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Pathology

Pigmented Basal Cell Carcinoma – Adenoid Cystic Pattern: A Rare Case Report

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Abstract **Case Report**

Basal cell carcinoma is the most common malignant tumour of skin, comprising 80% of non-melanoma cancers. Intermittent exposure to ultraviolet radiation is an important risk factor. Pigmented basal cell carcinoma is a clinical and histological variant of basal cell carcinoma that exhibits increased pigmentation. It is a very rare variant, although its frequency can reach upto 6% of total basal cell carcinomas. Herein, we are reporting a case of pigmented basal cell carcinoma of nose which is a rare presentation.

Keywords: Basal cells, pigmentation, nose.

INTRODUCTION

Skin malignancies constitute significantly less proportion of Indian population compared to Western World, but in recent times few parts of India has recorded highest number of skin cancers [1]. Most common being Squamous cell carcinoma followed by Melanoma and Basal cell carcinoma. A total of 18.1 million new cases and 9.6 million deaths from skin cancer were estimated globally in 2019 [2]. The data pertaining to Basal cell carcinoma in India is sparse.

CASE REPORT

A 78 year old lady presented with complaints of swelling over the nose since 3 years and nasal obstruction since 1 month. Patient was asymptomatic 3 years back when she developed swelling over the nose which was initially of 0.5x 0.5 cm size. She underwent biopsy of the swelling 2years back and was diagnosed as Nasal Pyogenic Granuloma. The swelling gradually progressed to the present size associated with right nasal obstruction.

Physical examination revealed globular swelling of 2x2 cms, tender with irregular margins, firm in consistency and fixed to underlying skin. Wide local Excision was done and biopsy was sent to the Pathology department.

Grossly, skin covered grey brown to grey black soft tissue bit measuring 2x2x1.5 cms (Figure1). Cut section showed grey white to grey brown (Figure 2). Bits were submitted and serial sections were taken for histopathological examination.

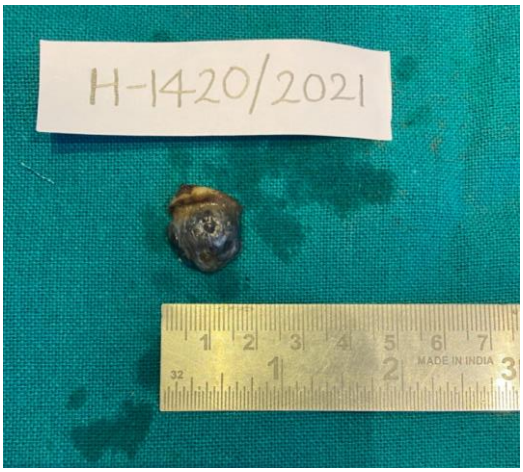

Figure 1: Gross image showing a Globular grey brown to grey black soft tissue mass measuring 2x2 x1.5 cms

Figure 2: Cut section of the mass showing grey black with focal grey white areas

Microscopy revealed tumor composed of epidermis in continuation with the basal layer with basaloid cells arranged in Nodules, Cribriform, Solid Nodular patterns with peripheral palisading pattern (Figures 3, 4) and stroma showed areas of hemorrhage and golden brown pigment (Figure 5, 6). All resected margins showing infiltration by the tumor tissue. favouring diagnosis of Pigmented BCC with adenoid cystic.

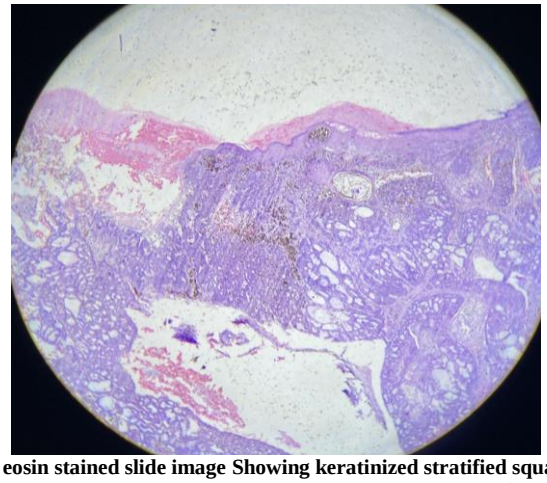

Figure 3: (4x view) Hematoxylin and eosin stained slide image Showing keratinized stratified squamous epithelium with tumor tissue in continuation with the epidermis arranged in nodules and cribriform pattern

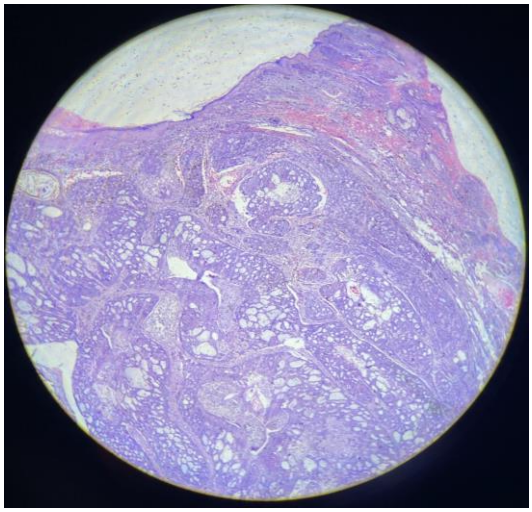

Figure 4: (4x view)Hematoxylin and eosin stained slide image Showing Epidermis with tumor tissue in continuation with the epidermis arranged in nodules and adenoid cystic patterns

