Case Report

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Sebaceous Carcinoma of the Eyelid Mimicking as Squamous Cell Carcinoma: A Histopathological Dilemma

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Abstract

Sebaceous carcinoma is a rare malignant tumor of the skin, mostly seen in eyelids. Periocular sebaceous carcinoma can clinically mimic a variety of conditions and is often misdiagnosed as basal cell or squamous cell carcinoma. Here, we present a case of 56-year-old- female who presented with a slow growing lesion over the left upper eye lid with irregular margin and extensive upper tarsus involvement for a duration of one year. An incisional biopsy of the lesion revealed Squamous Cell Carcinoma. She underwent wide local excision along with Culter Beard procedure for eyelid reconstruction. However, histopathological examination of the excisional biopsy revealed findings suggestive of Sebaceous Carcinoma. Therefore, this report highlights the importance of understanding the various histopathological findings seen in sebaceous carcinoma and the significance of its meticulous management.

Keywords: Eyelid; Carcinoma, Sebaceous; Carcinoma, Squamous cell

Declarations

Ethics approval and consent to participate: Not applicable

Consent for publication: Informed consent was obtained from the patient for the publication of identifying features along with the manuscript.

Availability of data and materials: The full data sets supporting this case report is submitted to the journal.

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INTRODUCTION

Sebaceous carcinoma of the eyelid is a highly malignant neoplasm that arises from the meibomian glands, glands of Zeiss, and sebaceous glands of the skin [1]. It is most commonly seen in older individuals, mainly occurring in the sixth to seventh decade of life with a female predominance. The incidence is higher in the Asian population than in the Caucasian population. Lesions may be located on the eyelid margin, caruncle, or the tarsal conjunctiva. However, the most common location is the upper eyelid due to the increased number of meibomian glands [2].

Local metastasis most commonly involves the preauricular, parotid and cervical lymph nodes, whereas distant metastasis can be widespread and fatal. The known risk factors for the development of sebaceous carcinoma include prior radiation exposure, immunosuppression, and Muir-Torre syndrome [3]. Clinical suspicion of Sebaceous Carcinoma can be challenging as it may mimic common eyelid conditions such as chalazion, sebaceous cyst and blepharoconjunctivitis as well as other eyelid tumors such as basal cell and squamous cell carcinoma[4]. Therefore, timely detection and choosing conservative management strategies over disfiguring surgeries is of utmost importance.

The objective of reporting this case is to emphasize the importance of our clinical knowledge rather than relying solely on the ancillary tests. Sebaceous Carcinoma appears to be unique because of its multifocal origin and pagetoid spread. It has variable clinical presentations and can masquerade as other eyelid lesions, both clinically and pathologically.Because of its subtle characteristic features, it is often diagnosed late and tends to recur more frequently. Thus early diagnosis and prompt surgical therapy have been shown to result in better outcomes and higher survival rate [5].

CASE

A 56-year-old female from Siliguri visited Ophthalmology Outpatient department with complaint of painless mass over the upper eyelid of the left eye for one year with a history of gradual increase in size. She denied any history of bleeding, discharge and trauma. There was no significant past medical or treatment history.

On examination, her best corrected visual acuity in both the eyes was 6/6. Gross examination of the left eye (LE) revealed a 1.5x 0.5 cm2 lesion over two third of the upper eyelid involving the eye lid margin **(Fig. 1).**

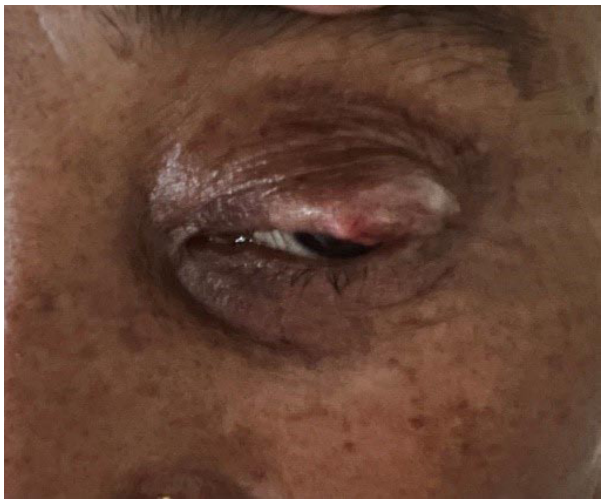

Fig. 1: Clinical picture showing mass covering almost 2/3rd of left upper eyelid

Double eyelid eversion revealed the actual size of the mass involving almost 50% of upper palpebral conjunctiva. The lesion had an irregular and rolled in anterior margin with mild reddish discoloration with involvement up to the anterior margins of the eyelid. On palpation, it was firm in consistency with thickening of the tarsal plate. Meibomitis was present in the LE. The remaining conjunctiva and rest of the ocular examination were within normal limits. Examination of right eye was within normal limits. Lymphadenopathy was absent. With the provisional diagnosis of Squamous Cell Carcinoma (SCC) of the left eye upper lid, incisional biopsy was performed. The histopathology examination revealed epidermis with a focal area of ulceration with the findings suggestive of squamous cell carcinoma **(Fig. 2).**

