

A clinicopathological study of ophthalmic lesions in Indore - A review of 250 cases

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ABSTRACT

Background: A spectrum of ophthalmic lesions (OL) can vary from benign to malignant. Premalignant and malignant tumors such as carcinoma, lymphoma, or melanoma are aggressive, which jeopardize the vision and may endanger the patient's life. **Objectives:** Therefore, this study was to assess the morphological and clinicopathological correlation of OL, to identify the pattern of prevalence of OL, and to compare the data and other investigations for enhance the management of OL. **Materials and Methods:** This study was conducted in the Department of Pathology, MGM Medical College, Indore during period of 2015 and 2016, and the past year cases of 2014 were also be consider to compare the present OL in M. Y. Hospital, Indore. **Result:** The specimens were obtained from 250 patients, which are inflammatory, infective, benign, and malignant. It was found that OL were highest (56.4%) in 21-30 year age group. From malignancy point of view, lesions were benign in 51.6% of cases and malignant in 25.2% of cases, and remaining lesions are comes under infective, inflammatory, and others (for those, no definitive opinion was possible). Among 63 malignant cases shows slightly female predominance whereas among 118 nonmalignant cases predominantly affected population were males. There was association between clinical and pathological finding is significant. **Conclusion:** All OL detached surgically should always be subjected to histopathological analysis to establish accurate diagnosis for further management.

KEY WORDS: Histopathological Studies; Ophthalmic Lesions; Ophthalmic Pathology

INTRODUCTION


Ophthalmic lesions (OL) more precisely, orbital and ocular tumors or tumor-like lesions require surgical treatment mostly; hence, a correct pre-operative provisional diagnosis followed by series of investigations and clinical examination and confirmation of the same by doing histopathological and cytological examination of the specimen plays an enormous role in treating both benign and malignant ocular and orbital lesions in patient care.^[1] Tumors of the eye and ocular

adnexa comprise a small percentage of the total malignancies diagnosed and treated yearly.^[2]

The impartial 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. In this way, continuously histopathological studies have the greatest benefit to ongoing patient care.^[3,4] Therefore, objectives of this study were to study the morphological and clinicopathological correlation of OL, to know the pattern of prevalence of OL in hospital, and to compare the data and other investigations for enhance the management of OL.

MATERIALS AND METHODS

This retrospective and prospective study was conducted in the Department of Pathology, MGM Medical College, Indore

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during period of 2015 and 2016, and the past year cases of 2014 were also be consider to compare the present OL in M. Y. Hospital, Indore. Prior permission form ethical committee of the hospital was taken. Informed consent was taken from all the study patients. In all cases, patient clinical history and other laboratory investigations were recorded in pro forma. The specimens were obtained from 250 patients, which are inflammatory, infective, benign, and malignant. Included all cases for fine-needle aspiration cytology reference and histopathological to correlation with retrospective aspect.

The surgically resected specimens fixed in the 10% formalin were received. Thorough gross examination of each mass for its size, shape, and consistency was done. Several representative areas of tissue were taken from received surgical specimen and subjected to routine paraffin embedding. Four to five sections 2-3 mm thick were taken from different areas of specimen and processed in automatic tissue processor. Blocks were prepared with the help of leuckhart's piece. After trimming of blocks, sections 5-7 um thick were cut with help of rotatory microtome. Sections were floated on water at temperature of 45 degree and were taken on albuminized slides. The sections were stained by hematoxylin and eosin stain in all cases. Patient care and further management were planned accordingly. All positive and relevant findings of study individuals were entered in a specially designed pro forma and analyzed using statistically and Microsoft office Excel; then, the results was interpreted.

RESULTS

Totally 250 cases of OL were observed. It was found that OL were highest (56.4%) in 21-30 year age group and lowest (1.6%) in the age group 0-11. Sexwise, there was not much difference as lesions were found in 46% of females and 54% of males (Table 1). From malignancy point of view, lesions were benign in 51.6% of cases and malignant in 25.2% of cases, and remaining lesions are comes under infective, inflammatory, and others (for those no definitive opinion was possible).

