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Case Report

Pigmented Basal Cell Carcinoma masquerading as Melanoma – A Case Report

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Abstract

Basal cell carcinoma (BCC) constitutes approximately 70% of keratinocyte tumors that comprise 90% of all malignant skin diseases. The incidence is about 2000 cases per 100000 population and the morbidity varies depending on the geographic width and patient's age, with growing tendency for individuals above 50 years of age. Pigmented BCC is rare comprising of total 6% cases, but it is becoming increasingly common in Asian population due to exposure to UV radiation .Here we report a case of 69year old female, presented to skin OPD with single well defined hyperpigmented smooth surfaced plaque of 2x1 cm size over forehead and single well defined plaque with hyperpigmented border and central atrophy over upper back since 5 years. Dermatoscopy and histopathology were indicative of pigmented BCC.

Key-words: Pigmented basal cell carcinoma, melanoma, blue grey ovoid nests

Introduction

Basal cell carcinoma (BCC) constitutes about 70% of keratinocyte tumors that comprises 90% of all malignant skin diseases.[1,2] It is a common malignant neoplasm of skin, derived from non keratinizing cells that originate from the basal layer of the epidermis.[3] The incidence of BCC is about 2000 cases per 100000 population, and the morbidity varies depending on the geographic width and patient's age, with growing tendency for individuals above 50 years of age.[4] Ultraviolet radiation is the most important cause of BCC and is more common among whites. Around 80% of BCC appears over head mainly over cheeks and nose.[2] Pigmented BCC is a rare clinical and histological variant of the disease and can masquerade as malignant melanoma, especially in dark-skinned patients.[5] A case of pigmented basal cell carcinoma over forehead and upper back in a female patient is presented.

Case report

A 69 year old house wife presented to the out patient of dermatology with lesions over upper back and forehead since 5 years which were progressive. Patient had complaints of burning and itching over the lesions. There was no history of exposure to radiation other than routine sun exposure. Initially the growth was small, increased steadily and reached to present size with no other systemic comorbidites present. On examination, a well defined hyperpigmented smooth surfaced plaque of size 2x1 cm over forehead was seen [Fig.1]. Another well defined plaque with hyperpigmented border and central atrophy over the upper back was seen [Fig.2]. Growth was soft to firm in consistency, non-tender and the skin around the growth was normal. There was no lymphadenopathy and the routine investigations were normal.

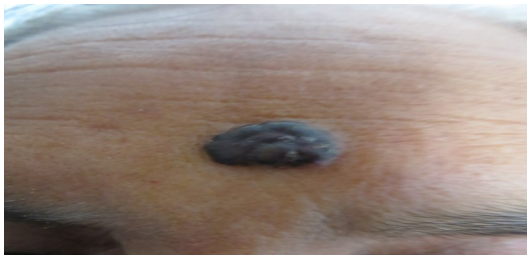

Fig 1. Well defined hyperpigmented smooth surfaced plaque over forehead

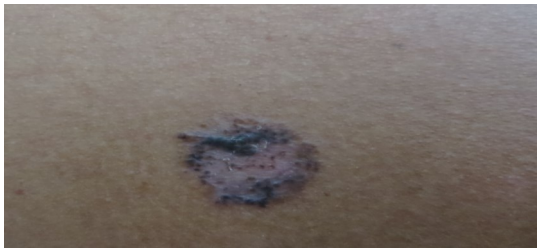

Fig 2. Single well defined plaque with hyperpigmented border and central atrophy over upper back. Dermatoscopic finding

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A clinical provisional diagnosis of pigmented basal cell carcinoma, pigmented seborrhoiec dermatosis and melanoma was made. Dermatoscopy of the lesion over the forehead showed multiple large blue grey ovoid nests (Blue grey blotches) and blue gray globules [Fig. 3] and in addition spoke wheel areas in the lesion on the upper back [Fig. 4]

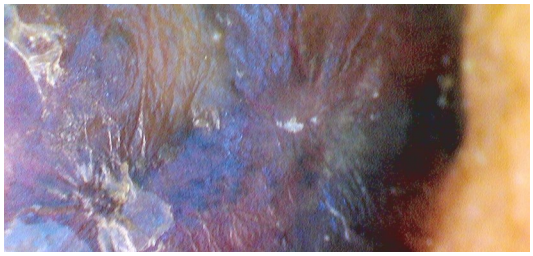

Fig 3. Multiple large blue grey ovoid nests (Blue grey blotches)

