

## Rare Variants of Basal Cell Carcinomas: A Case Series of Three Cases

Ajay Kr. Singh<sup>1\*</sup>, Latika gupta<sup>2</sup>, Arun Kumar<sup>3</sup>, Nisha Kalra<sup>4</sup>

1Assistant Professor, Department of Pathology, KGMU, Lucknow, UP, India

2Resident, Department of Pathology, KGMU, Lucknow, UP, India

3Resident, Department of Pathology, KGMU, Lucknow, UP, India

4Resident, Department of Pathology, KGMU, Lucknow, UP, India

### \*Corresponding Author:

Name: Dr. Ajay Kr. Singh

Email: [drajaysingh007@gmail.com](mailto:drajaysingh007@gmail.com)

**Abstract:** Basal cell carcinoma is the most common tumour of skin. The tumour is commonly seen on nose, eyelids, inner canthus of eye, behind ears etc. A number of histopathological subtypes of basal cell carcinoma have been defined. Out of which few are rare subtypes. The author report three case of basal cell carcinoma of rare subtypes ie pigmented basal cell carcinoma, keratotic and ecrine differentiation basal cell carcinoma with review of their literatures.

**Keywords:** Basal cell carcinoma, Skin tumour, Subtypes

### INTRODUCTION

Basal cell carcinoma is the most common cutaneous malignant tumour directly related to sunlight and UV radiation exposure [1]. Basal cell carcinoma (BCC) constitutes 65% of epithelial tumours. It is more prevalent after the fourth decade of life and its peak incidence is at the 6<sup>th</sup> decade with male preponderance [2]. A number of histopathological subtypes of basal cell carcinoma have been defined. Among these subtypes few rare variants like pigmented basal cell carcinoma, ecrine differentiation basal cell carcinoma, keratotic basal cell carcinoma. Pathogenesis of these variants is unclear.

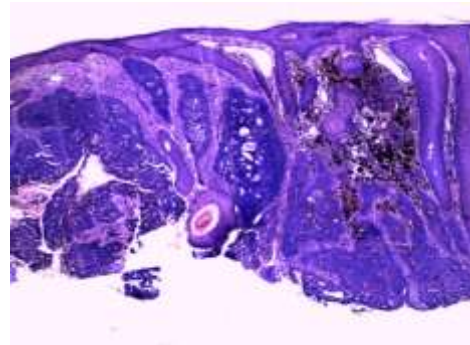
### CASE REPORT

There are three cases of basal cell carcinoma with rare histological variants.

#### Case 1

A 65 year old male presented ulceroproliferative lesion over scalp since one and half years which was progressively increase in size with discharge mixed with blood since six months. Swelling was also associated with pain and itching. The clinical impression was basal cell carcinoma verses squamous cell/spindle cell carcinoma. There was no previous history of pre-existing skin condition like indogenous drug intake, exposure to irradiation and trauma at affected site prior to appearance of lesion. The physical examination revealed a single irregular ulceroproliferative growth measuring 4x5.0 cm. over scalp area. There was no evidence of lymphadenopathy. The laboratory investigation was within normal limit. The shave biopsy specimen showed a dermal tumour (Fig. 1) lined by keratinized stratified squamous epithelium with few evident

intraepithelium keratin pearls, subepithelium zone show a malignant epithelium tumour arranged in islands and nests separated by intervening fibrovascular tissue infiltrated by chronic inflammatory cell infiltrate. The tumour nests show peripheral palisading of cells. The tumour cells are round to oval with minimum pleomorphism, hyperchromatic nuclei, inconspicuous nucleoli with basophilic cytoplasm. Fair number of tumour cell show melanin pigment. The diagnosis reported pigmented basal cell carcinoma. The tumour was completely excised with good postoperative course and good outcome without recurrence in past one year follow-up.

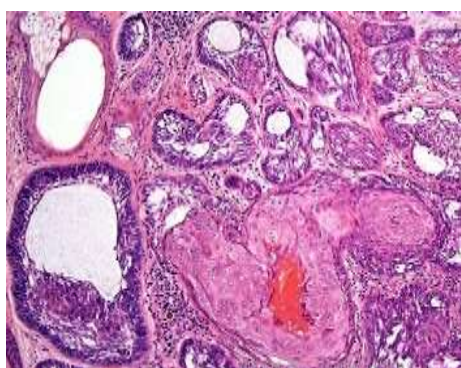


**Fig. 1: (H&E 20X)- Section show a tumour in subcutaneous region with solid and palisading outer along with few melanin pigment in between them**

#### Case 2

A 35- year old male, growth presented over right post auricular region with history of pain and pus discharge from lesion since 6-7 months. There was no previous history of pre-existing skin condition,

