ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 05 | May - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

CLINICOPATHOLOGICAL STUDY OF TUMORS AND TUMOR LIKE LESIONS IN THE EYE AND ITS ADNEXA.

Histopathology

Dr Padma Jain Junior resident, Department of Pathology, Govt. Medical College, Aurangabad.

Dr. D. G. Jaiswal Assistant Professor, Department of Pathology, Govt. Medical College, Aurangabad.

Dr. Anil Joshi Professor & head, Department of Pathology, Govt. Medical College, Aurangabad.

ABSTRACT

Background: Ocular tumors are a heterogeneous group of diseases, relatively uncommon in the daily pathologic practice. They have an enormous social importance because they affect the ability to see. Clinical signs and symptoms of ocular malignancies simulate more commonly occurring benign conditions which pose great difficulties both for treating clinicians and even experienced pathologists. Hence to address this ambiguity we have undertaken this study to assess clinicopathology of tumors and tumor like lesions in the eye and its adnexa. **Methods:** In this study done in a rural tertiary care hospital of India on 90 patients with tumors and tumor like lesions in the eye and its adnexa. **Results:** Majority (40%) patients were >60 years. There was a significant female preponderance. Most common diagnosis was malignant lesion in 44.45% with most common histological type seen in our study was basal cell carcinoma amongst 15.56% of cases. **Conclusion:** Histopathological examination of biopsy, resected specimen and enucleated eyeball is mandatory and plays a vital role to come to accurate diagnosis and for the further prognosis of the patient.

KEYWORDS

Tumors and tumor like lesions in the eye and its adnexa, clinicopathology.

INTRODUCTION:

Ocular tumors are a heterogeneous group of diseases, relatively uncommon in the daily pathologic practice. They have an enormous social importance because they affect the ability to see.[1]. Benign lesions and extraocular tumors are seen more frequently in clinical practice than malignant and intraocular tumors.[2]

Intraocular tumors primarily include retinoblastoma, uveal melanoma and to a lesser extent, malignant medulloepithelioma, retinal pigment epithelium Carcinoma . The secondary involvement of orbital soft tissues with malignant ocular tumors is a rare condition and the only clinically significant lesions in this group are the retinoblastoma and choroidal melanoma.[3]

Orbital and ocular tumors or tumors like lesions require surgical treatment mostly, hence a correct preoperative provisional diagnosis followed by series of investigations and clinical examination and confirmation of the same by doing histopathological examination of the specimen plays an enormous role in treating both benign and malignant ocular and orbital lesions in patient care.[4] Clinical signs and symptoms of ocular malignancies simulate more commonly occurring benign conditions which pose great difficulties both for treating clinicians and even experienced pathologists.[5] Hence to address this ambiguity we have undertaken this study to assess clinicopathology of tumors and tumor like lesions in the eye and its adnexa**.**

Objective:

To study clinical presentation, gross and microscopic histopathological characteristics of tumor and tumor like lesions of the eye and its adnexa and to classify them according to WHO classification.

MATERIALS AND METHODS:

This was a facility based retrospectively prospective observational study. Protocol of this study was approved by the Institutional Ethical committee of the medical college. Written informed consent was taken from all study subjects.

Present study included 90 patients with surgically operated and clinically diagnosed tumor and tumor like lesions in the eye and its adnexa. Sampling method used was universal. Study was carried out over a period of 2 years. Those who had inflammatory, infective etiology in histopathology examination, poorly fixed/unfixed specimens, inadequate biopsies were excluded.

Specimens that we received were biopsy, resected specimen, enucleated and exenterated eyeball. All the biopsy specimens were whole submitted after thorough gross examination.

After obtaining consent, Subjects fulfilling the inclusion / exclusion criteria were enrolled in the study. Upon enrolment, a number was assigned to each case and the following details were enquired and recorded in the Case Report Form (CRF). Data was collected in pre-structured proforma which was pilot tested and after ensuring its validity. The data collected was then analyzed by using SPSS IBM version 20. Quantitative data was tested by Z test, qualitative data tested by chi square test and p value >0.05 considered statistically significant.

