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Case Report

A case report on sebaceous gland carcinoma: A masquerade

Navdeep Kaur[1]*, Devanshi Halwai[1], Vijay Singh Mangawa[1], Khyati Yadav[1], Anil Chouhan[1]

[1]Dept. of Ophthalmology, Sardar Patel Medical College, Bikaner, Rajasthan, India

Abstract

Sebaceous gland carcinoma (SGC) is a rare and aggressive malignancy of the eyelid, often misdiagnosed due to its tendency to mimic benign and inflammatory conditions. Timely diagnosis is essential to prevent poor outcomes associated with recurrence and metastasis. A 54-year-old male presented with a recurrent, painless nodular mass on the left upper eyelid for eight months. The lesion, initially managed as a chalazion, was red, firm, and associated with conjunctival hyperaemia. Histopathological examination following wide excision and lid reconstruction confirmed sebaceous gland carcinoma with mixed lobular and papillary growth patterns. Postoperative follow-up showed no recurrence or complications. SGC accounts for 1.5–5% of eyelid malignancies and is more common in the upper eyelid due to the density of sebaceous glands. Its masquerading nature often delays diagnosis, leading to poor prognosis due to regional lymph node and systemic metastases. Management involves wide local excision, and adjunct therapies like radiotherapy may be required in advanced cases This case highlights the importance of early recognition, histopathological confirmation, and a multidisciplinary approach in managing sebaceous gland carcinoma to improve outcomes.

Keywords: Sbaceous gland carcinoma, Eyelid tumour, Wide local excision, Lid reconstruction, Aggressive malignancy.

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1. Introduction

Ocular sebaceous gland carcinoma (SGC) is a rare but aggressive malignancy of the eyelid, accounting for 1.5–5% of all eyelid malignancies.[1] This tumour arises from modified sebaceous glands, including Meibomian glands, glands of Zeiss, and sebaceous glands in the eyelid skin.[2] It predominantly affects the upper eyelid due to a higher density of sebaceous glands.[3]

SGC occurs more frequently in individuals in their sixth to seventh decade of life and shows a higher prevalence in females than males. However, its ability to masquerade as benign conditions like chalazion, chronic blepharitis, or keratoconjunctivitis often delays diagnosis, leading to metastasis and poor prognosis. In 20–30% of cases, SGC metastasizes to regional lymph nodes or distant organs.[4] Risk factors include advanced age, UV exposure, and prior radiation therapy.[5]

Histopathological confirmation is essential for diagnosis. Immunohistochemistry, including epithelial markers (EMA, cytokeratin), and lipid stains (Oil Red O), helps distinguish SGC from other malignancies. Treatment varies from wide local excision with eyelid reconstruction to orbital exenteration for advanced tumours. Adjuvant radiotherapy or chemotherapy is indicated in cases of incomplete excision or metastasis.[6]

2. Case Report

A 54-year-old male presented to the ophthalmology outpatient department (OPD) with a recurrent, painless nodular mass on the left upper eyelid persisting for eight months. The patient had undergone surgical resection of a similar nodule one year prior. Associated symptoms included watering, irritation, and redness of the eye. There was no history of active bleeding or discharge from the mass.

On clinical examination, a non-tender, red-colored nodule measuring approximately 1.5×1.5 cm was observed on the medial side of the upper eyelid, overhanging the lid margin as shown in **Figure 3**. The nodule was firm to hard in consistency and associated with edema of the left upper

*Corresponding author: Navdeep Kaur
Email: navdeepk51095@gmail.com

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eyelid and conjunctival hyperemia. A pagetoid growth on the conjunctiva beneath the mass was noted, which is a hallmark of SGC. There was no evidence of regional lymphadenopathy. The rest of the ocular examination was unremarkable, aside from age-related changes. Systemic examination revealed no abnormalities.

