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Case Report
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Pigmented Basal Cell Carcinoma

Ravi Prakash SM, Vijay Wadhawan, Akanksha Gupta and Sumit Goel*

Department of Oral Medicine and Radiology, Subharti Dental College, India

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. Pigmented basal cell carcinoma and malignant melanoma, both are associated with UV radiation and have similar clinical features, so histopathology and immunohistochemistry are the important tools to establish a correct diagnosis. This is a case report of a middle aged, dark skinned rikshaw-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. Radiographs did not reveal any bony changes. On basis of the clinical findings, a clinical provisional diagnosis of malignant melanoma was made but histopathology and negative HMB-45 immunohistochemistry gave the final diagnosis of pigmented basal cell carcinoma.

Keywords: Pigmented; Basal cell carcinoma; UV rays

Introduction

Pigmented basal cell carcinoma is only about 6% of all Basal Cell Carcinomas [1] and this report describes this rare variant clinically resembling malignant melanoma. Basal cell carcinoma (BCC) or basal cell epithelioma is the most common type of skin cancer constituting about 70% of keratinocyte tumors [2]. Jacob Arthur in Dublin in 1827 first gave the term "rodent ulcer" because of its burrowing nature and its ability to erode the tissues which come in contact with it [1,3]. The incidence of BCC is about 2000 cases per 100,000 population. High morbidity is seen in patients who are over 50 years of age [2]. In this slow progressing tumour, metastases is found in only 0.5% of the cases [2]. Ultraviolet radiation is considered to be the most important and common cause of BCC. Sunburn rays i.e. shorter wavelength ultraviolet (UV) radiation (290–320 nm) plays a greater role than the tanning rays i.e longer wavelength ultraviolet A (UVA) radiation (320–400 nm). So, chronic sun exposure is important in the development of BCC [4]. There can be a long latency period of 20 to 50 years between the time of UV damage and clinical onset of BCC. Development of BCC is also associated with x-ray exposure and chemicals like arsenic. Immunosuppression may also play a role in its development [4]. Pigmented BCC is rare and very few cases are described in the literature. Maloney et al conducted a study and found that in a series of 1039 consecutive BCCs, 70 (6.7%) contained pigment [5]. In this variant melanocytes produce melanin that colonize the tumor [1]. This paper presents an unusual case of pigmented basal cell carcinoma in a 55 year old male rickshaw puller.

Case Presentation

A 55 year old male patient, rikshaw-puller by profession with prolonged exposure to sun came to the department of Oral Medicine and Radiology, Subharti Dental College with the chief complaint of brown-black growth with discontinuity of the skin below the right eye since 40 years. Patient reported that he noticed a small black growth below the right eye 40 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 also suffering from hearing loss and poor eye-sight. He had an ectomorphic built and dark complexion. Extra-oral examination revealed an ulcero-proliferative growth below the right eye measuring 4.5 cm x 3.5 cm in dimension (Figure 1). It extended from the medial canthus of the right eye to the level of ala of nose superio-inferiorly and from medial to lateral canthus of the right eye antero-posteriorly (Figure 1). The growth was black, irregular and asymmetric with rolled-out borders (Figure 1). It was non-tender but bleeding was associated with ulceration (Figure 1). Lymph-nodes were non-palpable. Intra-oral examination did not reveal anything significant. On basis of the clinical findings, a clinical provisional diagnosis of malignant melanoma was made.

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Correspondence:
Ravi Prakash SM, Department of Oral Medicine and Radiology, Subharti Dental College, Meerut, Uttar Pradesh, India, Tel: 08449401654; E-mail: sasan_ravi@rediffmail.com

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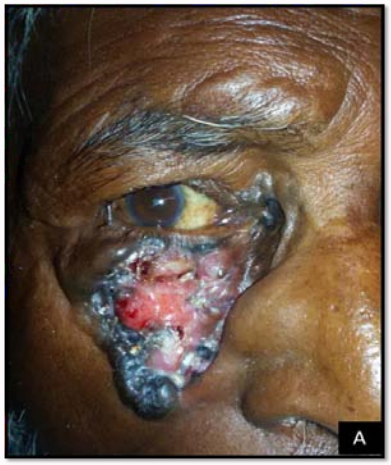

Figure 1: Ulcero-proliferative growth below the right eye, having brown-black irregular, asymmetric, rolled-out borders, extending from the medial canthus of the right eye to the level of ala of nose superio-inferiorly and from medial to lateral canthus of the right eye antero-posteriorly.

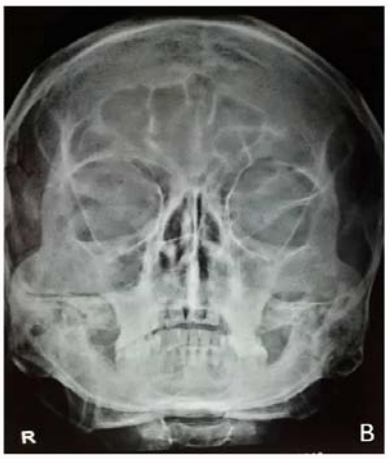

Figure 2: Digital PNS shows absence of bone erosion. Radiopacity in left maxillary sinus is suggestive of maxillary sinusitis but is not related with the lesion.