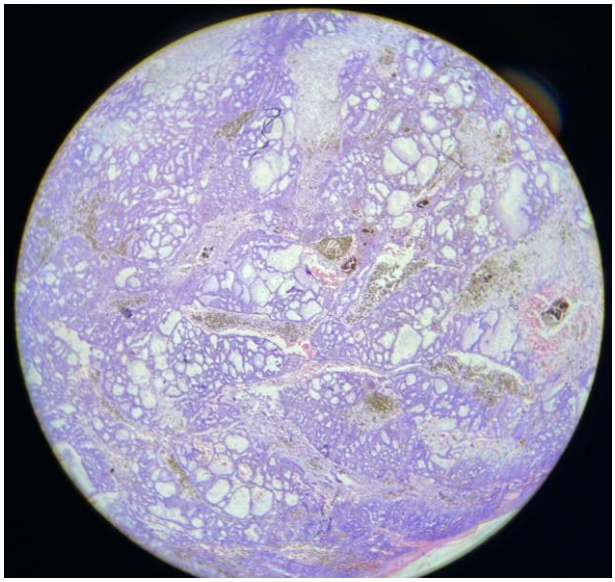

Figure 5: (40x view) Hematoxylin and eosin stained slide image Showing tumor tissue arranged in adenoid cystic pattern admixed with melanin pigment within the cells and in the surrounding stroma

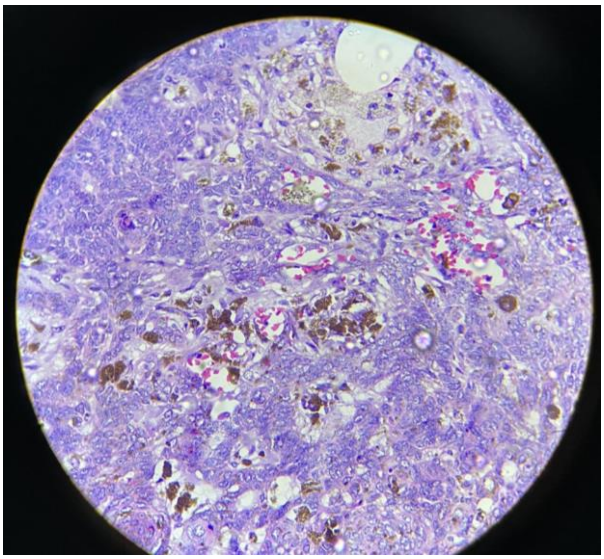

Figure 6: 40x view: Hematoxylin and eosin stained slide image Highlighting the melanin pigment within the cytoplasm and in the surrounding stroma

DISCUSSION

Basal cell carcinoma is a skin malignancy that arises from keratinocytes. This is the most common skin tumor that is seen mainly in fair skinned population and prolonged UV radiation exposure such as in USA and Australia.

In 1827 Arthur Jacob termed the skin tumor that we now call basal cell carcinoma (BCC) "Ulcus rodens". In 1900, Krompecher described BCC as a malignant, locally invasive, and destructive cancer and named it "Carcinoma epitheliale adenoides" [2]. The realization that aberrant activation of Hedgehog signalling is a pathognomonic feature of BCC development has opened the way for exciting progress toward understanding BCC biology and translation of this knowledge for better outcome [3].

Nonpigmented BCC is much more common that pigmented variant. Pigmented variant is due to the melanin which is produced by the melanocytes which enter the tumor tissue and into the melanophages located in the stroma surrounding the tumor [4]. Typically, BCCs occur in the fourth decade of life and beyond. The typical BCC is a pearly pink or flesh coloured papule with telangiectasia. Lesions may be translucent or slightly erythematous with a rolled borders which are occasionally accompanied by bleeding, scaling or crusting [5].

Morphologically, BCC encompasses a group of epithelial intradermal tumors characterized by a primary cellular component that resembles the undifferentiated basal cells of the epidermis and its appendages [4]. These basaloid cells are often arranged in palisades at the tumor periphery, are separated from

the surrounding stroma by optically empty spaces, and form nodules, bands, or strings, with some continuity with the overlying epithelium in most cases. Visible desmosomal intercellular structures are absent, and the tumor cells have little cytoplasm and show chromatin-rich nuclei with frequent mitoses when compared with normal skin; however, they are often apoptotic, consistent with slow tumor growth.

CONCLUSION

The precise and detailed knowledge of clinical and histopathology of pigmented BCC and its differentials can lead to definitive diagnosis as this will immensely change the therapeutic modalities and prognosis.

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