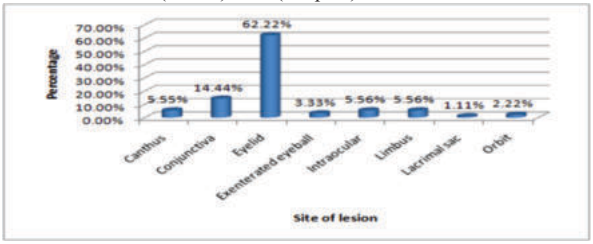
RESULTS:

In the present prospective study, there was no lost to follow up and it was possible to analyze all 90 patients giving the response rate of 100%. Out of total 90 cases, majority i.e. 36 (40%) ≥60 years followed by 32 (35.56%) from 40-59 years, 09 (10%) from 12-19 years, 07 (7.77%) from <12 years & least, 06 (6.67%) from20-39 years. Mean age of the patients was 49.6 ± 21.5 years. There was a significant female preponderance with 51 (56.67%) female patients and 39 (43.33%) male patients. Most, 52 (57.78%) cases had tumor & tumor like lesion in right eye while 38 (42.22%) had it in left eye. (Table 1)

Table 1. Distribution Of Patients According To Baseline Characteristics.

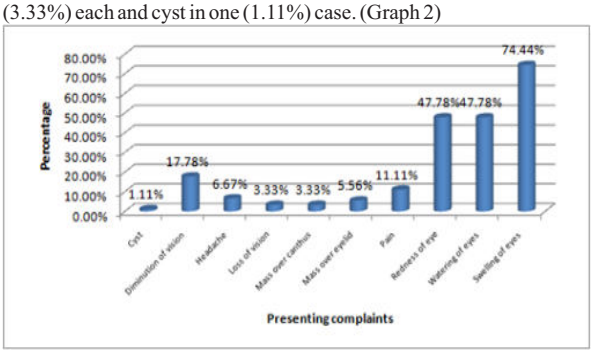
Baseline characteristic		Cases	
		No.	%
Age (years)	<12	07	7.77
	12-19	09	10
	20-39	06	6.67
	40-59	32	35.56
	≥60	36	40
Gender	Male	39	43.33
	Female	51	56.67
Laterality	Left eye	38	42.22
	Right eye	52	57.78

In the present study, most common site of lesion was eyelid among 56 (62.22%) of the cases followed by conjunctiva of eyes among 13 (14.44%) patients, canthus, limbus & intraocular tissue in 05 (5.56%) patients each, exenterated eyeball in 03 (3.33%), orbit in 2 (2.22%) and lacrimal sac in one (1.11%) case. (Graph 1)



Graph 1. Site of lesion wise distribution of cases.

In the present study, most common presenting complaint was swelling of eyes reported by 67 (74.44%) of the cases followed by watering & redness of eyes among 43 (47.78%) patients each, diminution of vision in 16 (17.78%), eye pain in 10 (11.11%), headache in 6 (6.67%), mass over eyelid in 5 (5.56%), mass over canthus & loss of vision among 3 (3.33%) each and cyst in one (1.11%) case. (Graph 2)



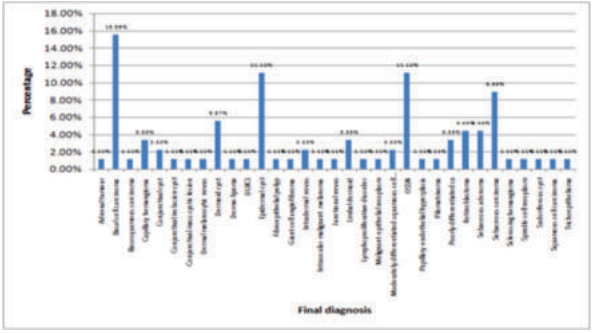
Graph 2: Presenting complaints among patients.

In the present study, most common histopathological diagnosis was malignant lesion among 40 (44.45%) of the cases followed by tumor like lesion among 28 (31.11%) cases, benign lesion in 13 (14.44%) patients & premalignant lesion in 09 (10%) cases. (Table 2)

Table 2: Distribution Of Patients According To Histopathological Diagnosis Of Lesion.

