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HISTOPATHOLOGICAL STUDY OF OCULAR LESIONS

Pathology

Dr Shouree K R* Post Graduate, Department of Pathology, Mysore Medical College and Research Institute, Irwin Road ,Mysore, Karnataka, India,*Corresponding Author

Dr Bharathi M Professor and Head , Department of Pathology, Mysore Medical College and Research Institute, Irwin Road, Mysore, Karnataka, India,

ABSTRACT

Background: WHO estimates that among the 37 million blind people and 161 million people with visual impairment, 90% live in developing countries. The aim of the study was to analyse the histopathologic pattern of various ocular lesions in K.R.Hospital, MMC&RI, Mysore over a period of 10 years (Between October 2006 to September 2016). **Methods:** The slides of all the orbito-ocular specimens received between October 2006 to September 2016 in our Histopathology department were reviewed. The clinical data such as age, sex, site of lesion and clinical summary were extracted from the registers. **Result:** Ocular lesions of 296 subjects were analysed. 147 were female and 149 were male. The highest number of cases were in the age group of 31 to 40 years. **Conclusion:** Eyelid was the most common site affected (50.67%). Most common ocular malignancy was Squamous cell carcinoma and the most common non neoplastic lesion was Nevus.

KEYWORDS

Ocular lesions, benign, malignant, eyelid

INTRODUCTION

Ophthalmic pathology is the subspeciality of surgical pathology and ophthalmology which deals with the diagnosis and characterization of non-neoplastic and neoplastic diseases of the eye and its neighbouring structures.

Ophthalmic histology techniques differ from those of normal tissue in fixation, processing and sectioning.

It provides the basis of our understanding of how the disease can alter the function of the eye.[1]

The goal of the Ophthalmic Pathology service is to enhance communication between the Ophthalmic Surgeon and the Pathology laboratories and to provide detailed histopathological information that can be correlated with patient history and other clinical data.

Estimates from WHO shows that there are about 37 million blind people and 161 million people with visual impairment with about 90% of these people living in developing countries.[2]

So it is important to understand the Histopathology of Ocular lesions to provide the proper patient care.

OBJECTIVES

- To study the spectrum of ocular lesions received in Department of Pathology, K.R.Hospital, Mysore.
- To study the prevalence of various ocular lesions in different age groups

MATERIALS AND METHODS: This is a retrospective study done in our department. The slides of all the orbito-ocular specimens received between October2006 to September 2016 in our Histopathology section were reviewed. The clinical data such as age, sex, site of lesion and clinical summary were extracted from the registers.

RESULTS: A total of 296 patients who underwent biopsy for ocular lesions (benign and malignant) were analyzed. Among 296 cases, 147 were male with highest number of cases in the age group of 31-

40 years. Table 1 shows the age distribution of these patients, Table 2 shows the sex distribution of the study population. Table 3 shows the frequency of ocular lesions in relation to site. Table 4 shows prevalence of benign ophthalmic lesions in the study, Table 5 shows the prevalence of malignant ocular lesions.

Table1: Age distribution

Age(years)	Number of cases	Percentage
<1	1	0.34%
1-10	19	6.42%
11-20	32	10.81%
21-30	34	11.51%
31-40	60	20.27%
41-50	44	14.9%
51-60	49	16.55%
61-70	38	12.84%
71-80	15	5.1%
81-90	3	1.01%
91-100	1	0.34%
TOTAL	296	100%

Table 2: Gender wise Distribution

Sex	Number of cases	Percentage
Male	149	50.34%
Female	147	49.66%
TOTAL	296	100%

Table 3: Frequency of ocular lesions in relation to site

Site	Number of cases	Percentage
EYELID	150	50.68%
Conjunctiva	62	20.95%
Cornea	09	3.04%
Sclera and Uvea	30	10.14%
Lacrimal gland and sac	33	11.15%
Others	12	4.05%
Orbit		
Glaucoma		
Retinoblastoma		
TOTAL	296	100%

Table 4: Prevalence of Benign ophthalmic lesions EYELID (50.67%)

Different lesions	Number of cases	Percentage
NEVUS	31	10.47%
Epidermal cyst	20	6.75%
Trichoepithelioma	6	2.03%
Pilomatrixoma	4	1.35%
Dermoid cyst	4	1.35%
Sebaceous adenoma	8	2.70%
Capillary Haemangioma	6	2.03%
Benign Papilloma	6	2.03%
Benign Cystic lesion	3	1.01%

Lipoma	6	2.03%
Hydrocystoma	3	1.01%
Pyogenic Granuloma	6	2.03%
Pigmented Seborrheic keratosis	2	0.68%
Schwannoma	2	0.68%
Verrucous lesion	3	1.01%
Molluscum Contagiosum	5	1.69%
Glomus Tumor	1	0.34%
Blepharitis	15	5.07%
Neurofibroma	4	1.35%
Syringocystadenoma papilliferum	5	1.69%
Chalazion	10	3.38%
TOTAL	150	50.67%

