CASE SERIES ASIAN JOURNAL OF MEDICAL SCIENCES

# A cocktail of usual and unusual presentation of cutaneous tumors – A case series

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Submission: 14-09-2023 Revision: 21-11-2023 Publication: 01-01-2024

## ABSTRACT

Epidermal cutaneous tumors represent an enormous group of tumors, which can be classified as both benign and malignant, and primary and secondary. In this case series, there are six cases of such tumors encountered in a health-care center of Eastern India. The histopathological examination IS mainstay of reporting in some cases; however, other cases do require a supplementary immunohistochemistry or electron microscopy for confirmatory diagnosis. The childhood lesions should not be ignored, as it may present as metastasis many years later.

**Key words:** Melanoma; Sebaceous carcinoma; Spiradenoma; Seborrheic keratosis; Trichilemmal tumor; Granular cell tumor

**Access this article online**

**Website:** http://nepjol.info/index.php/AJMS

**DOI:** 10.3126/ajms.v15i1.58604

**E-ISSN:** 2091-0576

**P-ISSN:** 2467-9100



## INTRODUCTION

Epidermal tumors can be divided into tumors of surface epidermis and tumors of epidermal appendages, both of which can further be divided into benign and malignant. Benign tumors can be characterized by symmetric architecture, uniformity in appearance of tumor cell nuclei, restraint in the order of growth, and absence of metastasis. Malignant tumors, on the other hand, are characterized by less symmetric architecture, variable but often poorly differentiated phenotype, atypical tumor cell nuclei, rapid growth with presence of mitosis, and potential to give rise to metastasis.[1] Here, we present six cases of different epidermal tumors in a health-care center of eastern India.

## CASE SERIES

### Case 1

A 57-year-old male patient presented 1 year ago with an ulceroproliferative lesion in the right eye for 6 months. MRI scan showed a hyperdense lesion in the right-sided orbit (Figure 1a) that fine-needle aspiration cytology revealed it to be a case of poorly differentiated malignant neoplasm and biopsy was advised. The incisional biopsy proved to be a case of sebaceous carcinoma. However, he was lost to follow-up. At present, he visited the hospital with cough and wheeze for 1 month. There was an opaque area in the right side of the lung in the CT scan of thorax (Figure 1b inset). Guided aspiration from the lung SOL shows cellular smears with cells arranged in loose groups, clusters as well as dispersed singly in a background of red

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blood cells. The cells were pleomorphic with moderate to scanty amount of clear vacuolated cytoplasm, round to oval large hyperchromatic nuclei, and conspicuous nucleoli. Mitotic figures were also seen. Cytological diagnosis of a malignant epithelial neoplasm was given. Considering the past history, biopsy examination was advised to rule our metastasis from the eyelid lesion. Histopathological examination revealed sheets or lobules of tumor cells separated by fibrovascular stroma. They are hyperchromatic and often atypical cells, with marked pleomorphism and high mitotic activity (Figure 1c). The diagnosis of metastatic deposit of sebaceous gland carcinoma to lung was offered.

## Case 2

A 28-year-old male attended the surgery department with a painless swelling in the left parotid region for 2 weeks. FNA smears demonstrated high cellularity with salivary gland acini and highly atypical cells with pigment laden macrophages (Figure 2a). On extensive examination and history taking, there was a congenital mole over left lateral side of forehead, which increased in size recently and had irregular margins. Excision biopsy was advised and it showed histopathological features of salivary gland infiltrated by melanin pigment laden marked atypical cells with high nucleo: cytoplasmic ratio and prominent nucleoli (Figure 2b). The diagnosis of metastatic deposit of melanoma to parotid gland was given.

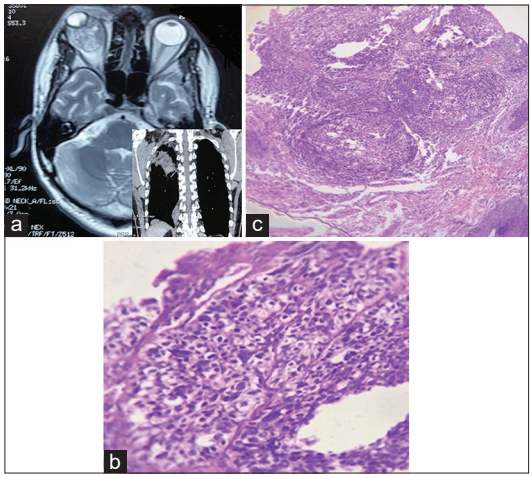


**Figure 1:** (a) MRI scan showing lesion involving the right eye; Inset: CT scan of thorax showing a lesion in the right lung (b) Photomicrograph showing sebaceous carcinoma, H&E, ×400 (c) Photomicrograph showing sebaceous carcinoma, H&E, ×40