Histopathological diagnosis	Frequency	Percent
Benign	13	14.44
Pre-malignant	09	10
Malignant	40	44.45
Tumour like	28	31.11
Total	90	100

In the current study, most common diagnosis was basal cell carcinoma among 14 (15.56%) of the cases followed by epidermal cyst & OSSN of eyes among 10 (11.12%) patients each, Sebaceous carcinoma in 08 (8.89%), dermoid cyst in 05 (5.57%), retinoblastoma & Sebaceous adenoma in 04 (4.44%) patients each, mass over eyelid in 5 (5.56%), capillary hemangioma, limbal dermoid & poorly differentiated ca among 3 (3.33%) each, conjunctival cyst, moderately differentiated squamous cell carcinoma & intradermal nevus in 02 (2.22%) each and adnexal tumor, basosquamous carcinoma, conjunctival inclusion cyst, conjunctival mass cystic lesion, dermal melanocytic nevus, dermo lipoma, DCBCL, fibroepithelial polyp, giant cell angiofibroma, intraocular malignant melanoma, junctional nevus, lymphoproliferative disorder, malignant epithelial neoplasm, papillary endothelial hyperplasia, pilomatrixoma, sclerosing hemangioma, spindle cell neoplasm, sudoriferous cyst, squamous cell carcinoma & trichoepithelioma in 1 (1.11%) case each. (Graph 3)



Graph 3. Diagnosis wise distribution of cases.

DISCUSSION:

Various studies have been done regarding eyelid and adnexal tumours in different part of the world. These tumours may show geographical and ethnic variations. The data of our study shows the demography, various modes of presentations, clinical features of the tumours in the tertiary care cancer centre from western India. Present study included 90 cases of surgically operated patients having tumour and tumour like lesions in the eye and its adnexa, to assess the histopathological association with clinical observations. In this study, majority (40%) of the study participants were from the advancing age group of ≥60 years followed by 35.56% from the age group of 40-59 years. Mean age of the patients was 49.6 years. These findings are consistent with Suguna Belur Venugopal et al[6] who noted the mean age at presentation as 43.7 years. Majority (56.67%) of the cases were females with the female to male ratio of 1.31:1. These findings are consistent with Suguna Belur Venugopal et al[6] who noted a slight female predominance with a male to female ratio of 1: 1.18. and Sameer S Jahagirdar et al[7]. Most common site of lesion was eyelid (62.22%) followed by conjunctiva of eyes (14.44%), canthus, limbus & intraocular tissue (5.56 % each), exenterated eyeball (3.33%), orbit (2.22%) and lacrimal sac (1.11%). This is in line with Kafle PA et al[8] who reported 53.6% tumours were located in upper lid, 39.9% were located in lower lid and 7.1 % were located in medial canthus, Sameer S Jahagirdar et al[7] noted malignancies more common in lower eyelid and Swathi Kaliki et al[9] noted in upper and lower eyelid.

In this study, most common histopathological finding was malignant lesion (44.45%) followed by tumour like lesion (31.11%), benign lesion (14.44%) & premalignant lesion (10%). Similarly, Suguna Belur Venugopal et al[6] came across 67.72% neoplastic, 28.34% inflammatory /infectious, and 3.94% miscellaneous lesions, Shikha Ghanghoria et al[10] noted benign lesions in 51.6% of cases and malignant in 25.2% of cases, and remaining lesions were coming under infective, inflammatory, and others.

Commonest diagnosis in our study was basal cell carcinoma in 15.56% followed by epidermal cyst & OSSN of eyes among 11.12% patients each, Sebaceous carcinoma 8.89%, dermoid cyst 5.57%, mass over eyelid in 5 (5.56%), retinoblastoma & Sebaceous adenoma in 4.44% patients each, This is in accordance with the Kafle PA et al[8] who reported that Basal cell carcinoma and sebaceous gland carcinoma were the most common type of malignancies (35.7% each) followed by 28.6% of squamous cell carcinoma of eyelid, Swathi Kaliki et al[9] who noted in their study that histopathology - proven diagnoses of patients included sebaceous gland carcinoma (SGC) (53%), basal cell carcinoma (BCC) (24%), squamous cell carcinoma (SCC) (18%), and miscellaneous tumours (4%), Syeed Mehbub Ul Kadir et al[11] who found that Sebaceous gland carcinoma (SGC) was the highest in occurrence, at 42%, followed by 38% basal cell carcinoma (BCC), 18% squamous cell carcinoma (SCC), and 02% malignant melanoma (MM) and Roshmi Gupta et al[12] who revealed that common tumours included 42.6% sebaceous gland carcinoma (SGC), 36.4% basal cell carcinoma (BCC), squamous cell carcinoma (SCC) 11.6%, and 9.3% other tumours.