CONJUNCTIVA

Conjunctival cyst	2	3.23%
Conjunctival nevus	15	5.68%
Conjunctivitis	5	1.69%
Papilloma	1	0.34%
Foreign body granuloma	2	0.68%
PTERYGIUM	30	10.14%
Pinguecula	7	2.36%
	62	20.95%

CORNEA

BULLOUS KERATOPATHY	4	1.35%
Fungal corneal ulcer	1	0.34%
Angiokeratoma	1	0.34%
Keratitis	3	1.01%
	9	3.04%

SCLERA AND UVEA

Anterior Staphyloma	5	1.69%
Tenon's cyst	2	0.68%
ENDOPHTHALMITIS	12	4.05%
Panophthalmitis	5	1.69%
Chronic Iridocyclitis	3	1.01%
Pthisis Bulbi	3	1.01%
	30	10.14%

LACRIMAL GLAND AND SAC

CHRONIC DACRYOCYSTITIS	18	6.08%
Pleomorphic adenoma	7	2.36%
Lacrimal duct cyst	2	0.67%
Inflammatory Pseudotumor	4	1.35%
Tubercular dacryocystitis	2	0.67%
	33	11.15%

Table 5-Prevalence of malignant ocular lesions

Lesions	Frequency	Percentage
NHL	2	0.68%
Carcinoma in situ	2	0.68%
Malignant Chondroid Syringoma	1	0.34%
Basal cell carcinoma	1	0.34%
Malignant melanoma	2	0.68%
Squamous cell carcinoma	2	0.68%
Sebaceous carcinoma	1	0.34%
Retinoblastoma	1	0.34%
	12	4.05%

DISCUSSION:

Results of the present study were comparable with various other similar studies. In our study there was slight male preponderance as in the study conducted by Chauhan Sanjay et al, S Pudasaini et al, Shastry Srikanth, Bastola P et al and Imran Y Shaikh et al.

We found that highest number of ocular lesions were found in the age group of 31-40 years (20.27%) which was similar to study conducted by Chauhan Sanjay et al and Bastola P et al.

Study done by Imran Y Shaikh et al and Shastry Srikanth showed that highest number of ocular lesions were observed in the age group of 41-50 years.

Regarding anatomic distribution of ophthalmic lesions, eyelid was the most common site of lesion in our study. Table (6)

Majority of the cases in our study were found to be benign (95.95%) and the results were similar in other studies.

Most common benign lesion in our study was Nevus which was similar to study conducted by Shastry Srikanth. Table (7) shows the most common benign lesion in various studies. Table (8) shows the most common malignant lesions in different studies.

Table6: Comparison of anatomic distribution of ocular lesions[1,3,6]

Anatomic site	Chauhan sanjay et al	Imran y shaikh et al	Bastola et al	Present study
Eyelid	57(57%)	82(37.96%)	57(57%)	150(50.68%)
Conjunctiva	22(22%)	44(20.37%)	22(22%)	62(20.95%)
Cornea	-	-		12(4.05%)
Orbit	8(8%)	37(17.1%)	8(8%)	-
Lacrimal gland and sac	8(8%)	11(5.09%)	5(5%)	-
Retina	5(5%)	15(6.94%)		
Others		5(2.31 %)		

Table 7: MOST COMMON BENIGN LESIONS IN DIFFERENT STUDIES[1,3,4,5,6]

Studies	Common lesion	Percentage
Chauhan Sanjay et al	Dermoid cyst	21%
Imran Y Shaikh et al	Hemangioma	46%
Pudosaini et al	Papilloma	54.5%
Bastola P et al	Granuloma Pyogenicum	22.5%
Shastry Srikanth	Nevus	15.39%
PRESENT STUDY	NEVUS	10.47%

Table8 : most common malignant lesion in different studies [1,3,5,6]

Studies	Common lesion	Percentage
Chauhan Sanjay et al	Sebaceous carcinoma	15%
Imran Y Shaikh et al	Squamous cell carcinoma	28.2%
Bastola P et al	Non Hodgkin's Lymphoma	37.5%
Shastry Srikanth	Basal cell carcinoma	12.15%
PRESENT STUDY	NHL, SCC MALIGNANT MELANOMA	0.68%

CONCLUSION:

Ophthalmic pathology has acquired increased importance in the recent era of diagnostic pathology with increased number of surgically excised ophthalmic lesions being submitted for histopathologic examination.

Precise diagnosis and accurate categorization of ophthalmic lesions are of immense importance to the clinicians since they are crucial for appropriate management of the patients.

Histopathology remains the mainstay of diagnosis in Ophthalmic Pathology.

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