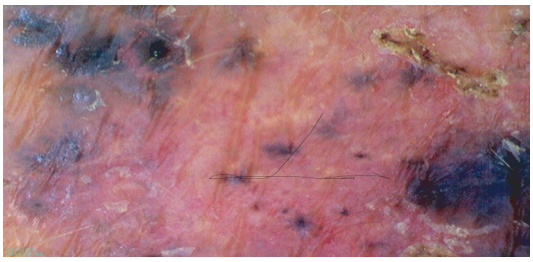

Fig 4. Spoke wheel areas

An incisional biopsy of the lesion was done. Histopathology section. showed thining of the epidermis and at few places, nest of epithelial cells arranged beneath the epidermis. The cells were enlarged with hyperchromatic nucleus, inconspicuous nucleoli and scanty amount of cytoplasm and peripheral palisading cells. Many pigment laden macrophages and lymphoplasmacytic infiltrates were seen around the blood vessels in the dermis. [Fig -5a & b], The diagnosis of pigmented basal cell carcinoma was confirmed. Lesions were excised with a wide margin of normal skin to prevent recurrence.

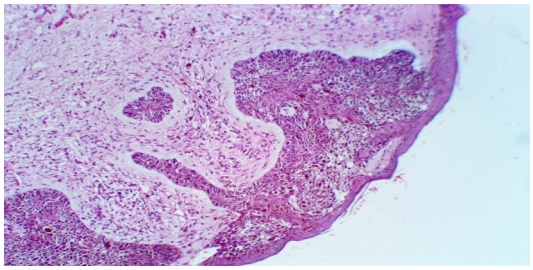

Fig 5. (a) H&E StainX 10

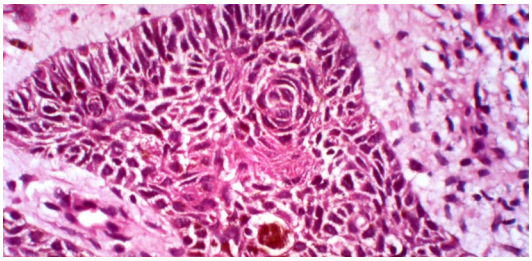

Fig 5. (b) H&E StainX 40

Fig 5. Cells with hyperchromatic nucleus, inconspicuous nucleoli and scanty amount of cytoplasm with many pigment laden macrophages.

Discussion

Jacob Arthur in Dublin in 1827 first coined the term "rodent ulcer" to describe basal cell carcinoma.[6] BCC is believed to arise from pluripotential cells with in the basal layer of the epidermis of follicular structures which is slow growing and locally invasive malignant neoplasm.[3,7] BCC comprises 65% of all malignant skin tumors.[8] and 80% of non -melanoma cancers. It occurs most frequently in the fourth decade of life or later but it has also been reported as occurring in younger persons. Male to female ratio is approximately 3:2.[7] Combination of environmental factors, phenotype and genetic predisposition as the main aetiological factors. Intermittent ultraviolet radiation exposure is an important risk factor for development of BCC.[9] Exposure to ionizing radiations, arsenic and coal tar derivatives are other risk factors. The subtypes of basal cell carcinoma are nodular, pigmented, cystic, superficial, micro-nodular, morpheaform and infiltrating basal cell carcinoma. Nodular, superficial spreading and infiltrating variants are commonly encountered types of BCCs.[6] Pigmented BCC is rare, which comprises only of 6% of total BCC cases.[2] Nodular BCC is the most common variant, begins as a small, slightly elevated papule with central depression. The pigmentation can be found in different clinical versions of BCC including nodular, micronodular, multifocal and superficial. The pigmented type differs from the noduloulcerative type only by the presence of pigmentation, which varies from blue through tan, brown or black depending on the number of melanocytes and the amount of melanin present within the tumour. BCC may occur anywhere on the skin, but more than 80% are located on the sun-exposed skin of the face and neck, with less than 1% of the cases located on unexposed areas.[10] The HMB-45 and S-100 are currently the two most useful immunomarkers to identify melanocytes and melanomas. Differential diagnosis for pigmented BCC include pigmented naevi, melanoma, pigmented seborrheic keratosis and pigmented

Bowen's disease.[11] According to study done by Ro KW et al, pigmented BCCs show lesser subclinical infiltration than non-pigmented BCCs.[12]

Histology shows nests of basaloid cells, abundance of melanin and melanophages, and moderate inflammatory infiltrate. The melanocytes are located among tumor nests, while the melanophages are present in the stroma.[13] Increased awareness is required in Indian population particularly with more outdoor activities. Any pigmented lesion need to be observed for increase in size. Dermoscopy is a non-invasive tool for the early recognition of pigmented lesions of the skin.[14] A simple surface microscopy method developed by Menzies et al, was found to have a sensitivity of 97% for pigmented BCC, 93% for melanoma, and 92% for benign pigmented lesions. It must not have the negative feature of a pigment network and must have 1 or more of the following 6 positive features: large blue-gray ovoid nests, multiple gray-blue globules, maple leaf–like areas, spoke-wheel areas, ulceration, and arborizing treelike telangiectasia.[15]

