



**ORIGINAL RESEARCH PAPER**

**Pathology**

**SPECTRUM OF EYELID NEOPLASMS- A SIX YEAR STUDY**

**KEY WORDS:** Eyelid neoplasms, Papilloma, Sebaceous carcinoma.

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**ABSTRACT**

**Introduction:**The aim of the study is to analyse the spectrum and pattern of various eyelid tumors in patients presenting to Regional Institute of Ophthalmology, Chennai, which is a tertiary care hospital.

**Materials & Methods:**This is a retrospective study conducted over a period of 6 years(2011-2016). 204 cases were identified and included in the study. The details were collected from the pathology records and analysed.

**Results:** Of the total 204 cases, there were 138 benign, 5 premalignant and 61 malignant tumors. Squamous papilloma and Neurofibroma were common benign tumors, Of the malignant lesions, 27 cases were Sebaceous Carcinoma, Basal cell carcinoma(14 cases), Squamous cell carcinoma(12 cases). Mean age of patients was 46.51 for eyelid neoplasms. Male female ratio was 1:1.5.

**Conclusion:** Benign lesions are more common than malignant tumors. Squamous papilloma was the most common benign tumor and Sebaceous carcinoma was the most common malignant tumor.

**INTRODUCTION:**

Eyelid neoplasms are not uncommon in histopathology practice. The eyelids histologically composed of many elements like skin structures and its appendages, muscle, modified glands, and conjunctival mucous membrane.<sup>1</sup> Hence a large variety of non-neoplastic and neoplastic lesions can originate in the eyelid. Eyelid cancers accounts for 5%-10% of all skin cancers and 15% of all face tumors.<sup>2</sup> And the incidence of eyelid tumours is increasing nowadays.<sup>3-6</sup>

The common benign tumors of the eyelid are squamous papilloma, pseudoepitheliomatous hyperplasia, seborrheic keratosis, nevus, dermoid cyst, apocrine hydrocystoma, sebaceous hyperplasia and adenomas, fibromas, neurofibromas, and hemangiomas. Common malignant tumours of eyelid are Basal cell carcinoma, Squamous cell carcinoma, Sebaceous carcinoma, Malignant melanoma.

The aim of the study is to evaluate the profile of eyelid neoplasms as diagnosed by histopathology examination in the the Department of Pathology, Regional Institute of Ophthalmology, Madras Medical College, a tertiary care Centre in Tamilnadu, South India.

**MATERIALS AND METHODS:**

This is a retrospective study conducted over a period of 6 years from January 2011 to December 2016 in the Department of Pathology, Regional Institute of Ophthalmology, Govt. Ophthalmic Hospital, Madras Medical College, Chennai, which is a tertiary care centre. The surgically excised specimens of eyelid lesions received in the pathology department were processed by formalin fixation, paraffin embedding and Hematoxylin and Eosin staining. Both Benign and malignant eyelid tumours with confirmed histopathological diagnosis were included in the study. Non neoplastic lesions and metastatic tumors to the eye were excluded. All ages and both sexes were included. 2629 cases of ocular and periocular lesions were received during the study period, of which 204 cases of eyelid neoplasms were identified and included in the study. Data regarding age, gender, and final histopathological diagnosis of eyelid lesions were collected from the records in the pathology department.

**RESULTS:**

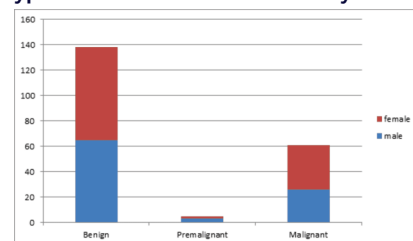
A total of 204 eyelid neoplasms were reported during the study period, of which Benign tumours were 138 in number,

pre-malignant were 5 and Malignant were 61 in number. 97 cases(47.53%) were male, 112 cases (54.88%) were female. Female cases outnumbered males in both benign and malignant tumours(Table 1, chart 1)). Male:Female ratio was 1:1.15. Age of the patients ranges from 1.5 months to 95 years. The mean age of presentation was 46.51 years for eyelid neoplasms, with 34.86 years for benign tumours and 58.16 years for malignant tumors.

**Table 1:Types and Gender distribution of eyelid Neoplasm.**

Tumor category	Male		Female		Total
	N	%	N	%	
Benign	65	31.85%	73	35.7%	138(67.62%)
Pre-malignant	3	1.47%	2	0.98%	5(2.45%)
Malignant	26	6.24%	35	17.15%	61(29.89%)
Total	94	46.1%	110	53.9%	204(100%)

**Chart 1: Types and Gender distribution of eyelid Neoplasm**



**Table 2: Sex distribution of individual lesion with percentage.**

Diagnosis	Male	Female	Total N	Percentage % among eyelid neoplasms
Squamous Papilloma	25	17	42	20.6
Inverted Papilloma	0	1	01	0.49
Seborrheic keratosis	6	7	13	6.4
Inverted follicular keratosis	1	1	2	0.98
Sebaceous Hyperplasia	7	1	8	3.92
Apocrine cystadenoma	0	1	1	0.49
Syringocystadenoma Papilliferum	2	1	3	1.47
Compound Nevus	0	1	1	0.49