Locationwise, conjunctiva (66.8%) was the most commonly involved site followed by eyelid (20.8%) and lacrimal gland (3.2%) (Table 2). The basal cell carcinoma palisading arrangement of basaloid cell at periphery, squamous cell carcinoma (SCC) intercellular bridging or keratinization, malignant melanoma of large pleomorphic diffuse infiltration of large pleomorphic epithelioid tumor cell with melanin pigment and mucoepidermoid carcinoma sheets of mucous, squamous, and intermediate cells were found in Figure 1.

Among 63 malignant cases shows slightly female predominance whereas among 118 nonmalignant cases predominantly affected population were males. Among

Table 1: Age- and sex-wise distribution of cases in the study group

Parameters	Number of cases (%)
Age groups (years)	
0-10	04 (1.6)
11-20	33 (13.2)
21-30	141 (56.4)
31-40	36 (14.4)
41-50	12 (4.8)
51-60	13 (5.2)
61-70	06 (2.4)
71-80	05 (2.0)
Gender	
Male	135 (54)
Female	115 (46)

Table 2: Distribution of behavior- and location-wise of reported cases of OL

Lesions	Number of cases (%)
Behavior	
Infective	07 (2.8)
Inflammatory	17 (6.8)
Benign	129 (51.6)
Malignant	63 (25.2)
Others	34 (13.6)
Location	
Cornea	07 (2.8)
Conjunctiva	167 (66.8)
Iris	01 (0.4)
Eyelid	52 (20.8)
Lacrimal gland	08 (3.2)
Lacrimal sac	05 (2.0)
Orbit	05 (2.0)
Others	05 (2.0)

250 cases in 216 cases, we were able to establish management approach whereas in 34 cases, for those, we were not able to make definite diagnosis and not able to establish management approach (Table 3).

DISCUSSION

The present study showed that maximum number of cases was benign (61.2%) including infective and inflammatory lesions. While 25.2% of cases were malignant, 13.6% of cases come under category in which no definite opinion was possible. Hence, malignant lesions were 25.2% and nonmalignant were 74.8%. Similar findings were also observed in 110 cases, 38.2% of cases were malignant, and 62.8% were nonmalignant,^[5] and in 100 cases, benign lesions were 70% while malignant lesions were 30%.^[11]

Table 3: Frequency of various ophthalmic lesion of eye and adnexa and their management

Lesion	Number of cases	Diagnoses			Confirmation on histopathology	Management
		FNAC	Imprint	Biopsy		
Dermoid cyst eyelid	2	2			2	Excision
Epidermal inclusion cyst	18	6		12	12	Excision
Nevus	2			2	2	Laser
Hemangioma	1			Nil	1	Topical treatment
Fibroma	1			1	1	En bloc excision
Eccrine spiradenoma	1			1	Not done	Excision
Trichoepithelioma	1			1	Not done	Excision
Sebaceous gland carcinoma	1			1	1	Wide excision, lymph node dissection, and postop radio
Basal cell carcinoma	5			5	3	Wide excision
Malignant melanoma	1			1	1	Wide excision
Chalazion	1			Nil	1	Excision
Lipoma	3			3	Not done	Excision
Verrucous hyperplasia	1			1	1	Shave excision
Neurofibroma	1			1	1	Excision
Molluscum contagiosum	2			1	1	Cryotherapy
SCC eyelid	5	3		2	4	Surgical extirpation with radio and cryotherapy
Poorly different carcinoma	1	1			Not done	Radio/chemotherapy
Inclusion cyst conjunctival	2			Nil	2	Thermal curettage
Dermoid cyst conjunctival	2	2			2	Excision
Lipoma, conjunctival	2			2	2	Excision
Squamous papilloma	1			1	1	Cryotherapy
SCC conjunctiva	3		1	2	3	Photo dynamic therapy
Mild dysplasia	26		26		Not done	Palliative therapy
Moderate dysplasia	9		9		Not done	Palliative therapy
Severe dysplasia	5		5		Not done	Photo dynamic therapy
Inflammatory, infective	7	1	3	3	5	Antibiotic, antifungal
Mucocele lacrimal sac	2	1		1	2	Microsurgical drainage
Inflammatory, lacrimal sac	3			3	3	Antibiotic, surgery
Pleomorphic adenoma	1			1	Not done	Excision
Mucoepidermoid carcinoma	3	1		2	3	Surgical exenteration followed by radical excision
Adenoid cystic carcinoma	2			2	2	Surgical exenteration with radio, chemotherapy
Poorly different carcinoma, lacrimal gland	2	2			Not done	Radio/chemotherapy
Iris cyst	1	1			Not done	Drainage
Spindle cell tumor, orbit	1			1	1	Excision
Schwannoma, orbit	1			1	1	Excision
Orbital dermoid	1	1			1	Excision
Inflammatory orbital lesion	5	2		3	3	Antibiotics, steroids
Normal squamous epithelium	84		84		Not done	Nil
Cornea	7			7	7	Keratoplasty
Total	216	24	128	61	69	