Our patient presented with pigmented variant of BCC with no other positive history. Cases of pigmented BCC are reported from India in males.[16,17] Dermatoscopic findings also showed specific changes. Excision is the treatment of choice for most primary BCCs. Mohs micrographic surgery (MMS) is recommended for larger BCCs of the face and those with more aggressive growth patterns. Intralesional injection of interferon alpha (IFN alpha) has also been shown to provide a safe and effective treatment alternative.[18] Various other modalities which have been tried to manage BCCs include curettage and electrodessication, radiotherapy, cryosurgery, LASER surgery, photodynamic therapy and chemoprevention with retinoids and cyclooxygenase-2 inhibitors. Topical modalities like imiquimod and 5-flourouracil have been used in low risk superficial BCCs.[19] Along with these, preventive measures like avoidance of sun exposure, use of sunscreens and protective clothing should be advised to the patient.

Conclusion

BCC is the most common malignant non-melanoma skin cancer in the world. Pigmented BCC is rare, but it is becoming increasingly common in Asian population. due to exposure to UV radiation . Patients should be educated and reinforced about this malignancy. With increased patient awareness and newer treatment modalities, survival of patients can be increased.

References

1. Urbach F. Incidence of non melanoma skin cancer. Dermatol Clin 1991;9:751-55.
2. Dourmishev A, Popova L, Dourmishev L. Basal-cell carcinoma and squamous cell carcinomas: Epidemiology, location and radiotherapy.Skin Cancer 1996;11:195-200.
3. Telfer NR, Colver GB, Bowers PW. Guidelines for the management of basal cell carcinoma. Br J Dermatol. 1999;141(3):415-23.
4. Dourmishev LA, Rusinova D, Botev I. Clinical variants, stages, and management of basal cell carcinoma. Indian Dermatol Online J 2013;4:12-17
5. White EA, Rabinovitz HS, Greene SR, Oliviero M, Kopf A. Pigmented Basal Cell Carcinoma Simulating Melanoma in a Burn Scar .Cutis 404-06
6. Janjua OS, Qureshi SM. Basal cell carcinoma of the head and neck region: An analysis of 171 cases. J of Skin Cancer 2012;2012:943472
7. Zabbia G, Gulotta E, Clemente D, Napoli P, Tripoli M, Corradino B, et al. Basal Cell Carcinoma Arisen on Rhinophyma: Report of Four Cases. Journal of Case Reports 2013;3(2):299-303
8. Markey AC, Lane EB, Macdonald DM, Leigh IM. Keratin expression in basal cell carcinoma. Br. J Dermatol 1992; 126 (2): 154-60.
9. Nouri K, Ballard CJ, Patel AR, Brasie RA. Basal Cell Carcinoma. In: Nouri K,editor. Skin cancer. New York: Mc Graw Hill. 2007; 61-85.
10. Misago N, Suzuki Y, Miura Y, Narisawa Y. Giant polypoid basal cell carcinoma with features of fibroepithelioma of Pinkus and extensive cornification. Eur J Dermatol 2004
11. Nouri K, Ballard CJ, Patel AR, Brasie RA. Basal Cell Carcinoma. In: Nouri K, editor. Skin cancer. New York: Mc Graw Hill. 2007; 61-85.
12. Ro KW, Seo HS, Son WS, Kim HI. Subclinical Infiltration of Basal Cell Carcinoma in AsianPatients: Assessment after Mohs Micrographic Surgery. Ann Dermatol. 2011;23(3):276-81. 14: 272-5.
13. Dourmishev LA, Rusinova D, Botev I. Clinical variants, stages, and management of basal cell carcinoma. Indian Dermatol Online J 2013;4:12-17
14. Argenziano G, Soyer HP, Chimenti S. Dermosco-

py of pigmented skin lesions: results of a consensus meeting via the internet. Journal of the American Academy of Dermatology 2003; 48 (5): 679–93.

15. Menzies SW, Westerhoff K, Rabinovitz H, et al. Surface microscopy of pigmented basal cell carcinoma. Archm Dermatol. 2000;136:1012-16

16. Mandakini T, Shagufta R, Guruprasad Y, Ravindra C, Pattankar LV. Giant Pigmented Basal Cell Carcinoma: A Case Report 2014 .

17. Deepadarshan, Mallikarjun, Noshin N. Abdu J Pigmented Basal Cell Carcinoma: A Clinical Variant, Report of Two Cases ournal of Clinical and Diagnostic Research 2013; 7(12): 3010-11

18. Thissen MR, Neumann MH, Schouten LJ.Systemic review of treatment modalities for primary basal cellcarcinomas. Arch dermatol1999;135:1777-83.

19. Bsoul SA, Terezhai GT, Moore WS. Basal cell carcinoma. Quintessence Int 2004;3:251-52