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Case Series

Clinical presentation and management outcome in patients with malignant eyelid tumors – Observational study at a tertiary care centre in Central India

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Abstract

Eyelid tumors represent a significant subset of skin cancers, accounting for approximately 5–10% of all cases. This observational study conducted at a tertiary care centre in Central India aims to investigate the clinical presentation and management outcomes of patients with malignant eyelid tumors.

The study encompasses 18 patients diagnosed with malignant eyelid tumors between October 2022 and October 2024. The demographic profile, tumor characteristics, and systemic risk factors were meticulously documented, and primary metastatic evaluations were performed. Surgical management included excision biopsy and lid reconstruction, with wide excision and clear margins confirmed after frozen section. The most common tumor type observed was sebaceous gland carcinoma (SGC), accounting for 55% of cases. The study found no tumor recurrence at a mean follow-up of 12 months.

This research highlights the importance of prompt detection, accurate diagnosis, and comprehensive surgical management in improving patient outcomes and reducing the risk of cosmetic disfigurement and morbidity associated with malignant eyelid tumors.

Keywords: Basal cell carcinoma, Malignant melanoma, Sebaceous gland carcinoma, Eye lid tumor.

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1. Introduction

Eyelid tumors represent a notable proportion of skin cancers, comprising approximately 5–10% of all such cases. These tumors exhibit diverse clinical presentations and often necessitate a multidisciplinary approach for effective management, involving specialists such as dermatologists, oncologists, and ophthalmologists.[1] The eyelid's intricate anatomy and functions—including eye protection, tear distribution, and contributing to facial appearance—make tumors in this area particularly impactful, not only in terms of health but also patient quality of life.[2]

Significant variations exist among the different types of malignant eyelid tumors, particularly regarding patient's age at diagnosis, tumor location, and disease extent. Basal cell carcinoma (BCC) is the most prevalent malignant eyelid tumor in Caucasian populations. Although, BCC typically grows slowly and has a low risk of metastasis, it can cause considerable local damage if left untreated.[3] In contrast, sebaceous gland carcinoma (SGC), more commonly found in Asian populations, is notably more aggressive and associated with a higher metastatic potential. Other significant malignant eyelid tumors include squamous cell carcinoma (SCC) and malignant melanoma (MM), each with unique clinical and histological features.[3]

These tumors can present with a range of symptoms, from minor changes in eyelid appearance, eyelash loss to more severe signs such as ulceration, or bleeding. Prompt detection and accurate diagnosis are essential for effective treatment and improved prognosis.[4] Surgical excision remains the cornerstone of treatment and is frequently accompanied by reconstructive techniques to restore eyelid function and aesthetics. In certain cases, additional therapies such as radiation or chemotherapy may be required to ensure comprehensive disease control.[3,4]

Considering the complexity and potentially serious nature of malignant eyelid tumors, it is critical to investigate

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their clinical presentation and treatment outcomes to inform the development of evidence-based treatment protocols.[4] This study seeks to provide a detailed analysis of the clinical characteristics of patients with malignant eyelid tumors and evaluate the results of various surgical interventions performed at the tertiary care centre of Central India.

2. Aim and Objectives

1. To study the clinical profile of patients presenting with malignant eyelid tumors.
2. To study outcomes after surgical management.

3. Materials and Methods

This is a retrospective observational study of 18 patients with malignant eyelid tumors diagnosed clinically and/or histo-pathologically at the tertiary care centre of Central India during October 2022 to October 2024. The demographic profile, tumor characteristics, systemic risk factors, and thorough clinical examination were documented. Primary metastatic evaluation was performed. Surgical management included excision biopsy and lid reconstruction (EB+LR) with wide excision and 4 mm clear margin confirmed after frozen section. Lid reconstruction was performed as needed. Exenteration was also performed in some cases.

4. Results

A total of 18 patients were studied over the duration from October 2022 to October 2024. The male-to-female ratio was 1:1, indicating that both genders were equally affected. The mean age of presentation was 60 years, with a range of 35-90 years. The mean basal diameter of the tumor was 24.6 mm, ranging from 5-40 mm. Histo-pathologically, 12 cases were confirmed, of which 9 patient underwent surgery. Clinico-pathologically, the most common tumor was SGC, accounting for 55% of cases. There was no tumor recurrence in any case at a mean follow-up of 12 months, with a range of 2-18 months.

