Pigmented basal cell carcinoma: A rare case report

Ankit Rattan[1], Bhumika Rath[2,*], Z.U.Khan[3], C. Chiranjibi[4], Sourav Subham[5]

[1,2]3rd Year Post Graduate, [3]Professor and HOD, [4]Assistant Professor, [5]1st Year Post Graduate, [1-5]Hi-Tech Medical College and Hospital, Bhubaneswar, Odisha, India

***Corresponding Author: Bhumika Rath**
Email: rath.bhumika@gmail.com

Abstract
Basal cell carcinoma is the most common skin cancer mainly caused by prolonged exposure to ultraviolet rays. It is also known as rodent ulcer or basal cell epithelioma. Pigmented basal cell carcinoma is a rare variety of basal cell carcinoma. It typically affects older age group. Most important risk factors are fair skin, inability to tan, and chronic exposure to sunlight. 90% of cases occur in head and neck and about 10% of these involve the eyelids. It is the most common malignant eyelid tumour, accounting for 90% of all cases, most frequently arises from lower eyelid followed by medial canthus, upper eyelid and lateral canthus. Among all variant of BCC, pigmented BCC variety is about 6%. Histopathologically, it is similar to nodular BCC with increased melanisation.
we report a rare case of pigmented BCC that we encountered in our setup.

Keywords: Basal cell carcinoma, Pigmented basal cell carcinoma, Ultraviolet presentation.

Introduction
Basal cell carcinoma (BCC) also termed as rodent ulcer is a type of skin carcinoma. It is one of the most common form of human malignancy.[1] It has a lifetime risk of 12%.[2] 12% to 16% of BCCs occur on the periocular skin.[3,4] It is usually a slowly enlarging tumour and symptoms are rare.[5]

It is one of the commonest carcinoma amongst Caucasians but rare among dark skinned peoples. It rarely spreads to other tissues, unlike melanomas. Basal cell carcinoma usually spreads to the surrounding skin. Although this is generally slow, failure to get an appropriate treatment can lead to a considerable area of skin being destroyed and thus requiring plastic surgery.[5] It typically affects older age group. Most important risk factors are fair skin, inability to tan, and chronic exposure to sunlight. 90% of cases occur in head and neck and about 10% of these involve the eyelids. It is the most common malignant eyelid tumour, accounting for 90% of all cases, most frequently arises from lower eyelid followed by medial canthus, upper eyelid and lateral canthus. It is a slow growing, locally invasive but non metastasizing tumour.[1] Tumour near the medial canthus are more prone to invade orbit and sinuses and it is difficult to manage apart from the tumour arising from elsewhere and also carry the greater risk of recurrence. Tumour that recur following incomplete treatment tend to be more aggressive.[1]

Among all variant of BCC, pigmented BCC variety is about 6% and histopathologically it is similar to nodular BCC with increased melanisation. [6]

This case report describes a rare case of pigmented BCC that we encountered in our setup.

Case Report
A 80-year-old male patient, farmer by occupation came with complaints of ulceration of lower eyelid and nasal crease on the left side since 1 years (Fig. 1). He had not taken any treatment for same. There was gradual increase in size of the ulcer. No history of bleeding or discharge from an ulcer.

On examination, there was a single ulcer over left upper "eyelid" 5 cm × 3 cm with rolled out edges without any bleeding or discharge and ulcer was not fixed to the underlying structure (Fig. 1). Investigations revealed, hemoglobin 12 g%, total leukocyte counts 6700/cu.mm, platelets 2.04 lac/cu.mm, random blood sugar 105 mg/dl.

Histopathological examination was done. H and E stain of section of left lower eyelid in the left medial canthus near the nose showed on one slide the covering being stratified squamous epithelium and was acanthotic, on focus the tumor cells were found in islets. The tumor composed of basaloid cells, with palisading of similar basaloid cells with hyper chromatic pleomorphic nuclei surrounding the central area of cells. Melanin pigments and melanophages were seen along with massive infiltration of neutrophils with necrotic debris and bacterial colonies. These findings confirmed the diagnosis of pigmented BCC (Fig. 2).