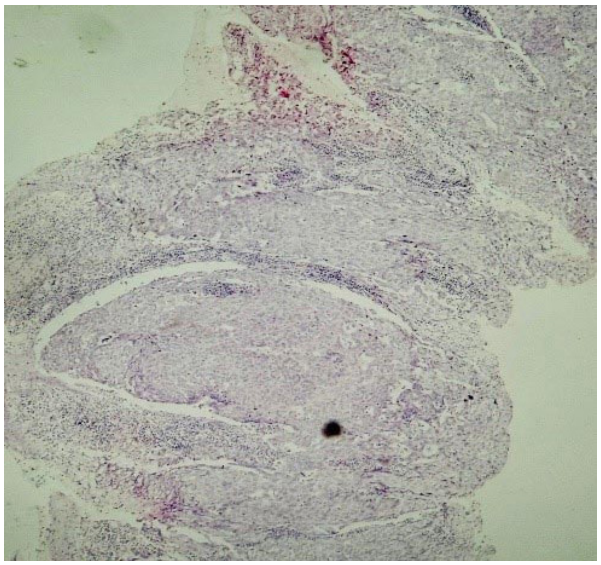

Fig. 2: Photomicrograph suggestive of squamous cell carcinoma (H &E x20 objective)

The patient underwent full thickness excision of the lesion along with wide surgical margins of 4 mm superiorly, medially and laterally. The Cutler Beard procedure was performed along with eyelid reconstruction **(Fig. 3 and 4).**

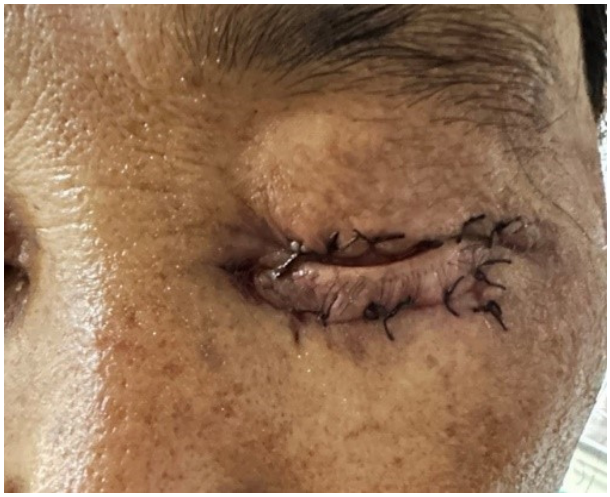

Fig. 3: 1st post operative day following excision with cutler beard lid reconstruction (1st step)

Fig. 4: At 8th post operation week following 2nd step of cutler beard reconstruction surgery

Histopathology of the entire mass revealed proliferation of tumor cells in dermis arranged in lobules separated by septa **(Fig. 5)**. Tumor cells were moderately pleomorphic with high N:C ratio, round to oval nuclei, vesicular chromatin, visible nucleoli and moderate amount of pale eosinophilic to vacuolated cytoplasm **(Fig. 6)**. Atypical mitotic figures were also discerned. Superior margin, lateral margin and medial margin were free of tumor microscopically. The inferior margin showed microscopic tumor involvement. The base margin could not be assessed due to tissue orientation. However, tumor lobules were extending upto the adipose tissue. The features were consistent with sebaceous carcinoma.

At one month follow up, there was no lid retraction, ectropion or entropion of the left eyelids. Eye opening was moderate and no signs of local recurrence were detected.

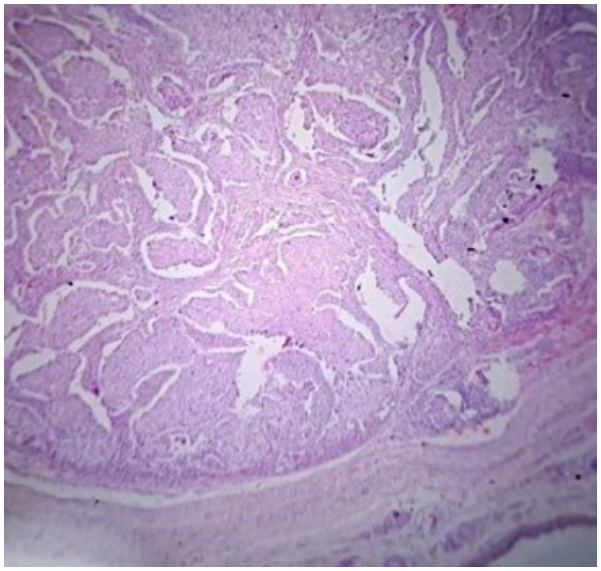

Fig. 5: Proliferation of tumor cells in dermis arranged in lobules. (H&E x10 objective)