4.1. Tumour location and characteristics

The distribution of tumor locations was as follows:

1. Lower lid: 10 cases (55%)
2. Upper lid: 4 cases (22%)
3. Extended till caruncle: 3 cases (16%)
4. Invaded orbit: 1 case (7%)

4.2. Statistical analysis

The statistical analysis of the data was performed using descriptive statistics. The mean age of presentation was calculated to be 60 years, with a standard deviation of 15.3 years. The mean basal diameter of the tumor was 24.6 mm, with a standard deviation of 10.2 mm. The frequency distribution of tumor locations was analyzed, showing, that, lower lid was the most common site, accounting for 55% of cases. The chi-square test was used to analyze the association between tumor location and histopathological type, revealing a statistically significant difference ($p<0.05$) between the distribution of SGC and other types of tumors.

5. Case Series

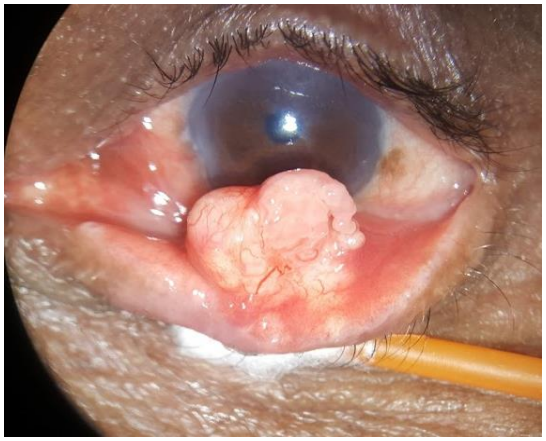

Figure 1: Sebaceous cell carcinoma

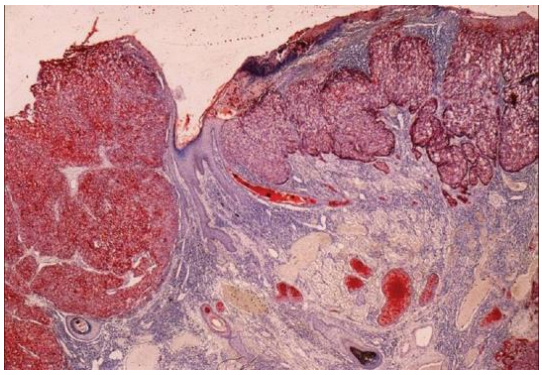

Figure 2: Histopathological picture of sebaceous cell carcinoma

Figure 3: Malignant melanoma

Table 1: The following table summarizes the clinical characteristics and management of the cases 6:

Case	Past History	Diagnosis	Histopathology	Management
1	Lid Surgery	Recurrent SGC	Moderate Atypia	EB+LR (Cutler Beard)
2	Incision & Curettage	SGC	SGC	EB+LR (Cutler Beard)
3	-	MM	-	-
4	-	BCC	-	-
5	-	BCC	-	-
6	-	SGC	High Grade, Poorly Differentiated	IB
7	-	SGC	High Grade, Poorly Differentiated Invasive SGC	EB+LR (Tenzels)
8	Incision & Curettage	SGC	High Grade, Poorly Differentiated Invasive SGC	EB+LR (Tenzels)
9	BCC	BCC	EB	-
10	Incision & Curettage	SGC	High Grade	EB+LR (Tenzels)
11	Incision & Curettage	SGC	-	-
12	-	BCC	-	-
13	-	BCC	Nodular BCC	EB+LR (Huges)
14	Lid Surgery	Recurrent Invasive BCC	Infiltrative	-
15	-	SCC	SCC	Exenteration
16	Incision & Curettage	SGC	Poorly Differentiated	EB+LR
17	-	SGC	Well Differentiated	EB+LR (Cutler Beard)
18	-	SGC	EB+LR	-

Figure 4: Basal cell carcinoma

Figure 5: Post-op image of patient with Squamous cell carcinoma who underwent surgical excision of tumour

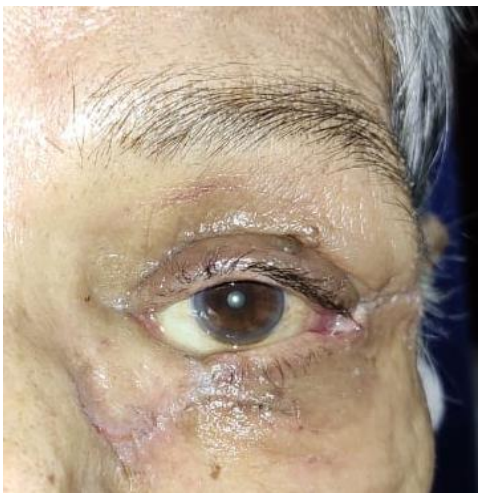

Figure 6: Post op image of patient with sebaceous cell carcinoma who underwent local excision with lid reconstruction surgery.

