

## Case Report

# Sebaceous carcinoma of eyelid – Understanding its unique cytomorphology and role of aspiration cytology

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## Abstract

**Introduction:** Sebaceous carcinoma is a very rare malignant tumor primarily found in the area of the eyelid. We have reported here a case of sebaceous carcinoma of the eyelid with neck node metastasis diagnosed on fine needle aspiration cytology with emphasis on the unique cytomorphology of this tumor.

**Case history:** A 35 year old woman presented with complaints of swelling in left upper eyelid, proptosis, loss of vision and cervical node enlargement. Fine needle aspiration (FNA) from the mass showed scattered and loose clusters of pleomorphic cells with increased nucleocytoplasmic ratio, prominent nucleoli, and abundant dense as well as vacuolated cytoplasm in a lipid background. A diagnosis of sebaceous carcinoma with cervical metastasis was made and confirmed on histopathology.

**Conclusion:** FNA is a simple, cost effective technique for diagnosis of eyelid tumors. Familiarity with the cytomorphological features of sebaceous carcinoma can lead to early diagnosis of this malignancy with minimum discomfort to the patient.

## Key words

Sebaceous carcinoma, Eyelid, Fine needle aspiration, FNA.

## Introduction

Sebaceous carcinoma is a very rare malignant tumor primarily found in the area of the eyelid [1]. It is found in mainly elderly population with

female predisposition. Sebaceous carcinoma of the eyelid may arise from the diverse sebaceous glands of the ocular adnexa [2]. The neoplasm is known to masquerade as other benign and less

malignant lesions, resulting in delay in diagnosis and relative high morbidity and mortality. We report a case of sebaceous carcinoma of the eyelid with neck node metastasis diagnosed on fine needle aspiration cytology with emphasis on the unique cytomorphology of this tumor.

### Case report

A 35 year old woman presented to ophthalmology OPD with complaints of swelling in left upper eyelid for past 10 years which had rapidly increased in size over past 7 months. There was also proptosis of the left eye and loss of vision for 2 months. There was no history of trauma to the eye. On examination, an irregular swelling of size 6x4 cm was seen in the left upper orbital region and involving the left upper eyelid which was firm and non-tender (**Figure - 1**). Only perception of light was present in the left eye, the other eye had normal vision. Left cervical nodes were enlarged. Routine investigations of the patient were normal.

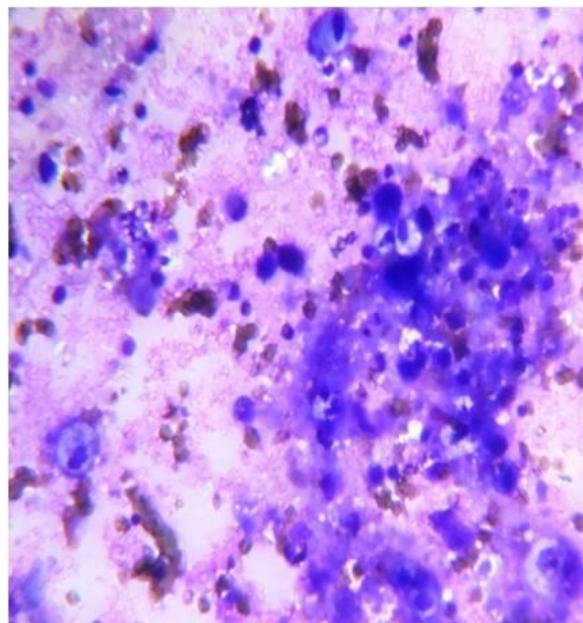
**Figure – 1:** Eyelid tumor with proptosis of the left eye.



CECMRI of the orbits showed a large lobulated solid cystic extra-conal SOL in superolateral aspect of left orbit, predominantly in the region of the lacrimal fossa and possibility of orbital neurofibroma with cystic degeneration /hemangiopericytoma/ fibrocytoma were

suggested. The patient came for FNAC to our cytology department. Aspirates from the eyelid swelling revealed scattered population as well as clusters of pleomorphic cells with increased nucleocytoplasmic ratio, prominent nucleoli and abundant dense as well as vacuolated cytoplasm. Binucleate and multinucleated cells were also noted (**Figure - 2, 3, 4**). Plenty of macrophages were also seen in the smear. Aspirate from cervical node showed clusters and sheets of malignant epithelial cells, some of which showed cytoplasmic vacuolation. A diagnosis of sebaceous carcinoma with metastasis to cervical nodes was given and HPE advised. CECT of base of the skull to root of the neck with bilateral orbits was done and revealed a multiloculated extraconal lesion causing proptosis with mass effects over the extraocular muscles and intra orbital part of left optic nerve. Left sided level IB, II, III and IV lymphadenopathy was also noted.