## Case 3

A 39-year-old male attended the surgery department with a painless swelling in the forearm for 3 weeks. The excised specimen was received as lipoma. On histopathological examination, section showed unremarkable epidermis with multiple nests of cells in the dermis, comprising of two types of cell population – small dark basaloid cells and large pale cells. These cells were arranged in pseudoglandular pattern with surrounding eosinophilic basement membrane material. Numerous intratumoral lymphocytes were also present (Figure 3). The histopathological features were of benign skin adnexal tumor, possibly of eccrine origin, presumably spiradenoma.

## Case 4

A 48-year-old female presented with a scalp swelling measuring approximately (5×4) cm. Biopsy specimen showed well-circumscribed tumor composed of nodules of keratinocytes exhibiting abrupt trichilemmal type of keratinization without granular layer. These cells show mild nuclear atypia (Figure 4). The diagnosis of proliferating trichilemmal tumor was given.

## Case 5

A 46-year-old female presented with a plaque lesion over the forehead. On histopathological examination, hyperkeratotic epidermis showing papillomatosis and acanthosis with horn pseudocysts. Melanin pigmentation with melanophages is seen in the basal layer (Figure 5a and b). The diagnosis of pigmented seborrheic keratosis was offered.

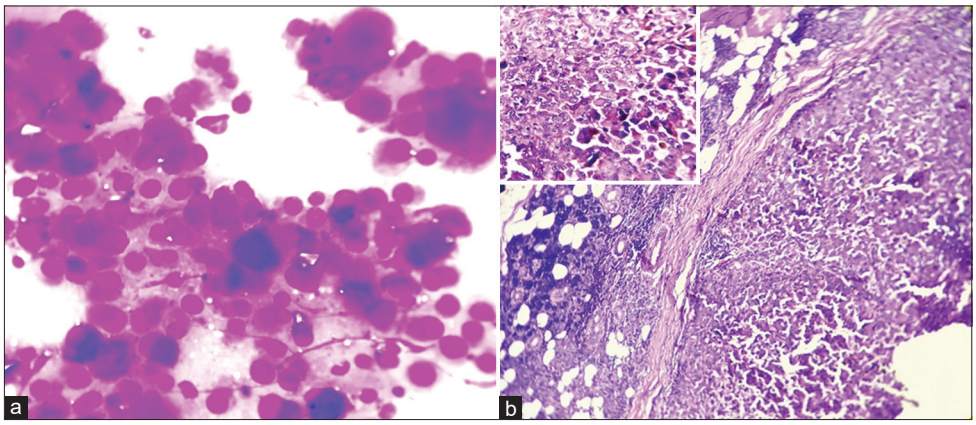


**Figure 2:** (a) Photomicrograph showing fine-needle aspiration cytology from parotid swelling, MGG stain, ×100. (b) Photomicrograph demonstrating metastatic deposit of Melanoma in the salivary gland, H&E stain, x 40, (Inset: x400)

### Case 6

A 18-year-old female came with chief complains of a (2×1) cm swelling in the scalp for 1 month. Histopathological section of the tumor, clinically diagnosed as scalp papilloma, demonstrated epidermis showing pseudoepitheliomatous hyperplasia with underlying subepithelial tissue showing tumor cells in sheets. Individual cells were round to polygonal with a small hyperchromatic nuclei and abundant eosinophilic granular cytoplasm (Figure 6). The histopathological features were consistent with granular cell tumor.

## DISCUSSION

Sebaceous carcinoma is rare and has traditionally been divided into two groups: an aggressive periocular variant comprising about 75% of cases and a less aggressive extraocular form.[2] It arises from the ocular sebaceous glands. There are five types of sebaceous adnexae found in the eye, namely, meibomian glands (tarsal glands), glands of Zeis, sebaceous glands of the caruncle, eyebrows, and those of the tiny vellus hairs on the surface of the eyelid.[3] These lesions could be mistaken for basal cell carcinoma, squamous cell carcinoma or chalazion or chronic blepharoconjunctivitis.[4] The metastatic rate with subsequent mortality is high, approaching 25%.[4,5] The regional nodes are most often affected with subsequent involvement of lung, liver, brain, and bone.[3] Metastatic disease is a poor prognostic sign with a 50% 5-year mortality in one study.[4]