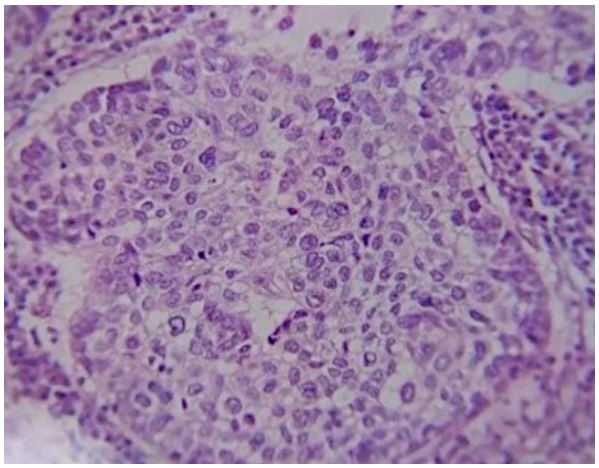

Fig. 6: Moderately pleomorphic cells with pale eosinophilic to vacuolated cytoplasm. (H& E x40 objective)

DISCUSSION

The diagnosis of sebaceous carcinoma is challenging because it typically masquerades as recurrent chalazion, chronic blepharitis, and chronic blepharoconjunctivitis [6]. Moreover, the clinical presentation and histopathology of Sebaceous Carcinoma are so diverse that the diagnosis can often be missed.

Clinically, Sebaceous Carcinoma of the eyelid may present as painless subcutaneous nodule or diffuse unilateral thickening of lid, whereas the presentation of Squamous Cell Carcinoma (SCC) ranges from ulcers to plaques to fungiform or nodular growth. SCC mostly arises in the sun damaged skin and have predilection for the lower eylid [7].

Though Sebaceous carcinoma was previously considered to a rare malignant eyelid lid tumor, recent studies suggest it occurs more frequently, with 139 cases (42%) diagnosed as Sebaceous Carcinoma, followed by 126 cases (38%) of basal cell carcinoma (BCC), 60 (18%) cases of squamous cell carcinoma (SCC), and 7 (2%) cases of malignant melanoma [8].

Histopathologically, it can simulate other malignancies. One study reported that 84% cases were classified as poorly differentiated lesions, of which 75% had features resembling squamous cell carcinoma- some with dyskeratosis (30%) and 7% resembled basal cell carcinoma [9].

According to another study, most cases of Sebaceous Carcinoma are initiallyreferred with a clinical diagnosis of chalazion (8%), squamous cell carcinoma (18%) or basal cell carcinoma (8%). Histopathological misdiagnosis included chalazion (4%), squamous cell carcinoma (25%), or basal cell carcinoma (7%) [10]. The most common clinical and histopathology misdiagnosis is squamous cell carcinoma, which occurred in our case as well.

Histopathology of Sebaceous Carcinoma typically shows irregular, asymmetric sebaceous lobules within the dermis. Malignant cells exhibit marked pleomorphism, hyperchromatism, mitotic activity, and nuclear atypia. Lesions may be classified as poorly, moderately, or well-differentiated. Well-differentiated lesions may demonstrate foamy cytoplasm, comedo-necrosis and pagetoid spread [11]. SCC is characterized by atypical squamous cells extending beyond epidermal basement membrane into dermis, forming keratin with intercellular bridges, nests and strands [7].

Also,there are few studies implying mixed features of both sebaceous and squamous carcinoma. One of the report mentions about rare variant of SCC (clear cell type) which are polygonal and have clear vacuolated cytoplasm histopathologically resembling sebaceous carcinoma [12]. Likewise, another report documents a case of squamous cell carcinoma admixed with sebaceous carcinoma of the upper lip in a 7 year old child [13].

The treatment of choice for both sebaceous carcinoma and squamous cell carcinoma is surgical excision with histologically confirmed negative margins [3, 14]. However, pagetoid and intraepithelial spread of sebaceous carcinoma can make complete excision challenging. For determining extent of involvement, conjunctival map biopsies are preferred [7]. Due to limited resources it could not be performed in our case.

Other treatment modalities topical chemotherapy and cryotherapy depending upon its pattern of involvement [15]. Systemic chemotherapy may be required for diffuse eyelid Sebaceous Carcinoma.

Poor prognostic factors include duration of symptoms more than 6 months, tumor diameter exceeding 10 mm, involvement of both upper and lower eyelids, orbital invasion, multicentric origin, poor differentiation, high infiltrative pattern, vascular and lymphatic invasion, and pagetoid invasion of the tumor [9].

Survival rates for patients with Sebaceous carcinoma are generally lower than those for patients with SCC [7]. With more recently employed treatment methods, there is a tendency to avoid exenteration and adopt more conservative methods of treatment.

Lid reconstruction remains a challenge in the management of eyelid tumors due to anatomical and functional variations and increasing aesthetic concerns. The Cutler-Beard flap is considered a good alternative in the reconstruction of superior eyelid defects with a favourable outcome.

CONCLUSION

Histopathology of sebaceous carcinoma of the eyelid can mimic squamous cell carcinoma, leading to diagnostic dilemma. Even though the management of both tumor is similar, there are few points to remember while dealing with sebaceous carcinoma. Clinical features along with excisional biopsy, whenever and wherever possible are essential to establish the final diagnosis of any tumor. Awareness regarding eyelid malignancies is essential to avoid delays in diagnosis and to reduce risk of metastasis.

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