FNAC: Fine-needle aspiration cytology, SCC: Squamous cell carcinoma

In the present study, out of a total, 115 OL found in females, 82 (43.9%) were nonmalignant and 33 (51.6%)

were malignant. In the present study, 8 cases were lacrimal gland tumors, out of which 12.5% were benign while

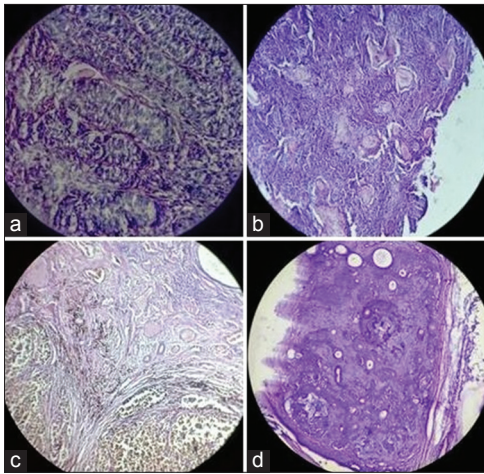


Figure 1: Histopathological finding of different malignant lesion of the eye. (a) Basal cell carcinoma (H and E, high power view), (b) squamous cell carcinoma (H and E, low power view), (c) malignant melanoma (H and E, low power view), (d) Mucoepidermoid carcinoma (H and E, low power view)

87.5% were malignant. According to the present study, most patients with benign OL were in the third decade of life, and malignant lesions are also more common in the third decade. According to the present study, OL are more common in males (54.0%) than females (46.0%). In the present study, most common eyelid lesion is epidermal inclusion cyst-18 (34.6%) followed by basal cell carcinoma-5 (9.6%) and SCC-5 (9.6%), lipoma-3 (5.7%), dermoid-2, and nevus-2 (3.8%). Among eyelid malignancy, the present study found 41.7% basal cell carcinoma and 38.4% SCC. The study carried out by Bastola *et al.* found 38.4% sebaceous (meibomian) carcinoma and 33.3% basal cell carcinoma,^[1] and Jahagirdar *et al.* were observed 37% sebaceous (meibomian) carcinoma and 44% basal cell carcinoma.^[6] Thakur *et al.*^[7] reported 51.2% of males and 48.8% of females while Sunderraj^[8] observed 56% of males and 44% of females. Frequency among children was 18% in the present study while Anbessa *et al.*^[9] found it 20% which was almost similar to this study. Frequency of retinoblastoma in our study was 27.5% which were less compared to other study (39%).^[9] Clinical accuracy was decided on the basis where clinical diagnosis matches with histopathological diagnosis. In the study of Obata *et al.*,^[10] most common benign lesion was intradermal nevus (13%) while in our study, the most common benign lesion were granuloma pyogenicum (22.5%) followed by intradermal nevus (4.5%). In the study of Obata *et al.*^[10] most common malignant lesion was malignant lymphoma (9%) while in our study, the most common malignant lesion was SCC (22.5%). Among eyelid malignancy, the present study found 41.7% sebaceous (meibomian) carcinoma and 33.3% basal cell carcinoma.^[10] In summary, we can conclude that all OL removed surgically should always be subjected to

histopathological examination to establish correct diagnosis for further management.

CONCLUSION

In summary, we can conclude that all OL detached surgically should always be subjected to histopathological analysis to establish accurate diagnosis for further management.

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