Malignant melanoma of parotid glands occurs almost invariably as metastases from a primary tumor that is located in the skin or the mucous membranes of the head and neck regions.[6] Melanoma is a serious skin cancer with a high mortality rate. Hence, it is important to perform the histopathological analysis of any pigmented lesion after biopsy, as well as knowing the history of such lesions.[7] The parotid tissue is known as an unusual location for metastasis. Since melanocytes are the originated embryo logically from the neural crest and not concerned as a component of salivary tissues, parotid glands seem controversial as the primary origin of melanomas.[6] Melanoblasts might be considered as a potential source of tumor in the parotid tissue. Accordingly, these might exist in the intralobular duct of this gland.[8,9] According to the study by Prayson

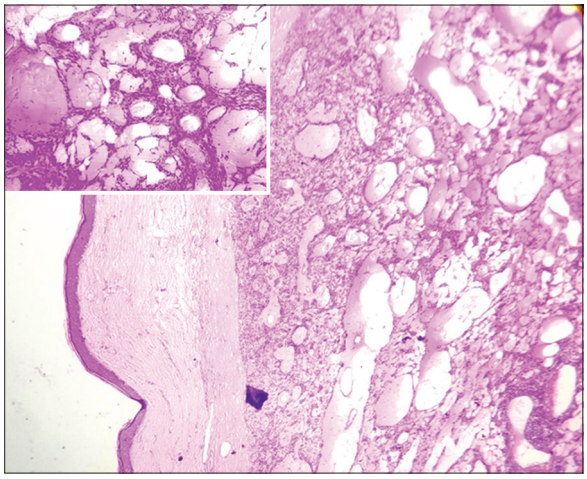

**Figure 3:** Photomicrograph showing spiradenoma, H&E, ×40 (Inset: ×400)

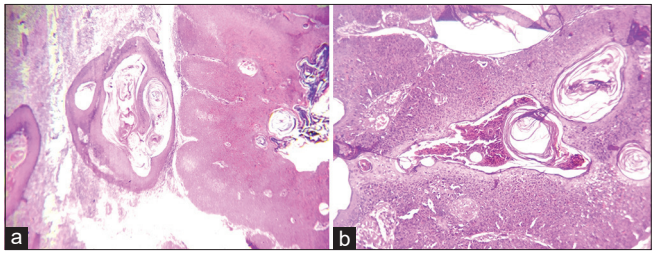


**Figure 5:** (a and b) Photomicrograph showing pigmented seborrheic keratosis, H&E, ×40

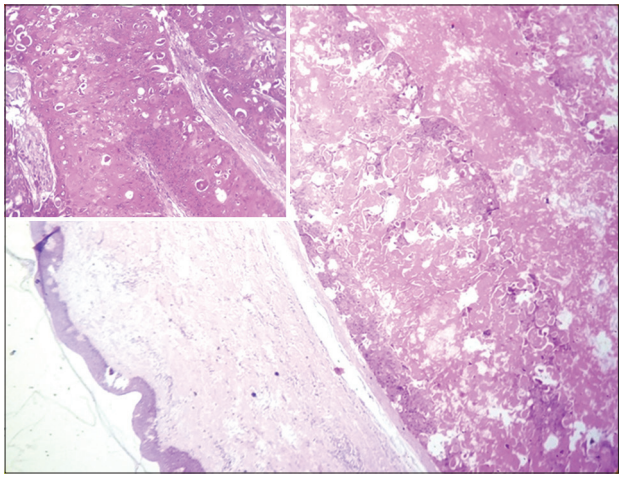

**Figure 4:** Photomicrograph depicting proliferating trichilemmal tumor, H&E, ×40 (Inset: ×400)

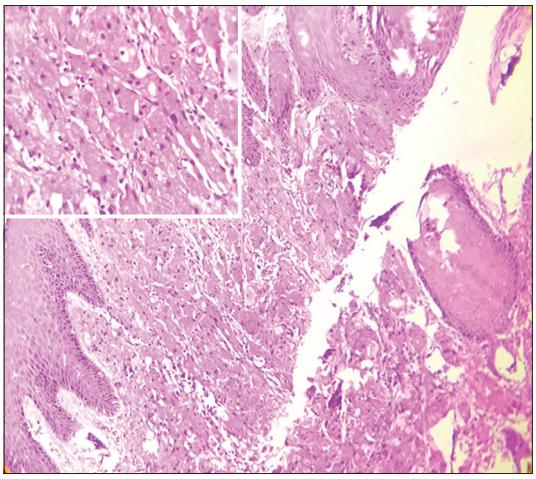

**Figure 6:** Photomicrograph showing granular cell tumor, H&E, ×40 (Inset: ×400)

and Sebek, all the 12 cases were reported with malignant melanomas of parotid with cutaneous origins of head and neck areas, except one that had an unknown origin.[8] All pigmented lesions with unusual features, large size, irregular pigmentation, unknown duration, or recent enlargement should be submitted for microscopic examinations. The exact medical history of the affected patients is essential.

Eccrine spiradenoma is a rare, clinically distinct, and benign adnexal tumor originating from the eccrine glands. The tumor arises from the intradermal part of the duct of eccrine sweat glands.[10] Paroxysmal pain and tenderness are the main features of the tumor, observed in 91% of cases.[11,12] They may be associated with multiple trichoepitheliomas and cylindromas and less frequently, trichoblastoma, and cutaneous lymphadenoma (adamantinoid trichoblastoma) as part of the morphological spectrum of the Brooke-Spiegler syndrome.[13]

The proliferating trichilemmal cyst (pilar tumor of the scalp) is a rare, usually benign tumor of external root sheath derivation and mostly appears to develop within the wall of a pre-existent pilar cyst.[14] The anatomic sites include trunk, and rarely extremities, nose, eyelid, and vulva may be affected. The most common site is the scalp.[15] It is thought to develop initially as a focus of epithelial proliferation in a trichilemmal cyst, perhaps as a consequence of trauma or chronic inflammation.[14] Tumors with irregular outlines and infiltrative growth with involvement of deep dermis and subcutis may have potential for local destruction, while metastatic potential was observed in tumors with invasive growth pattern and marked nuclear atypia, atypical mitoses, and geographic necrosis with or without perineural or lymphovascular invasion.[16]

