

## Histopathological Spectrum of Ophthalmic Lesions- A study of 53 cases

Dr N C Parankusa<sup>1</sup>, Dr.T.Sreedhar<sup>2\*</sup>, Dr.Kishore Kumar. Ch<sup>3</sup>,Dr R.Vijaya Bhaskar<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of Pathology, Rangaraya Medical College, Kakinada, Andhra Pradesh.

<sup>2\*</sup>Assistant Professor, Department of Pathology, Rangaraya Medical College, Kakinada, Andhra Pradesh.

<sup>3</sup>Assistant Professor, Department of Pathology, Rangaraya Medical College, Kakinada, Andhra Pradesh.

<sup>4</sup>Professor and Head, Department of Pathology, Rangaraya Medical College, Kakinada, Andhra Pradesh.

\*Corresponding author: Dr. T. Sreedhar

**Abstract:** Ophthalmic lesions include a wide spectrum of conditions ranging from benign lesions and malignant lesions. The diagnosis of these lesions is based on the clinical as well as histopathological features. This was a retrospective study of ophthalmic lesions conducted in the Department of Pathology, Rangaraya Medical College, a teaching hospital over a period of 3 years (January 2015 to December 2017). In this study period we received total 53 ophthalmic biopsies. Out of these 14 (26.41%) cases were benign lesions, 13 (24.52%) malignant lesions, 4(7.54%) cases were dysplasia, 3 (5.66%) cases were infectious lesions, 8(15.09%)cases were dacryocystitis, 11 (20.75%) cases were miscellaneous. Among all the cases, squamous cell carcinoma is the most common clinical and histopathological entity in our study.

**Key words:** histopathology, ophthalmic lesions, squamous cell carcinoma, dermoid cyst.

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### I. 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 tissue and shows wide range of diseases.<sup>1,2</sup> Among the ophthalmic lesions the most common lesions are those that occur in the conjunctiva. Conjunctival lesions comprise a large variety of conditions from benign lesions like squamous papilloma to malignant lesions like squamous cell carcinoma.<sup>3</sup> Eye lids are affected by a variety of lesions and they may be of epithelial, adnexal, vascular, neural, histiocytic, melanocytic or inflammatory origin. Moreover, eyelids are also affected by different systemic diseases. Many lesions are identified by clinical appearance and their behavior, however there were few diagnostically challenging cases which needed histopathological evaluation.<sup>4</sup>

The goal of histopathological study of ophthalmic lesions is to enhance communication between the ophthalmic surgeon and the pathologist and to provide detailed histopathological information that can be correlated with patient's history and other clinical data giving greatest benefit to ongoing patient care.<sup>5</sup>

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

### II. Materials And Methods

This is a retrospective study conducted in the Department of Pathology, Rangaraya Medical College, Kakinada, Andhra Pradesh over a period of three years( January 2015 to December 2017). 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 was processed. The prepared slides were stained with Hematoxylin and Eosin (H & E) stain and microscopic features were studied. Patients history, clinical diagnosis and any significant preoperative or operative findings were obtained from the patients record file. The final diagnosis was given after examination of H & E stained slides.

### III. Results

A total number of 53 cases of ophthalmic lesions were observed. It was found that ophthalmic lesions were highest (28.30%) in > 60 year age group and lowest (3.77%) in the age group of 11-20. Sex wise, 30

males (56.60%) and 23 females(43.39%). Age and sex wise distribution of ophthalmic lesions were tabulated in Table-1.

**Table-1 : Distribution of Ophthalmic lesions according to age and sex**

AGE	MALES%	FEMALES %	TOTAL %
0-10	05(83.33)	01(16.66)	06(11.30)
11-20	00(0)	02(100)	02(3.77)
21-30	04(66.66)	02(33.33)	06(11.32)
31-40	03(50)	03(50)	06(11.32)
41-50	04(44.44)	05(55.55)	09(16.980)
51-60	06(66.66)	03(33.33)	09(16.98)
>60	08(53.33)	07(46.66)	15(28.30)

Location wise, eye lid lesions 34(64.15%) was the most commonly involved site followed by lacrimal sac 9(16.98%),and orbit 6(11.32%),while conjunctival lesions 4(7.5%) was the least commonly involved site(Table 2).

**Table 2:Location wise distribution of ophthalmic lesions(N=53)**

LOCATION	CASES	%
Eye lid	34	64.15
Lacrimal sac	09	16.98
Orbit	06	11.32
conjunctiva	04	7.5

Among the eyelid lesions, squamous cell carcinoma(23.52%) was highest followed by dermoid cyst (14.70%), intradermal nevus (11.76%),and pyogenic granuloma(8.82%) (Table 3)

**Table 3: Prevelance of different Eyelid lesions(N=34)**

EYELID LESIONS	CASES	%
Squamous cell carcinoma	08	23.52
Dermoid cyst	05	14.70
Intradermal nevus	04	11.76
Pyogenic granuloma	03	8.82
Dysplasias	03	8.82
Basal cell carcinoma	02	5.88
Sebaceous carcinoma	02	5.88
Carcinoma In situ	02	5.88
Hemangioma	01	2.94
Sebaceous hyperplasia	01	2.94

Among lacrimal sac lesions dacrocystitis (88.88%) was highest followed by cysticercosis (11.12%). Among orbital lesions fungal endophthalmitis and parasitic cyst (33.33%) , mucocele, dermoid cyst and ocular nevus (16.66%) each. Among conjunctival lesions papilloma,(50%) dermoid cyst and inclusion cyst (25%) respectively.

