



PIGMENTED BASAL CELL CARCINOMA - A RARE CASE REPORT

Pathology

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ABSTRACT

Basal cell carcinoma is the most common type of skin cancer but its pigmented variety is only about 6% of all Basal Cell Carcinomas (BCC). Pigmented BCC has similar clinical features to malignant melanoma. Histopathology and immuno-histochemistry are important for differentiation. We present a case report of a middle aged, dark skinned rickshaw-puller with prolonged exposure to sun who presented with an ulcero-proliferative growth below the right eye with brown-black asymmetric, elevated, rolled-out borders measuring more than 1.5 cm in dimension. Histopathological examination and negative HMB-45, S-100 immuno- histochemistry established the final diagnosis of pigmented basal cell carcinoma.

KEYWORDS

Pigmented Basal cell carcinoma, BCC, UV rays, HMB-45, S-100 immuno- histochemistry

INTRODUCTION

Basal Cell Carcinoma or Basal Cell Epithelioma is the most common type of skin cancer constituting about 70% of keratinocyte tumors.^[1] Jacob Arthur in 1827 first gave the term "rodent ulcer" because of its burrowing nature and its ability to erode the surrounding tissue.^[2,3] The incidence of BCC is about 2000 cases per 100,000 population. It comprises of 80% non-melanoma cancers and is more common in whites. It presents as a slow growing, locally invasive tumour. Pigmented BCC is a rare clinical and histological variant of BCC that shows increased pigmentation. Frequency of pigmented BCC varies from 6.7% to 8.5% of total BCC cases in different racial population.^[6] Metastasis is found in only 0.5% of the cases.^[1] Chronic exposure of short wavelength ultraviolet (UV) radiation (290–320 nm) is considered to be the most important and common cause of BCC.^[4] Other risk factors are x-ray exposure, immunosuppression and chemicals like arsenic^[4]. Very few cases of pigmented BCC has been described in literature. In this variant melanin producing melanocytes colonize the tumor.^[1] Maloney et al^[5] conducted a study of 1039 consecutive cases of BCCs and found 70 (6.7%) contained pigment. We report a rare case of pigmented basal cell carcinoma in a 49 year old male rickshaw puller.

CASE REPORT

A 49 year old male rickshaw-puller came to the surgery outpatient with the chief complaints of brown-black growth with discontinuity of the skin below the right eye since 10-12 years. He had a history of prolonged exposure to sun due to his occupation. Patient noticed a small black growth below the right eye about 10 years back which gradually increased in size and after 4-5 years, became ulcerated. The lesion was painless but bleeding occurred in the ulcerated part of the lesion. Patient was of average built and dark complexion. Clinical examination revealed an ulcero proliferative growth below the right eye measuring 4.5 cm x 3.5 cm in dimension. It extended from below the medial canthus of the right eye to the level of ala of nose and laterally. The growth was brownish-black, irregular and asymmetric with rolled-out borders (Figure 1). It was non-tender but bleeding was noted in the ulcerated part. Lymph-nodes were non-palpable. Intra-oral examination was insignificant.

Incisional biopsy was done and two soft tissue specimen, larger one measuring 1 x 1 x 0.7 cm in dimension, greyish in colour and soft in consistency was sent for histopathologic investigation. The H & E stained section of the specimen showed hyperkeratotic stratified squamous epithelium.(Figure 2) Underlying dermis revealed epithelial islands and nodules of basaloid cells with hyperchromatic nuclei, scanty cytoplasm, and few mitotic figures. The peripheral cells of these islands showed palisading appearance with many foci showing retraction artifact in the form of clefted spaces [Figure 3]. Melanin pigmentation was seen in overlying epithelium and within the islands. Numerous pigment-laden melanophages were noted within the stroma [Figure 4].

Tissue embedded paraffin block was sent for immune-histochemistry for HMB-45 and S-100. Immunohistochemistry report revealed negative HMB-45 and S-100 in neoplastic cells ruling out the possibility of malignant melanoma. Based on the clinical, histopathological and immunohistochemistry findings, a final diagnosis of Pigmented Basal Cell Carcinoma was made. Other differential diagnosis include pigmented naevi, pigmented seborrheic keratosis and pigmented Bowen's disease^[7].



Figure 1: Site of Lesion

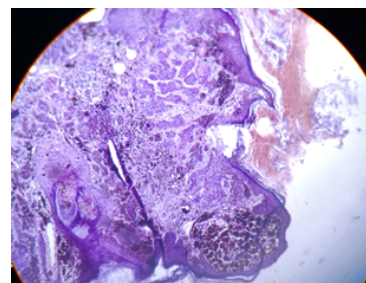


Figure 2: H & E stained section of the specimen (10X)

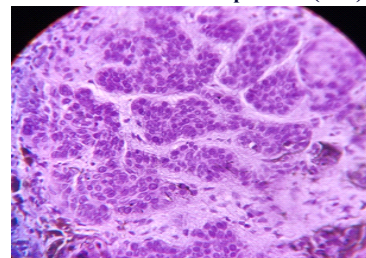


Figure 3: H & E stained section of the specimen (40X)

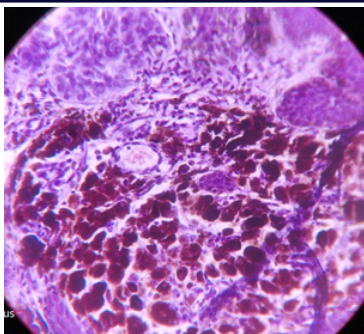


Figure 4: H & E stained section of the specimen showing pigment-laden melanophages (40X)

DISCUSSION

Basal cell carcinoma (BCC) is a common malignant neoplasm of skin, derived from non keratinizing cells that originate from the basal layer of rete Malpighii of epidermis.^[2] Clinical presentations of basal cell carcinoma include nodular basal cell carcinoma, superficial basal cell carcinoma, morpheaform basal cell carcinoma, red dot basal cell carcinoma, and pigmented basal cell carcinoma.^[8-10] Pigmented basal cell carcinoma is an uncommon morphological and histological variant^[11] characterized by brown or black pigmentation, comprising only about 6% of total BCCs.^[2] 90% of this tumor is found in the upper part of the face above the line drawn from the angle of mouth to the lobule of the ear, the commonest site being inner and outer canthus of the eye.^[3] BCC starts as a small brownish-red nodule which later becomes ulcerated with well defined hard and raised edge with a beaded appearance. Dissemination by lymphatic or blood vessels does not occur, so the regional lymph nodes are not enlarged and there is no metastasis to the distant organs.^[3] Pigmented BCC can be confused and misdiagnosed as malignant melanoma because of hyperpigmentation.^[7] However, pigmented BCC is marked by its firm consistency, translucence, and occasional surface ulceration. Histopathologic examination and negative HMB-45, S-100 immunohistochemistry, which is positive in malignant melanoma helps in better differentiation between the two.

Ultraviolet rays induces mutations in certain genes within the cells, such as p53 and the patched (PTCH1) gene, causes alteration in base substitution at dipyrimidine sites and induces inflammation via cyclooxygenase-2 pathway

CONCLUSION

Pigmented basal cell carcinoma occurs more commonly in patients with dark skin colour and may clinically resemble melanoma. Thus, the differential diagnosis of a black nodule or ulcerated black plaque should include melanoma as well as pigmented basal cell carcinoma. Biopsy of the tumor along with immunohistochemistry will establish the diagnosis.

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