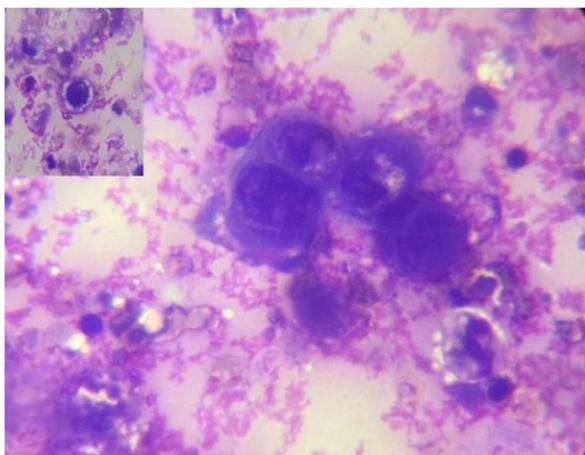
**Figure – 2:** Dispersed population and clusters of cells with vacuolated cytoplasm (MGG, 10X).



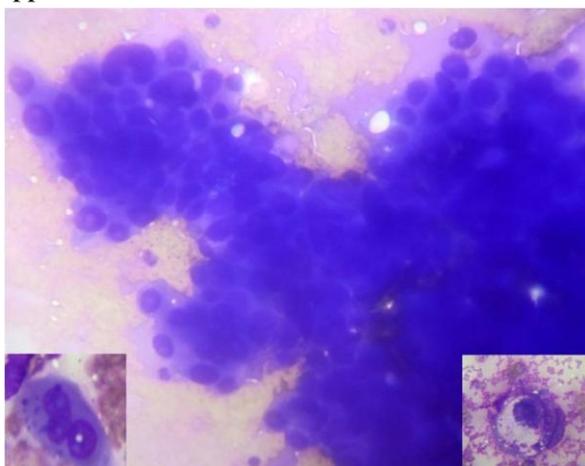
Patient underwent excision of the tumor along with lymph node dissection in the neck and the specimen was sent to histopathology. On gross examination, a 7X4 cm mass was seen which was grayish white in color with areas of

hemorrhage and necrosis. Hematoxylin and Eosin (H & E) stained sections from the tumor showed nests and lobules of tumor cells with sebaceous differentiation. At places a comedo pattern of necrosis was observed (**Figure - 5a, 5b**). Inflammatory cell infiltrate comprising of mainly lymphocytes was seen. A diagnosis of sebaceous gland carcinoma was given which confirmed our cytological impression.

**Figure – 3:** Cluster of pleomorphic cells (MGG 40X). Inset shows a cell with cytoplasmic vacuolation.



**Figure – 4:** Carcinoma cells in clusters (MGG 100X). Inset bottom left showing a bizarre cell. Inset bottom right shows a cell in cell appearance.