6. Discussion

Malignant tumors affecting the eyelid form a noteworthy proportion of skin cancers, constituting approximately 5–10% of all cutaneous malignancies.[6,7] Due to the intricate anatomy of the eyelid and its essential roles in protecting the eye, distributing the tear film, and contributing to facial expression, these tumors often necessitate a collaborative treatment strategy involving multiple medical specialties. Even minor lesions in this sensitive area can result in significant cosmetic and functional impairments, emphasizing the need for timely detection and intervention.[6]

Our findings indicate that sebaceous gland carcinoma (SGC) was the most frequently diagnosed malignant eyelid tumor, accounting for roughly 67–77% of all cases. Following SGC in prevalence were squamous cell carcinoma (SCC), basal cell carcinoma (BCC), and malignant melanoma (MM). These results align with previous studies that have reported a higher occurrence of SGC among Asian populations. SGC is particularly concerning due to its aggressive nature and increased likelihood of metastasis.[7,8]

Conversely, BCC tends to be more common in individuals of Caucasian descent. It usually presents with a slow growth rate and rarely spreads to distant sites. Nevertheless, if left untreated, it can cause significant local tissue destruction [6,7]. Though less frequently diagnosed, SCC and MM are also important entities. SCC may exhibit rapid progression and metastatic potential, particularly in patients with compromised immune systems. MM, while rare, is known for its poor prognosis due to its highly invasive characteristics and unpredictable clinical behaviour.[7,8]

Surgical excision is widely regarded as the primary treatment modality. The main objective is complete tumor removal while preserving both the functionality and aesthetic integrity of the eyelid. Larger or strategically located tumors may necessitate complex reconstructive procedures.[3,9] In cases where complete excision is challenging, or when regional or distant spread is suspected, additional treatments like radiation therapy or chemotherapy may be required to ensure thorough disease control.[7,9]

6.1. Eyelid function restoration

Most cases underwent eyelid reconstruction using techniques like Cutler-Beard, Tenzel's, or Hughes procedures, ensuring both functional restoration (protection, blinking, tear film maintenance) and cosmetic preservation. These procedures were tailored according to tumor size, location, and type, with no major post-operative functional deficits reported.

6.2. Orbital exenteration

Required in one case (SCC with orbital invasion). This is a more disfiguring procedure but necessary for tumor control.

6.3. Aesthetic outcomes

Not quantitatively measured, but reconstructive approaches suggest a focus on preserving facial aesthetics.

Due to the diverse biological behaviours of these tumors and their potential to impair vision and quality of life, evaluating clinical outcomes is essential. This study seeks to review the demographic and pathological characteristics of patients diagnosed with malignant eyelid tumors and to assess the success of surgical treatments administered at our centre. The insights derived from this analysis aim to support the development of effective, evidence-based management guidelines for these challenging malignancies [1,4,9].

Given their complexity and potential severity, it is crucial to examine the clinical behavior and treatment results of malignant eyelid tumors to establish evidence-based treatment protocols.[8,9] This article aims to thoroughly assess the clinical characteristics of patients presenting with these tumors and to evaluate the effectiveness of various surgical interventions performed at our institution.

Sebaceous gland carcinoma (SGC) is the most common malignant eyelid tumor. Presentation varies from early to late stages. Wide excision with histopathological examination (HPE) proven clear margin and appropriate reconstructive surgery provides optimum control. Early detection and appropriate treatment can reduce the risk of cosmetic disfigurement and morbidity induced by these tumors.

Malignant eyelid tumors can sometimes mimic other conditions, often being misdiagnosed as persistent keratoconjunctivitis or recurrent chalazion. The TNM classification system for eyelid carcinomas helps guide clinical management by reflecting both the disease's morbidity and mortality risk. Complete surgical excision with intraoperative frozen section margin control is considered the gold standard for treatment. Regular and timely follow-up is critical to detect and address any recurrences early.