The patient was scheduled for excision biopsy and lid reconstruction. Preoperative investigations, including blood work and imaging, were normal. A complete wide excision of the nodular mass was performed, followed by lid reconstruction using the Tenzel semicircular flap technique as shown in **Figure 4**.[7]

Postoperative follow-up was conducted on day 1(as shown in **Figure 5**), day 7 (as shown in **Figure 6**), and day 30. The patient reported no new complaints. Histopathological analysis revealed lobular and papillary patterns consistent with sebaceous gland carcinoma, including evidence of pagetoid spread as shown in **Figure 1 and Figure 2**.[8]

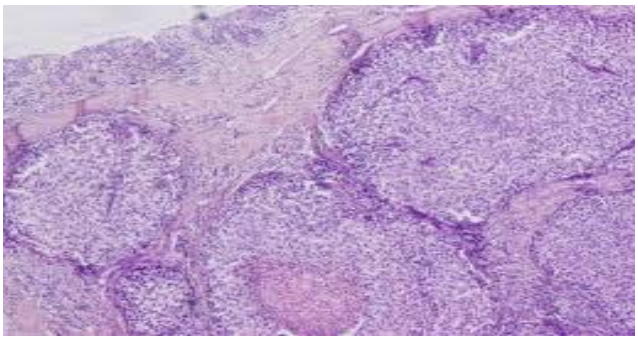

Figure 1: H&E stain, Sebaceous gland carcinoma showing papillary and lobular growth pattern

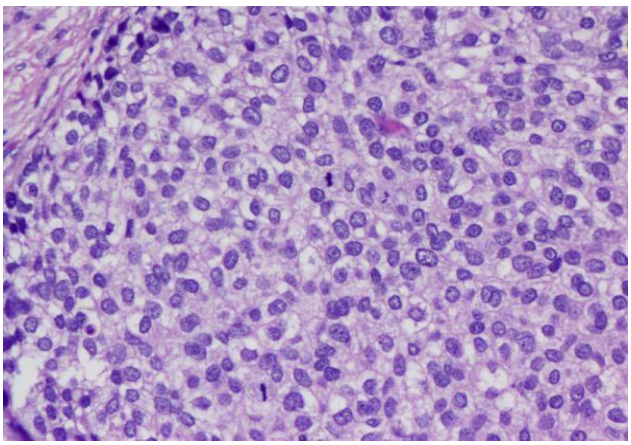

Figure 2: H&E stain of Sebaceous gland carcinoma showing high cellularity, round to oval nuclei and foamy appearance of cytoplasm

Figure 3: Pre-Operative image of 54 year old male with painless nodular mass on the left upper eyelid

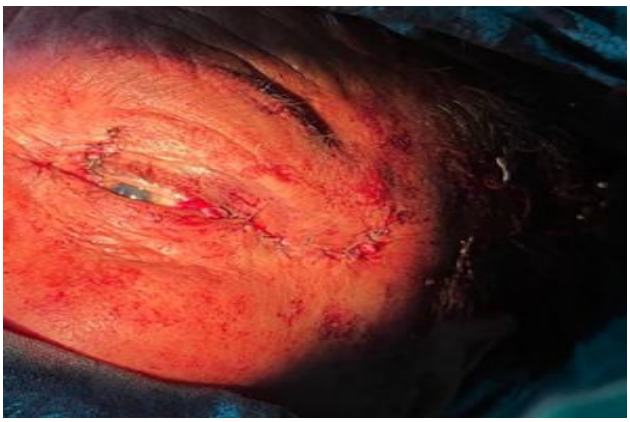

Figure 4: Intra-operative image of excision biopsy and lid reconstruction using the Tenzel semicircular flap technique