The patient was advised for MRI of the orbit and face with contrast study. It showed the presence of a solid lesion n the left side of the face, infraorbital region adjacent to the medial cants of the left eye. The lesion involved the skin and subcutaneous fatty tissue. Inferior eyelids were involved. The muscle layer was spared. No extension of the lesion into the orbit or the paranasal sinuses. It measured 10 mm in AP and 25 mm in transverse and 27 mm in craniocaudal diameters (Fig. 3).

Once confirmed, wide excision with full thickness skin grafting was performed. Graft was harvested from the forehead and later the donor site was covered with a rotational paramedic flap (Fig. 4). The remaining defect was covered by Mustarde cheek rotational flap (lower eyelid defects are reconstructed using a mustarde cheek rotational flap. This large skin muscle flap is rotated from the cheek to repair large lower eyelid defects) (Fig. 5). Patient was followed on first post operative day and seventh post-operative day. Post-operative follow- up on 7th day showed

healthy wound margins. The patient was advised for suture removal on 14th day. Further flap detachment and lid reconstruction has been planned on 21st post-op day.

Fig. 1: Single ulcer over left upper "eyelid" 4 cm × 3 cm with rolled out edge.

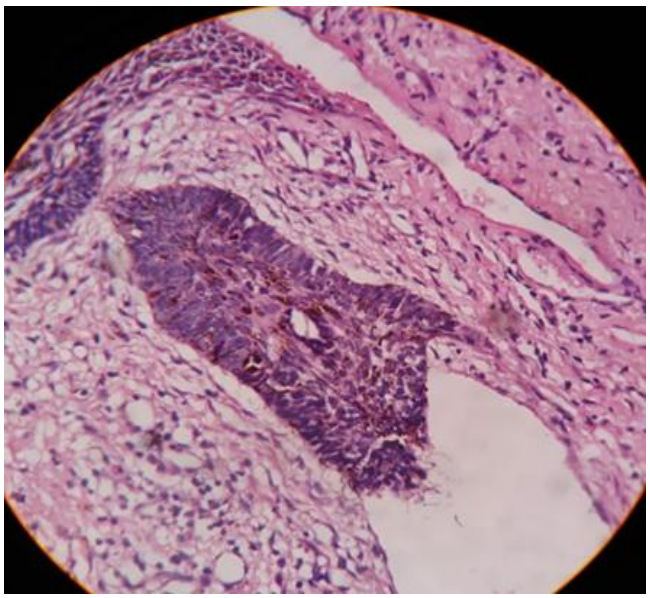

Fig. 2: pigmented BCC.

Fig. 3: MRI of the orbit and face

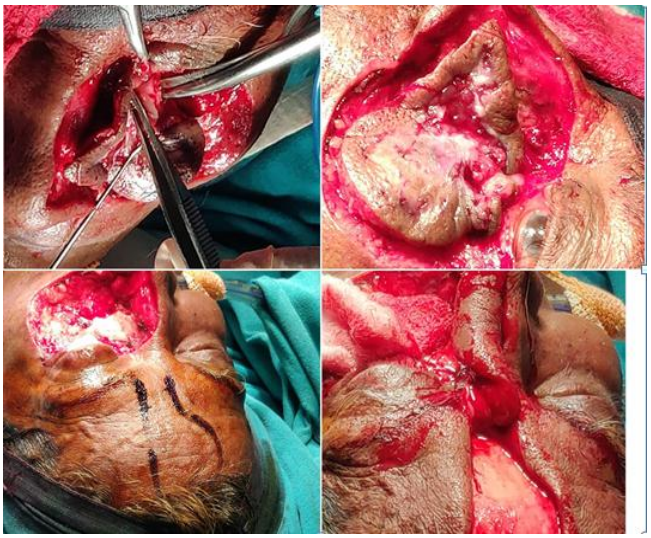

Fig. 4: Graft from the forehead covered with a rotational paramedic flap.