Seborrheic keratoses are common, benign, and pigmented epidermal tumors. These usually develop after the age of 50 years without any sexual predilection.[17] The common site of involvement includes the trunk, particularly interscapular area, sides of the neck, face, and arms. They are not seen on the mucous membranes.[18] Etiology is not well-known, although heredity, sunlight, and human papilloma virus have been suggested as risk factors. Recent genetic studies have suggested that somatic mutations in Fibroblast Growth Factor Receptor 3 gene are important in their development.[9] Variety of histologic appearances are acanthotic, hyperkeratotic, clonal, reticulated, irritated, and pigmented. Differential diagnoses include

epidermal nevus, actinic keratosis, verruca vulgaris, acanthosis nigricans, basal cell carcinoma, and melanoma.[19]

Granular cell tumors are rare mesenchymal soft-tissue tumors, accounting for approximately 0.5% of all soft-tissue tumors.[20] Majority arise in the head and neck.[21] Although the histogenesis remains unclear, it is hypothesized that they arise from Schwann cells. They are positive for S100 and neuron-specific enolase.[22] Although majority are benign, 0.5–2.0% of cases can be malignant and have a poor prognosis. The differential diagnosis include squamous cell carcinoma, glomus tumor, pilar cyst, follicular infundibular cyst, intradermal melanocytic nevus, and cutaneous metastasis from primary visceral malignancy.[23] The Fandburg-Smith criteria is comprised 6 histologic criteria: necrosis, spindling of tumor cells, vesicular nuclei with large nucleoli, increased mitotic activity (> 2 mitoses/10 high-power fields), high nuclear-to-cytoplasmic ratio, and pleomorphism. A tumor with three or more of these features is characterized as histologically malignant. If one or two criteria are met, the lesion is considered atypical. Lesions that meet none of the criteria or solely demonstrate focal pleomorphism are considered histologically benign.[24]

## CONCLUSION

Tumors of the epidermis show a range of behavior from benign cosmetic blemishes to malignancies with ability of regional and distant metastasis. Treatment involves removal of primary lesion by shave excision to extensive procedures. The histopathological examination can be a mainstay of reporting in some cases; however, few of the cases do require a supplementary immunohistochemistry or electron microscopy for confirmatory diagnosis. The childhood lesions should not be ignored, as it may present as metastasis many years later.

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**Source of Support:** Nil, **Conflicts of Interest:** None declared.