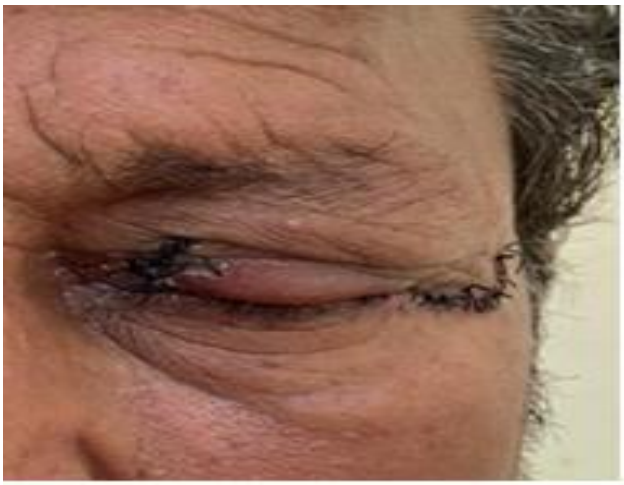

Figure 5: Post-operative day-1 follow up image

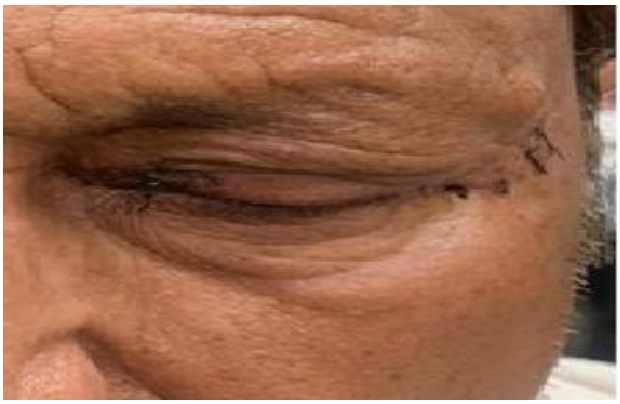

Figure 6: Post-operative day-7 follow up image

3. Discussion

Sebaceous gland carcinoma is a rare yet highly aggressive eyelid malignancy with significant morbidity and mortality if left untreated. The incidence of SGC is higher in Asian populations, including India, compared to Western countries.[4] Risk factors such as prior radiation, immunosuppression, and Muir-Torre syndrome further increase susceptibility.[5]

SGC is often misdiagnosed as benign lesions like chalazion or inflammatory conditions such as blepharitis, leading to delayed treatment and poor outcomes. This masquerading behaviour underscores the importance of biopsy for any recurrent or atypical eyelid lesion. Pagetoid spread, where tumour cells infiltrate the epithelium, is a characteristic finding in SGC and aids in diagnosis.

Histopathology, supported by immunohistochemical markers like epithelial membrane antigen (EMA) and androgen receptors, differentiates SGC from other malignancies such as basal cell carcinoma or squamous cell carcinoma.[6] The use of Oil-Red-O staining to demonstrate lipid vacuoles is also considered a diagnostic adjunct in challenging cases. Imaging studies, including CT or MRI, are recommended to assess local invasion or distant metastasis. Sentinel lymph node biopsy has also shown promise in identifying subclinical metastasis and guiding treatment decisions.

Surgical excision with tumor-free margins remains the gold standard for managing localized SGC. Mohs micrographic surgery is increasingly preferred for periocular tumors due to its ability to achieve higher margin control while preserving healthy tissue. Advanced cases may require orbital exenteration followed by radiotherapy or systemic chemotherapy. Adjuvant therapies, though not universally effective, play a role in recurrent or metastatic disease. Recent studies have also explored the role of targeted therapies, such as epidermal growth factor receptor (EGFR) inhibitors and immunotherapy with checkpoint inhibitors for metastatic or recurrent SGC. The development of personalized treatment plans based on molecular profiling represents a promising direction for improving outcomes in advanced cases.[8]

4. Conclusion

Sebaceous gland carcinoma is a rare, aggressive malignancy of the sebaceous gland, mostly affecting the eyelids. Its ability to mimic benign eyelid lesions such as chalazion or blepharitis, often leads to diagnostic delays and poor outcomes. Early recognition and a high index of suspicion are crucial for identifying atypical or recurrent lesions. Histopathological examination with adjunct immunohistochemistry, such as Epithelial Membrane Antigen (EMA), Androgen receptor and Cytokeratin (CK-7) staining is essential to differentiate SGC from other malignancies, such as basal cell carcinoma (BCC) or Squamous cell carcinoma (SCC).

Wide local excision with eyelid reconstruction with tumour free margins remains the gold standard of treatment. Advanced or metastatic SGC may necessitate orbital exenteration, followed by adjuvant radiotherapy and systemic chemotherapy. Continuous follow-up is necessary to monitor for recurrence or metastasis. Surveillance involves regular clinical examinations, imaging studies to monitor for local recurrence or distant metastasis, and patient education to recognize early signs of recurrence. A multidisciplinary approach, integrating dermatology, ophthalmology, oncology, radiology and reconstructive surgery, is crucial to optimize outcomes and improve survival in patients with SGC.

5. Declaration of Patient Consent

The author certifies that they have obtained all appropriate consent forms from patient. The patient has given his consent for his images and clinical information to be reported in the journal.

6. Source of Funding

None.

7. Conflict of Interest

None.

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