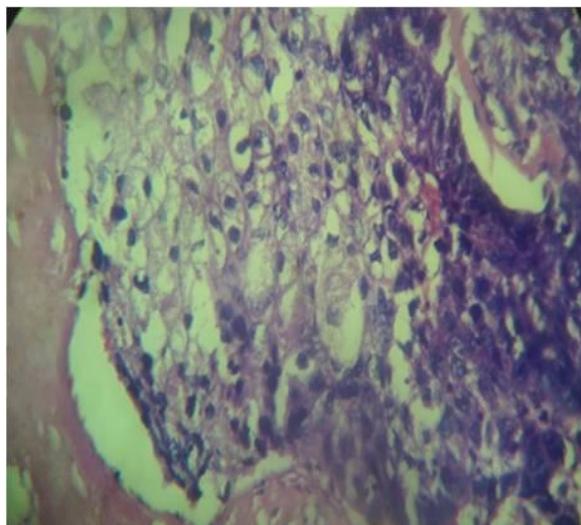


## Discussion

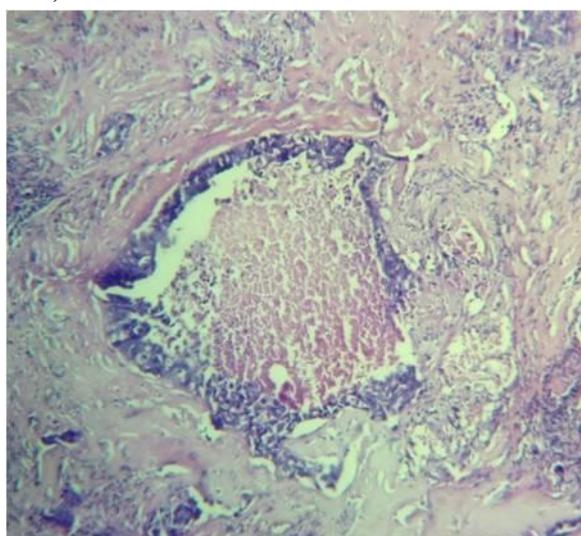
All sebaceous carcinomas present as painless masses, which can be multifocal. In the ocular adnexae, they may be mistaken clinically for

chalazions, blepharitis, cicatricial pemphigoid, or conjunctivitis [3, 4, 5] and this may lead to a delay in diagnosis causing local spread, metastasis and death.

**Figure - 5a:** Tissue sections showing the picture of sebaceous carcinoma (H&E, 40X).



**Figure - 5b:** An area of comedo necrosis (H&E, 40X).



Biopsy has been reported as the preferred mode for establishing correct diagnosis of lid nodules and FNAC has only rarely been employed as a diagnostic modality. FNAC can be helpful in differentiating benign from malignant condition by a careful study of the smear [6]. The tumor cells of sebaceous carcinoma have vacuolated, bubbly cytoplasm and malignant nuclear morphology including mitotic figures and

prominent nucleoli. There may be an admixture with basaloid and squamous cells and evidence of necrosis. Presence of cytoplasmic vacuolation in smears is a particularly helpful clue for diagnosing sebaceous carcinoma [7].

The differential diagnosis includes basal cell carcinoma, squamous cell carcinoma and pilomatrixoma. Smear from basal cell carcinomas show more tightly packed cohesive clusters of small monomorphic basaloid cells with hyper chromatic nuclei, high nucleocytoplasmic ratio and a narrow rim of cytoplasm as well as peripheral palisading. On the other hand squamous cell carcinoma will show polygonal or tadpole cells with central, dark, hyperchromatic, pleomorphic nucleus and abundant dense cytoplasm, which may show keratinisation [8]. Pilomatrixoma typically shows bland sheets of basaloid cells, ghost cells and calcification. In our case however smears were cellular with singly dispersed cells and loose clusters of pleomorphic cells having high nucleocytoplasmic ratio, prominent nucleoli and abundant vacuolated cytoplasm in a lipid background. Occasional cells did show squamous features. However, occasional atypical squamous cells have been described in smears of sebaceous carcinomas. In addition, our case showed many dysplastic cells with bi nucleation and multinucleation. Nuclear budding was also noted in few cells. While many of the cells showed cytoplasmic vacuolation, many cells had dense cytoplasm and showed cell phagocytosis. To the best of our knowledge, these features have not been previously described in sebaceous carcinomas.

Finally histopathological examination was able to confirm our diagnosis which showed lobules of polygonal cells with vacuolated cytoplasm. Few of the tumor cell nests showed comedo necrosis. An inflammatory cell infiltrate comprising of mainly lymphocytes was seen.

The poor prognostic factors are duration more than six months, infiltrative and pagetoid spread, orbital and lymphatic invasion. Although local

spread is common, metastasis to lymph node, lung, liver, brain, and skull is possible [9]. In our case, metastasis to cervical lymph node was seen. Patient underwent wide excision of the tumor with neck dissection.

## Conclusion

FNA is a simple, cost effective technique for diagnosis of eyelid tumors. Familiarity with the cytomorphological features of this neoplasm can lead to easy and early diagnosis of this malignancy with minimum discomfort to the patient.

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