Nevus sebaceous	0	1	1	0.49
Dermolipoma	3	4	7	3.43
Neurofibroma	1	13	14	6.86
Schwannoma	2	2	4	1.96
Lipoma	0	1	1	0.49
Fibrolipoma	3	7	10	4.9
Fibroma	-	3	3	1.47
Capillary Hemangioma	4	4	8	3.92
Lymphangioma	1	0	1	0.49
Intramuscular Hemangioma	0	1	1	0.49
Dermoid cyst	9	5	14	6.86
Fibroepithelial polyp	1	2	3	1.47
PREMALIGNANT LESIONS				
High grade squamous intraepithelial lesion (HSIL)	3	2	5	2.45
MALIGNANT TUMOURS				
Sebaceous carcinoma	17	10	27	13.23
Basal cell carcinoma	5	9	14	6.86
Squamous cell carcinoma	3	9	12	5.88
Malignant melanoma	1	3	4	1.96
Apocrine carcinoma	1	0	1	0.49
Basi squamous carcinoma	0	3	3	1.47
	94	100	204	100%

The most common benign tumor observed in the study was squamous papilloma with 42 cases(20.6% of eyelid neoplasms), followed by Neurofibroma and Dermoid cyst accounting for 14 cases each(6.86%), Seborrheic Keratosis(13 cases- 6.4%), Dermolipoma (7 cases), Capillary hemangioma (8 cases), Sebaceous hyperplasia(8 cases), Fibroipoma (10 cases), Lipoma(1 case) schwannoma(4 cases), Fibroma(3 cases), Syringocystadenoma Papilliferum(3 cases), Inverted follicular keratosis(2 cases), Inverted Papilloma( 1 case), Compound nevus (1 case), Apocrine hydrocystoma(1 case), Compound nevus (1 case), Nevus Sebaceous(1 case), Lymphangioma(1 case). 5 cases of High grade Squamous intraepithelial lesion were observed. 61 cases of malignancy were observed, of which Sebaceous carcinoma was the most common with 27 cases, followed by Basal cell carcinoma (14 cases), Squamous cell carcinoma (12 cases), Malignant melanoma (4 cases), Basisquamous Carcinoma (3 cases), Apocrine carcinoma (1 case).

**DISCUSSION:**

As per literature, Squamous papilloma is the most common benign tumour, and Sebaceous carcinoma is the most common malignant tumour of eyelid.<sup>7</sup> In the present study of the 204 cases studies, 138 were benign, 5 were premalignant, 61 were malignant. Females outnumbered males in both benign and malignant neoplasms. Mean age for benign neoplasms was 34.86 years and for malignant tumours was 58.16years. Squamous papilloma was the most common benign neoplasm and Sebaceous carcinoma was the most common malignant neoplasm of eyelid. This is comparable to data from similar studies in other parts of the world. Deprez et al., studied 5504 cases and reported that benign lesions were more common than malignant tumours. Squamous papilloma was the most common benign tumour and Basal cell carcinoma was most commonly observed by that study.<sup>8</sup>

In a study by Ni Z et al., the common benign tumors were Papillomas( 27.9%), pigmented nev(24.4%), cysts(18.1%), angiomias(91.1%). Malignant tumours observed were Basal cell carcinoma(37.6%), Meibomean gland carcinoma (31.7%), Squamous cell carcinoma (18.9%), Melanomas(4.9%)<sup>9</sup>

In India, Krishnamoorthy H et al., evaluated 235 patients, of which, 216 (91.9%) cases were benign and 19(8.1%) cases were malignant neoplasms. Most common benign tumors included epidermal cyst(30.5%), nevi (17.5%), dermoid cyst (13.8%) and papilloma (6.5%).Most frequent malignant tumors included Sebaceous gland carcinoma (SGC) (31.6%), Basal cell carcinoma (BCC) (26.3%), Squamous cell carcinoma (21%), Malignant

melanoma (10.5%), Merkel cell carcinoma(5.3%) and Lymphoma (5.3%).<sup>10</sup>

Karan S et al., conducted a study of 57 cases in Hyderabad over a period of 3 years. Dermoid cyst(37.5%) was the predominant benign lesion and Sebaceous carcinoma(55.5%) was most frequently observed malignant tumor of eyelid.<sup>11</sup>

In a study by Rathod et al, there were 61 benign and 39 malignant cases out of a total of 100 cases of eyelid tumors. The mean age for benign tumours was 37.02 years, and for malignant tumors was 58.59 years. Intra dermal nevus was the commonest benign tumour, BCC and Sebaceous carcinoma were equally common presented in 16 cases each.<sup>6</sup>

Gupta et al studied 52 cases and observed that 16 cases(64%) were benign and 9 cases(36%) were malignant. Females outnumbered males with male to female ratio of 1:2.5. Sebaceous carcinoma was reported in most of the malignant tumors. This is in concurrence with the current study. Sebaceous cyst was the common benign tumour observed which is in contrast to the present study.<sup>12</sup>

Mohan BP et al., studied 414 cases over a period of 10 years and observed that non neoplastic (52.4%) were common than neoplastic eyelid lesions, of which benign lesions(37.7%) outnumbered malignant(9.9%) tumors. Epidermal cyst was the non neoplastic lesion commonly observed, Sebaceous carcinoma was the commonly observed malignant neoplasm. Nevus was the most common benign tumor(13.7%) followed by squamous papilloma(9.2%).<sup>13</sup>

Jangir MK et al., conducted a study of 125 patients at a tertiary care centre in Rajasthan and found occurrence of benign lesions in the following order; Epidermal cyst(21.3%), Dermoid cyst(13.9%), Intra dermal nevus(12.03%) and hemangioma(12.03%). The most common malignant tumour in that study was Sebaceous Carcinoma which is in concurrence with the current study.<sup>14</sup>

**CONCLUSION:**

Benign tumours are more common than malignant tumours of eyelid. Sebaceous carcinoma is the most common malignant tumour of eyelid because of the geographical variation. Care should be taken to facilitate early diagnosis for proper management and favourable prognosis.

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