#### IV. 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<sup>6,7</sup>. Therefore, early diagnosis is important and their existence must be confirmed by histopathological examination.

The total number of ophthalmic biopsies in three years of study period was 53. In our study the lesions were more common in males (56.60%) than females (43.40%) which correlates well with other studies<sup>3,6,8</sup>. However Chauhan et al<sup>5</sup> showed not that much differences in male (51%) and female( 49%).

In our study eyelid lesions were 64.15% and the same was observed in a study done in S Pudasaini et al<sup>1</sup> and Chauhan et al<sup>5</sup>. Among them dermoid cyst was the most common eyelid lesion which was correlated with a study conducted by Chauhan et al.<sup>5</sup>

In conjunctiva, papilloma (50%) was the most common benign lesion observed in our study. Similar findings were seen in study conducted by S Pudasaini et al<sup>1</sup>. 25% of cases were inclusion cysts of conjunctiva in our study. In contrast other studies showed 9% and 12% cases of inclusion cyst of conjunctiva.<sup>5,8</sup>

In our study most common malignant lesion was squamous cell carcinoma(23.52%) which was correlated with study conducted by Chauhan et al<sup>5</sup> (22.5%). But in contrast, malignant lymphoma was the most common malignant lesion in the study of Obata H et al<sup>9</sup>. Among eyelid malignancies, present study found sebaceous carcinoma and basal cell carcinoma 5.8% respectively. But in the study of Obata H et al<sup>9</sup> the most

common malignant lesion was sebaceous carcinoma(15%). While study carried out by Jahagirdar SS et al<sup>10</sup> observed 37% of sebaceous carcinoma and 44% of basal cell carcinoma. Whereas basal cell carcinoma was the most common malignant lesion in the study of Tesluk GC et al<sup>11</sup>.

In summary we can conclude that all ophthalmic lesions removed surgically should always be subjected to histopathological examination to establish correct diagnosis for further management.

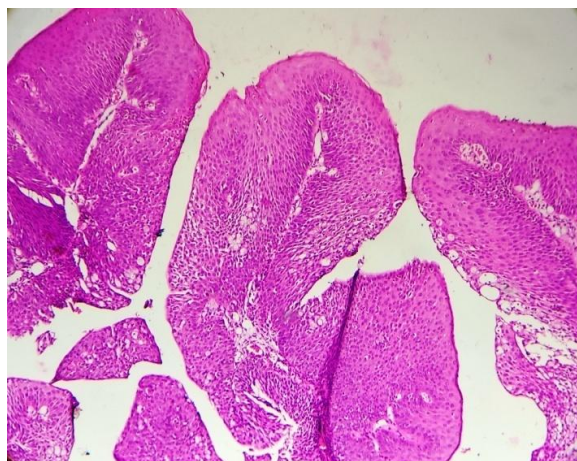


Fig.1. conjunctival Papilloma 400X H &E stain

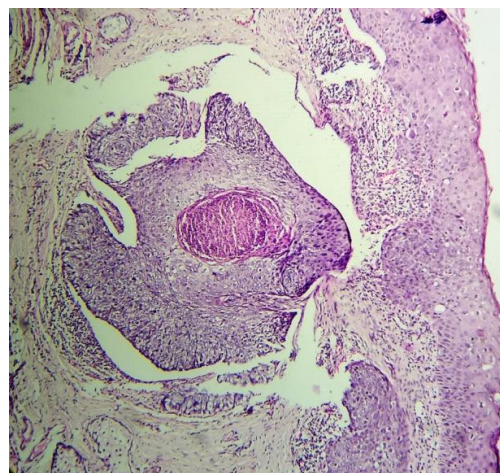


Fig.2. Squamous cell carcinoma eyelid 400X  
H&E stain

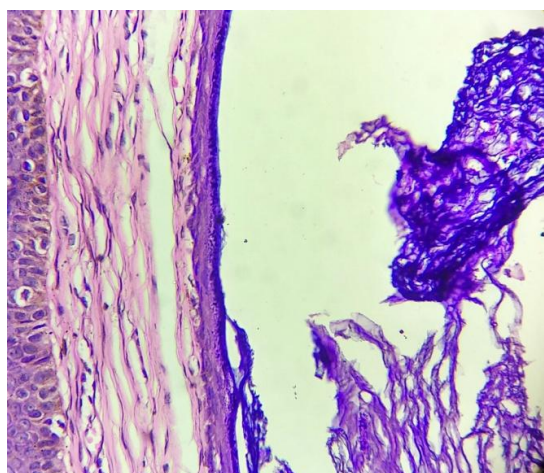


Fig.3.Dermoid cyst 400XH&E stain .

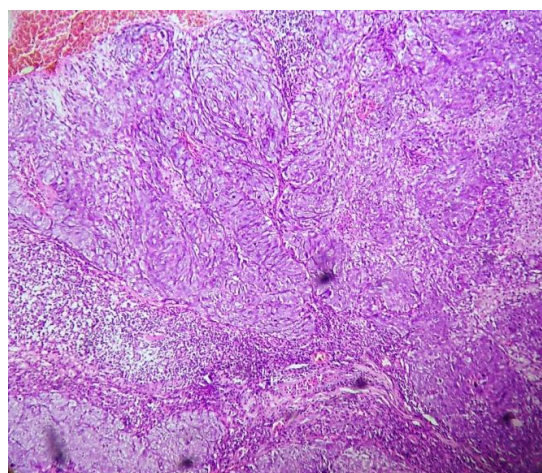


Fig.4.Sebaceous carcinoma 400 X H&E stain.

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