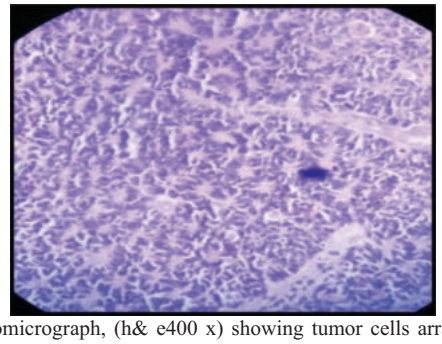
CONCLUSION:

Of the various lesions of eye & its adnexa, malignant lesion was the commonest occurrence of which common lesions were basal cell carcinoma, epidermal cyst, OSSN & Sebaceous carcinoma. Therefore, histopathological examination of biopsy, resected specimen and enucleated eyeball is mandatory and plays a vital role to come to accurate diagnosis and for the further prognosis of the patient. Moreover, we cannot deny the fact that clinical diagnosis plays as important role towards patient care. Eye being a most delicate and vital organ of human body, requires good attention and timely care to preserve the eyesight and to avoid unwanted complications.

Declaration:

There was no source of funding in our study and there was no any conflict of interest.

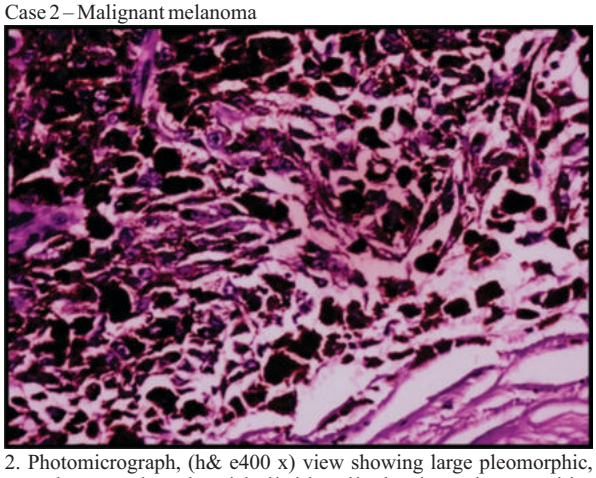
Case 1 – Retinoblastoma



1. Photomicrograph, (h& e400 x) showing tumor cells arranged in diffuse sheets, Roseloid, short trabeculae & at places perithelial pattern.

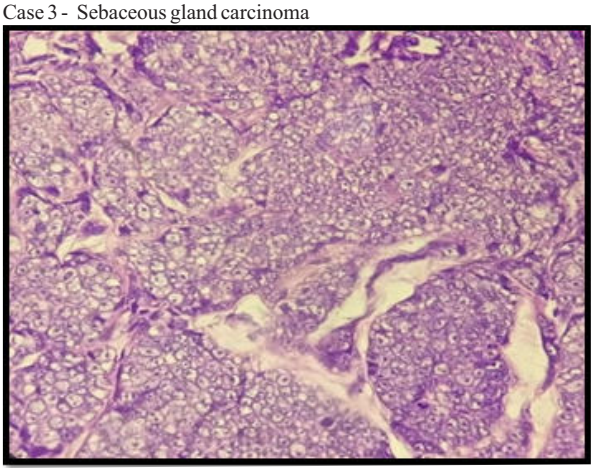
Individual cells are round to oval cells with hyperchromatic nuclei & scant cytoplasm forming rosettes.

