Molluscum contagiosum, (9.1%)	
Conjunctival cyst (18.2%)	Inclusion cyst of conjunctiva (18.2%)	100%
Eyelid mass (9.1%)	Seborrheic keratosis, (9.1%)	No clinical diagnosis
Total		54.5%

was the most common benign lesion followed by inclusion cyst of the conjunctiva. Rare case like pilomatrixoma was also seen. Clinical accuracy of the ophthalmic lesions was 54.5% (Table-3). The clinical accuracy for papilloma and conjunctival cyst were 66.7% and 100% respectively.

DISCUSSION

Eye is an important and very precious organ among all other organs in human body. We do come across a variety of ophthalmic lesions. Some lesions are so aggressive and it may endanger the patient's vision and life.[5,6] Therefore, early diagnosis is important and their existence must be confirmed by histopathological examination.

The total number of ophthalmic biopsy in one year of study period was 11 (0.6%) out of the total 1720 biopsies enrolled in the department of pathology. In our study, the lesions were more common in male (63.6%) than female (36.4%) which correlates well with other studies.[2,5,7] However Chauhan *et al*[4] showed not much differences in male (51%) and female (49%). In another study, Barasa *et al*[8] showed that conjunctival lesions were more common in female (54.9%) than male (45.1%).

The mean age of the patients in our study was 25.5years. Similar finding was seen in other studies.[5,7] Frequency among children (under 14 years of age) was 27.3% in present study while Chauhan *et al*[4] found it 18% which was less than our study.

There were 6 (54.5%) conjunctival lesions and 5 (45.5%) eyelid lesions in our study. The same was observed in a study done in eastern India.[2] However, in another study done in a teaching hospital in India, eyelid lesions were common.[4]

In our study, clinical diagnosis was consistent with histopathological diagnosis in 54.5% cases. Similar findings were seen in other studies (50.9% and 49% respectively).[1,4]

In our study all the cases were benign. We did not get a single malignant case and the reason could be the small sample size and the habitual referral of clinical malignant cases to higher cancer center. However in most of the studies which included both benign and malignant cases, benign lesions outnumbered the malignant lesions.[4,5,7]

The most common clinical and histopathological lesion was papilloma. The histopathological examination showed 36.3% cases as papilloma with 66.7% accuracy. Barasa *et al* also showed that papilloma (40%) was the most common benign lesions.[8]

18.2 % cases were inclusion cyst of conjunctiva in our study (Fig 1). In contrast, other studies showed 9% and 12% cases of inclusion cyst of conjunctiva.[4,7] Farhat *et al*[3] and Chauhan *et al*[4] and found dermoid cyst (tumor) as the commonest ophthalmic lesion but in our study there were only 9.1% cases (Fig 2).

Nevus (70.1%) were common lesion in a study done by Ceylan *et al*.[5] Junctional nevus were 6.8% in another study done by Elshazly *et al*.[7] While in our study there was 9.1% cases of junctional nevus (Fig 3).

There was 9.1% Seborrheic keratosis in our present study (Fig 4). However different studies in different parts of the world showed 2.9%, 3.5%, 14.7% and 19.7% cases of seborrheic keratosis respectively.[3,4,9,10]

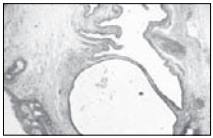

Fig. 1. Incusion cyst of conjunctiva (400 X H and E Stain)

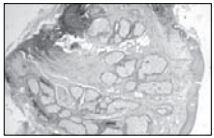

Fig. 2. Dermoid cyst (tumor) (400 X H and E Stain)

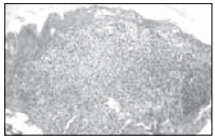

Fig. 3. Junctional nevus showing keratinised stratified squamous epithelium with underlying sheets of nevus cells (400 X H and E Stain)

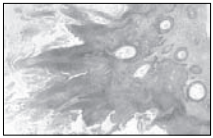

Fig. 4. Seborrheic keratosis \ (400 X H and E Stain)

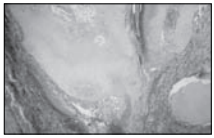

Fig. 5. Pilomatrixoma showing ghost cells (400 X H and E Stain)epithelium with underlying sheets of nevus cells (400 X H and E Stain)

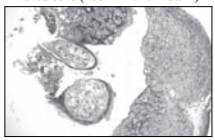

Fig. 6. Molluscum Contagiosum showing molluscum bodies (400 X H and E Stain)

Benign calcifying epithelioma of Malherbe or pilomatrixoma or pilomatricoma is an uncommon lesion of the periocular tissues and usually arises in the lid. We had 9.1% cases of pilomatrixoma (Fig 5) in our study and very few cases had been identified in other studies (0.5% to 3.3%).[9,11,12]

Molluscum contagiosum is a viral lesion usually seen in children and young adults. We came across 9.1% cases in our study (Fig 6). The similar finding (8%) was observed by Farhat *et al*[3] but it was much less (2.7%) in a study done by Al-faky *et al*.[11]

All ophthalmic lesions removed surgically should be sent for histopathological examination to establish the correct diagnosis.

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