Despite the small sample size, this study offers valuable clinical insights into the patterns of presentation, histopathology, and surgical management of malignant eyelid tumors within the Central Indian demographic. The marked predominance of sebaceous gland carcinoma (SGC) reinforces the necessity for vigilant clinical evaluation and prompt histopathological confirmation in persistent or unusual eyelid lesions, particularly in Asian populations. The successful outcomes following wide excision with margin control and individualized reconstruction highlight the efficacy of surgical intervention. These findings, though based on a limited cohort, contribute meaningfully to clinical decision-making and emphasize the importance of early, targeted management to enhance patient prognosis.

7. Limitation

This study has several limitations. The small sample size of 18 patients reduces statistical power and limits generalizability. Being a single-center retrospective analysis, the findings may reflect institutional bias. The mean follow-up of 12 months may not capture late recurrences, especially in aggressive tumors. Incomplete histopathological data in some cases affects diagnostic accuracy. The study lacked molecular or immunohistochemical analysis and did not assess quality of life or functional outcomes. Additionally, the focus was mainly on surgical management, with minimal evaluation of adjunctive therapies such as radiotherapy or chemotherapy. Larger, multicentric, and prospective studies are needed for broader applicability.

8. Conclusion

Thus, we can conclude that malignant eyelid tumors often present with diverse clinical features, which may resemble benign conditions such as chalazion or chronic blepharitis. This resemblance can lead to delayed diagnosis. Therefore, persistent or atypical lesions—such as those showing ulceration, loss of eyelashes, or abnormal vascular patterns—should raise clinical suspicion.[1,8] Prompt and accurate diagnosis is vital, as early management significantly enhances prognosis and reduces complications.

9. Source of Funding

None.

10. Conflict of Interest

None.

References

1. Dias MR, Osaki MH, Ferreira CAA, Conti ML, Cho S, Nicolau Z, Osaki TH. Epidemiological Profile and Clinical Stage at Presentation of Eyelid Malignancies in a Multi-Ethnic Country. *J Craniofac Surg*. 2021;32(7):e642–5.
2. Gupta R, Bhaduri A, Desai S, Das S, Menon V. Malignant tumors of the eyelid in India: A multicenter, multizone study on clinicopathologic features and outcomes. *Indian J Ophthalmol*. 2020;68(11):2466–70.
3. Gillam M, Younus O, Loo SP, Connolly J, Cauchi P, Gregory M, et al. Is an image-based eyelid management service safe and effective? *Eye (Lond)*. 2023;37(17):3643–7.
4. Magazin M, Dalvin LA, Salomao DR, Castner NB, Halbach C, Tooley AA. Sebaceous Carcinoma of the Eyelid: Proposed Nomenclature for Multifocal and Multicentric Disease. *Ophthalmic Plast Reconstr Surg*. 2023;39(2):117–22.
5. Zloto O, Landau Prat D, Katowitz JA, Katowitz WR, Ben Simon G, Verity DH. The surgical management and outcomes of kissing nevi of the eyelids. *Eye (Lond)*. 2023;37(14):3015–9.
6. Faustina M, Diba R, Ahmadi MA, Esmaeli B. Patterns of regional and distant metastasis in patients with eyelid and periocular squamous cell carcinoma. *Ophthalmology*. 2004;111(10):1930–2.
7. Al Wohaib M, Al Ahmadi R, Al Essa D, Maktabbi A, Khandekar R, Al Sharif E, et al. Characteristics and Factors Related to Eyelid Basal Cell Carcinoma in Saudi Arabia. *Middle East Afr J Ophthalmol*. 2018;25(2):96–102.
8. Al-Mujaini A, Maurya RP, Bosak S, Karan MK, Roy M, Singh VP, Singh MK, Kumar A, Singh S. Clinicopathological Analysis and Demographic Features of Ocular Malignancies. *Clin Ophthalmol*. 2021;15:357–65.
9. Zhou N, Zhang R, Liu Y, Wei W. Clinical Characteristics of UM and Association of Metastasis of Uveal Melanoma with Congenital Oculocutaneous Melanosis in Asian Patients: Analysis of 1151 Consecutive Eyes. *Ophthalmol Retina*. 2021;5(11):1164–72.

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