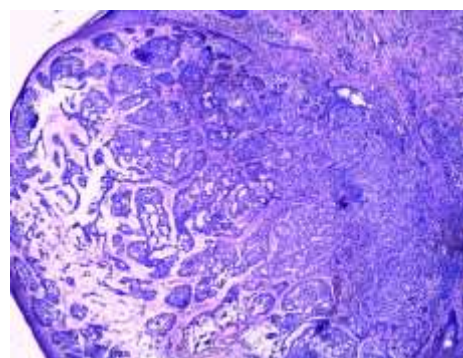
indigenous drug intake, exposure to irradiation and trauma at affected site prior to appearance of lesion. The physical examination revealed a single globular lesion measuring 3x2.5 cm. The laboratory investigations were within normal limits. The whole tumour excised and sent to histopathology and gross specimen having single globular tissue piece with attached skin measuring 3x2.0 cm. Section show malignant epithelial tumour (Fig. 2) arranged in nests with peripheral palisading arrangement of basoloid cells. Individual tumour cell have round to oval nucleus with high nucleo-cytoplasmic ratio, hyperchromatic nuclei with inconspicuous nucleoli. These tumour nests are surrounded by keratinization and central area shows cyst typically lacking granular cell layer and filled with keratinous materials. The diagnosis reported keratotic basal cell carcinoma (Pilar BCC). After excision patient is living well without recurrence with six months follow-up.



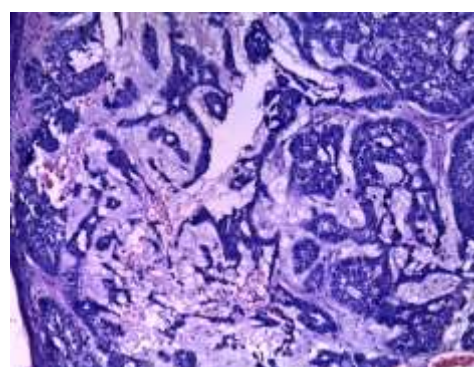
**Fig. 2: (H&E 20X) –Section show tumour in subepithelial region with outer palisading along with inner region filled with keratinous material**

### Case 3

A 70-Year old male patient presented with mole on canthus of left eye with partially loss of vision and watery discharge since eight months. There is no past history of diabetes hypertension, chronic cough. On physical examination revealed 2.5x2.0 cm mole on left eye with watery discharge. There was no previous history of trauma at site, diabetes, exposure to irradiation. The laboratory investigation was within normal limit. The biopsy have single soft tissue piece with attached skin and hair measuring 2.5x1.8 cm. Skin surface of soft tissue piece show small nodules. The section (Fig. 3, 4) show subepithelium zone having dermal appandages, a malignant epithelium neoplasm disposed in lobules and nests separated by fibrocollagenous septa. Individual tumour cells are mildly pleomorphic with round to oval in shape, hypechromatic nuclei, inconspicuous nucleoli. Fair number of tumour cell show ecrine differentiation. The diagnosis was given as basal cell carcinoma with ecrine differentiation. The tumour was completely excised with 3.0 mm margins outside the tumour. The patient is living well with one year follow-up without recurrence.



**Fig. 3: (H&E 4X) –Section show a tumour in subcutaneous region arranged in cribriform pattern with space in between them**



**Fig. 4: (H&E 40X)- Section of high power show tumour cell arranged in cribriform pattern with palisading of tumour cells with space filled with mucinous type material**

### DISCUSSION

Basal cell carcinoma (BCC) constitutes about 70% of keatinocyte tumour that comprise 90% of all malignant skin disease [3]. The incidence of BCC is about 2000 case per 100 000 population, and the morbidity varies depending on the geographic width and patient age with growing tendency for individuals above 50 years of age. The BCC affects mainly photo exposed area in about 80% of patients it appears in the head and in half of them affects the skin of cheeks and nose. The other photo exposed areas such as trunk and limbs are less affected and in about 4% of patients lesions may appear on genitals and perianal area. The tumour has slow progression and metastases are found in only 0.5% of the cases. But it can result in considerable local destruction and disfigurement when treatment is neglected and inadequate. The main etiological factor is chronic UV exposure at the expense mostly UVB rays with length 290-320 mm. Besides ultraviolet radiation there are other exposure carcinogens such as exposure to the ionizing radiation, arsenic, industrial chemical substances such as vinyl chloride, polycyclic aromatic hydrocarbonates as well as alkalinizing agents. Histological diagnostics and