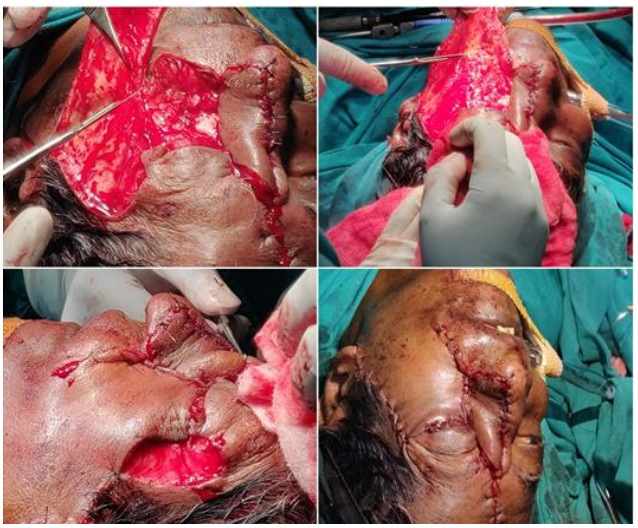

Fig. 5: Mustarde cheek rotational flap.

Fig 6: post- operative day 21

Discussion

Basal cell carcinoma represents the most common form of skin cancer, accounting for 90% of the eyelid malignancies.[7] Basal cell carcinomas rarely metastasise, they can be locally destructive and leads to significant morbidity, especially when located in the periocular area.[8] Histologically aggressive basal cell carcinoma (Subtypes- infiltrative, micronodular and basosquamous) has a higher rates of recurrence and also has an increased risk of perineural and perivascular invasion.[9]

Histological subtypes of basal cell carcinoma

The classifications of the histological subtypes advocated by the Royal College of Pathologists and the World Health Organisation have been widely adopted in the recent literatures.[10,11] The growth patterns (superficial, nodular, infiltrative and micronodular) and are among the main growth patterns idetified, the infiltrative and micronodular subtypes being associated with significantly increased risk of local recurrence and overall morbidity.[11] Nodular basal cell carcinoma is known to occur more frequently on the head and neck, whilst infiltrative basal cell carcinoma preponderates over superficial basal cell carcinoma on the face.[12-16] Hence the significance of this carcinoma in the periocular region is of utmost importance as it has a higher rate of local invasion and hence may require aggressive treatment as compared to standard treatment. BCC has a tendency to grow slowly. It is rare for a basal cell carcinom to metastasize to a distant organ. However, if left untreated, it may invade the nearby tissue and further may invade the deeper tissues including muscle and bone.

After treatment, there is a possibility of Recurrence of BCC at the same site. The only peculiar character of BCC is its recurrence in new places in the previously affected individuals. 50% patient with previously diagnosed BCC have a chance to develop a new skin lesion within 5 years.[17-18]

BCC mostly occur as a single lesion in sun-exposed areas that includes, the angle of the eye below Ohngren's line. It can also be associated with conditions such as Bowen's disease, keratoacanthoma, leukoplakia, queyrat erythroplasia, radiation dermatitis[17] and xeroderma pigmentosum.[18]

BCC, can also occur as a feature of hereditary conditions like nevoid BCC syndrome also known as Gorlin's syndrome[19-20] or Bazex's syndrome, Rombo syndrome and unilateral basal cell nevus syndrome. Nevoid BCC syndrome is an inheritant autosomal dominant condition, characterized by a range of developmental anomalies and a predisposing condition to various tumors. Patient with Gorlin's syndrome mostly presents with a broad nasal root, low intelligence, multiple jaw cysts, palmar pits.[20]

In this patient, the diagnosis pointed towards BCC. On the basis of history taking, clinical examination and investigations we ruled out the possibility of all the syndrome. The patient was operated and managed with wide excision and full thickness skin graft.

Conclusion

BCC tend to occur in a syndrome complex, associated with a number of autosomal dominant inherited disorders and hence prior to the management of the same, the presence of the syndrome must be ruled out.

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Abbreviations: BCC- Basal cell carcinoma, H and E- Haematoxylin and eosin, AP- Antero-posterior

Conflict of Interest: None.