Case 2 – Malignant melanoma



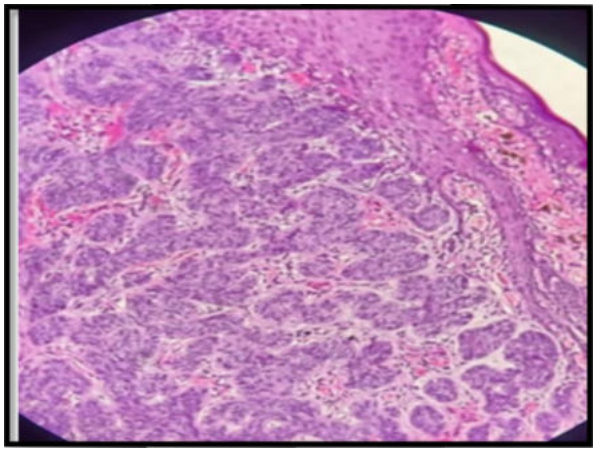
2. Photomicrograph, (h& e400 x) view showing large pleomorphic, round to oval and epithelioid cells having pleomorphic, hyperchromatic nuclei with prominent nucleoli & abundant cytoplasm contain brownish black pigment.

Case 3 - Sebaceous gland carcinoma



3. Photomicrograph, (h& e200 x) tumor arranged in lobules separated by thin fibrovascular septa.

Case 4 – Basal cell carcinoma



4. Photomicrograph, (h& e100 x) showing stratified squamous epithelium with tumor cells appearing as down growth from epidermis with palisading pattern.

REFERENCES:

1. A.Kapurdov*,M.Kapurdova- (2010) clinical, morphological and epidemiological data on eye tumours-http://tru.uni- sz.bg/tsj/Vol8N4_2010/A.Kapurdov.pdf.
2. S C reddy, MS (Ophth) and P K das, MD. (1996) Tumours and tumour-like lesions of the eye: A clinicopathological study from Hospital University Sains Malaysia http://mjpath.org.my/past_issue/MJP1996.2/tumour-like-lesions-of-the-eye.pdf
3. Dr. Karcioglu- Chapter of orbital tumourShttps:// www.researchgate.net/publication/225241088_Ocular_TUMOURS
4. P Bastola , S Koirala , G Pokhrel , P Ghimire , RK Adhikari y- A_Clinico- A clinicohistopathological study of orbital and ocular lesions; a multicenter study https://www.researchgate.net/publication/272871592
5. Yashita Gupta , Renuka Gahine , Nighat Hussain, Mohd Jafar Memon- Clinico-Pathological Spectrum of Ophthalmic Lesions: An Experience in Tertiary Care HospitalofCentralIndia.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5324416/
6. Venugopal SB, Muralidhar A. (2021). HEALTH SCIENCES ME D I CINE Spectrum of eyelid lesions – a histopathological study in South. 4(1):13–7.
7. Jahagirdar SS, Ch M, Thakre TP, Kale SM, Ch M, Kulkarni H. (2007). A clinicopathological study of eyelid malignancies from central India Indian J Ophthalmol. 55: 109-12.
8. Pa k, hamal d, Sahu s, Poudyal p, Su k. (2019). Clinico-pathological analysis of malignant eyelid and adnexal tumours presenting to a tertiary eye hospital of eastern Nepal. 4(3):840–4.
9. Swathi Kaliki, Nandini Bothra, Kavya Madhuri Bejjanki et al. (2019). Malignant Eyelid Tumors in India: A Study of 536 Asian Indian Patients. 500034:210–9.
10. Ghanghoria S, Tripathi A, Kulkarni C V, Mehar R, Sharma S, Shinde P. (2017). A clinicopathological study of ophthalmic lesions in Indore - A review of 250 cases. 6(9):1382–5.
11. Mehbub S, Kadir U, Mitra MR, Rashid R, Nuruddin M, Khan KH, et al. (2022). Clinicopathological Analysis and Surgical Outcome of Eyelid Malignancies: A Study of 332 Cases.
12. Gupta R, Bhaduri A, Desai S, Das S, Menon V. (2020). Malignant tumours of the eyelid in India: A multicenter, multizone study on clinicopathologic features and outcomes. 2466–70.