classification of basal cell carcinomas (BCCs) are essential for an assessment of the percentage proportions of particular histological groups, risk determination of the recurrence of this illness and comparison of treatment results [4]. There is no unified and generally accepted classification of BCCs. BCC is an epithelial malignant tumour with a low malignant potential, consisting of cells which look like the basal epidermis layer. The diagnostic histological features, common for all types of tumour, are basaloid cells with a thin pale cytoplasm surrounding round or oval nuclei with a rough granulated chromatin pattern. The peripheral borderline cell layers are characteristic by palisade arrangement and the surrounding stroma is often separated by artificially creates slits, whereas the internal arrangement of cells is rather chaotic. Most tumour originate in the epidermis and invade the dermis in the form of solid or cystic nodules or streaky projections creating various growth patterns. Mitosis may be rare or multiple, intercellular bridges may also be present; these are less significant than in squamous cell carcinoma. Most authors use two basic criteria in the creation of classifications of histological types, the histological growth pattern and histological differentiation. Most author agree that the histological growth pattern is of the greatest biological significance. Classification based on the histological growth pattern is useful during the creation of concept of low risk and high risk types of BCC [5-7]. High risks are mainly infiltrative and superficial types where as low risk group include nodular type mainly. According to WHO (2006) and Rosai (2004) Patterson (2006) and Rippey (1998) predominantly six to ten types i.e., nodular, superficial, infiltrative, micronodular, fibroepithelial, basosquamous, keratotic, pigmented, adenoid, sclerosing type. In which few are more common other are less and very few are rarer. Here author present three cases of rare variants ie pigmented basal cell carcinoma, keratotic basal cell carcinoma and basal cell carcinoma with eccrine differentiation (adenoid). Pigmented basal cell carcinoma can be found in different clinical versions of basal cell carcinoma including nodular, micronodular, multifocal and superficial and color varies from brown to black. Histology showed nests of basaloid cells, abundance of melanin and melanophages and moderate inflammatory infiltrate. The differential diagnosis has to be made with malignant melanoma. Keratotic basal cell carcinoma may not only clinically but also histologically share more or less the same features with trichoepithelioma [8-10]. It can be difficult to distinguish these two entities from each other. Scanty mitotic and apoptotic cells were the histopathological findings against basal cell carcinoma, whereas absence of papillary mesenchymal bodies, presence of peritumoural lacunae detected only around the solid areas, and accumulation of amyloid-like hyalinized material were the findings in favor of basal cell carcinoma. Basal cell carcinoma with

eccrine differentiation (adenoid) variants shows arrangement of cells in intertwining strands and radially around islands of connective tissue, resulting in a tumour with lace like pattern. The lumina may be filled with colloid substance or with amorphous granular material. Treatment of basal cell carcinoma includes surgical, Mohs surgery, electric cauterization and curettage, cryotherapy, roentgen therapy, laser treatment, 5-fluorouracil, imiquimod, interferon alpha, photodynamic therapy etc [11]. BCC is relatively frequent disease which is regularly diagnoses at the outpatients practice. The early diagnostics based on the good knowledge and timely organized and adequate treatment is a precondition for better prognosis. Despite the slow progress and numerous therapeutic methods the BCC should not be underestimated. BCC destroys the underlying tissues and spread metastases.

## REFERENCES

1. Rubin AI, Chen EH, Ratner D; Basal cell carcinoma. *The New England Journal of Medicine*, 2005; 353(21): 2262-2269.
2. Betti R, Bruscajin C, Inselvini E, Crosti C; Basal cell carcinomas of covered and unusual site of the body. *Int J Dermatol.*, 1997; 36(7): 503-505.
3. Dourmishev LA, Rusinova D, Botav I; Clinical variants, stages and management of basal cell carcinoma. *Indian Dermatol Online J*, 2013; 4(1): 12-17.
4. Rippey JJ; Why classify basal cell carcinomas? *Histopathology*, 1998; 32(5): 393-398.
5. Sexton M, Jones DB, Maloney ME; Histologic pattern analysis of basal cell carcinoma, study of a series of 1039 consecutive neoplasms. *J AM Acad Dermatol.*, 1990; 23(6 Pt 1): 1118-1126.
6. Szabo B, Szabo I, Mera M, Fripcea AM; Keratotic basal cell carcinoma with orbital extension- a case report. *Oftalmologia*, 2005; 49(2): 43-49.
7. Foley P, Mason G; Keratotic basal cell carcinoma of the upper eyelid. *Australas J Dermatol.*, 1995; 36(2): 95-96.
8. Sahin MT, Demir MA, Kaya Y, Can M, Inanir I *et al.*; Inguinal keratotic basal cell carcinoma mimicking giant solitary trichoepithelioma. *J Dermatol.*, 2003; 30(5): 395-399.
9. Scrivener Y, Grosshans E, Cribier B; Variations of basal cell carcinomas according to gender, age, location and histopathological subtype. *Br J Dermatol.*, 2002; 147(1): 41-47.
10. Roenigk RK, Ratz JL, Bailin PL, Wheeland RG; Trends in the presentation and treatment of basal cell carcinomas. *J Dermatol Surg Oncol.*, 1986; 12(8): 860-865.
11. Kikushi A, Shimizu H, Nishikawa T; Clinical and histopathological characteristics of basal cell carcinoma in Japanese patients. *Arch Dermatol.*, 1996; 132(3): 320-324.