References

1. Brad Bowling, Kanski's clinical ophthalmology, A Systematic Approach, 8th edition, ELSEVIER, Chapter 1(eyelids), pg 15, basal cell carcinoma
2. Wong DA, Bishop GA, Lowes MA. Cytokine profiles in spontaneously regressing basal cell carcinomas. *Br J Dermatol* 2000;143(1):91-98.
3. Souhami and Moxham. Molecular Aetiology and Pathogenesis of Basal Cell Carcinoma. *Br J Dermatol* 2005;152(6):21-24.
4. Kersten R. Orbit, Eyelids, and Lacrimal System. Basic and Clinical Science Course, San Francisco. *Am J Ophthalmol* 2004;11:170-175.
5. O'Malley EM, Nerad JA, Syed NA. Nodular Basal Cell Carcinoma: 49 year-old female with left lower lid lesion. *Eye Rounds Org* 2005;12:23-25.
6. Freedberg, I.M.,Eisen, A.Z.,Wolff,K.,Austin,K.F.,Goldsmith,I.A. and Katz, S.I.(2003) Fitzpatrick's and dermatology in general medicine. 6th edition, McGraw-Hill, New York.
7. Telfer NR, Colver GB, Morton CA. Guidelines for the management of basal cell carcinoma. *Br J Dermatol* 2008;159(1):35-48.

8. Leibovitch I, McNab A, Sullivan T, et al. Orbital invasion by periocular basal cell carcinoma. *Ophthalmol* 2005;112(4):717-23.
9. Walling HW, Fosko SW, Geraminejad PA, et al. Aggressive basal cell carcinoma: presentation, pathogenesis, and management. *Cancer metastasis rev* 2004;23(3-4):389-402.
10. Kossard S, Epstein Jr EH, Cerio R, et al. Basal cell carcinoma. Pathology and Genetics of Skin Tumours. Lyon: IARCPress 2006.
11. Slater D, Walsh W. Dataset for the histological reporting of primary cutaneous basal cell carcinoma (2nd edition). London: The Royal College of Pathologists, 2012.
12. McCormack CJ, Kelly JW, Dorevitch AP. Differences in age and body site distribution of the histological subtypes of basal cell carcinoma. A possible indicator of differing causes. *Arch dermatol* 1997;133(5):593-6.
13. Raasch BA, Buettner PG, Garbe C. Basal cell carcinoma: histological classification and body-site distribution. *Br j dermatol* 2006;155(2):401-7.
14. 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.
15. Bastiaens MT, Hoefnagel JJ, Bruijn JA, et al. Differences in age, site distribution, and sex between nodular and superficial basal cell carcinoma indicate different types of tumors. *J invest dermatol* 1998;110(6):880-884
16. Pelucchi C, Di Landro A, Naldi L, La Vecchia C. Risk factors for histological types and anatomic sites of cutaneous basal-cell carcinoma: an italian case-control study. *J invest dermatol* 2007;127(4):935-944.
17. Malhotra AK, Gupta S, Khaitan BK, Verma KK. Multiple basal cell carcinomas in xeroderma pigmentosum treated with imiquimod 5% cream. *Pediatr Dermatol* 2008;25:488-491.
18. LüY, Zhu HG, Ye WM, Zhang MB, He D, Chen WT. A new mutation of PTCH gene in a Chinese family with nevoid basal cell carcinoma syndrome. *Chin Med J (Engl)* 2008;121:118-21.
19. Alghamdi Y. Skin tags as a presenting sign of basal cell nevus syndrome in three sisters of the same family. *Ann Saudi Med* 2008;28:132-4.
20. Happle R. Nonsyndromic type of hereditary multiple basal cell carcinoma. *Am J Med Genet* 2000;95:161-3.
21. https://www.researchgate.net/journal/2168-5452_International_Journal_of_Otolaryngology_and_Head_Neck_Surgery
22. http://surgeryijss.com/Article-Reader/HtmlReader/Vol1Issue1Cr3.html
23. http://surgeryijss.com/Article-Reader/HtmlReader/Vol1Issue1Cr3.html

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