The patient was subjected to radiographic investigations. Digital PNS (Figure 2) and CBCT (Figure 3) revealed that there was no bony involvement. Hazy radiopacity involving the left maxillary sinus, suggestive of maxillary sinusitis, was an incidental finding and was unrelated to the lesion. Incisional biopsy was done and 2 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 orthokeratinized stratified squamous epithelium with an underlying connective tissue stroma. Stroma showed sheets and intertwining strands of basaloid cells forming duct and gland-like pattern giving an adenoid-basal appearance with entrapment of fibro-cellular stroma at areas. Melanin pigmentation was present at numerous areas (Figure 4). Tissue embedded paraffin block was sent for immunohistochemistry HMB-45. Immunohistochemistry report revealed negative HMB-45 in neoplastic cells (Figure 5), ruling out the possibility of malignant melanoma. Based on the clinical and radiographic findings, histopathology and immunohistochemistry report, a final diagnosis of Pigmented Basal Cell Carcinoma was made. Patient was referred to the department of oral surgery for

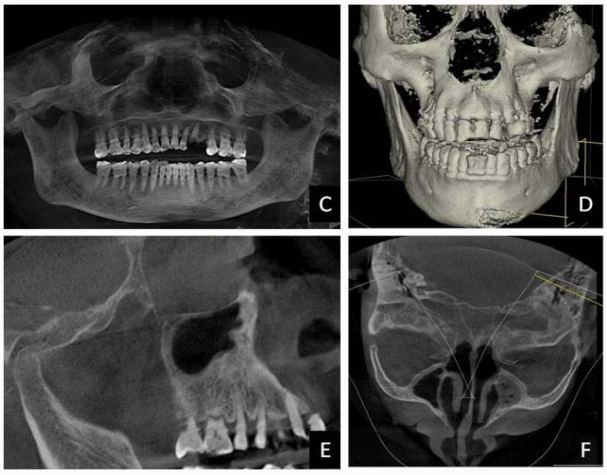

Figure 3: Panorama, 3-D, tangential and axial sections of Cone beam computed tomography reveals absence of bony changes in the region of interest and only radiopacity in the left maxillary sinus can be appreciated as an incidental finding.

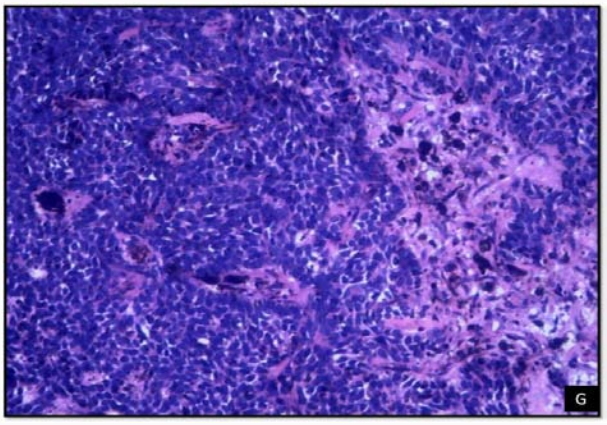

Figure 4: H & E, 10x, showing features of basal cell carcinoma with melanin pigmentation at numerous areas.

surgical excision of the lesion.

Discussion

Basal Cell Carcinoma originates from the basal layer of the rete Malpighii of the skin [3]. The exposed skin is commonly affected and exposure to sunlight or ultra-violet irradiation seems to be the predisposing factor [3]. Our patient was a rikshaw-puller since past 45 years and had prolonged exposure to sunlight. Middle aged or old people with fair skin are usually the victims but pigmented variety usually occurs in dark skinned individuals [1,3]. Our patient was middle-aged and had a dark complexion. 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]. Lesion of our patient extended from the medial canthus of the right eye to the level of ala of nose superio-inferiorly and from medial to lateral canthus of the right eye antero-posteriorly. BCC starts as a small brownish-red nodule which later becomes ulcerated with well defined hard and raised edge with a beaded appearance [3] as was seen in our case. 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]. Lymph nodes were non-palpable in our patient. Although the clinical

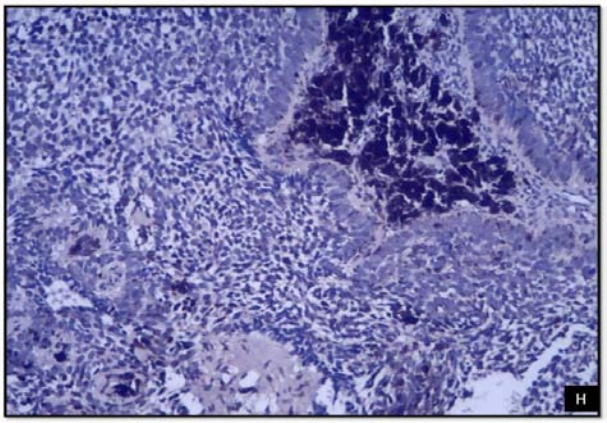

Figure 5: HMB45 10x, immunohistochemistry gave a negative result suggesting basal cell carcinoma.

features of our patient supported the diagnosis of pigmented BCC but there were many factors that prompted us to give a provisional clinical diagnosis of malignant melanoma. Malignant melanoma is also associated with sun exposure as melanocytes are stimulated by UV light [3]. Moreover, patient gave the history of a small black growth which later grew to its present size and 90% of malignant melanoma occur in a pre-existing benign mole [3]. The main symptom is cosmetic disfigurement caused by the enlarging lesion which brings the patient to the doctor. When the tumor is bigger the overlying epithelium may die of necrosis resulting in ulcer formation which is often covered with a crust [3]. The main concern of the patient was cosmetic disfigurement caused by the enlarging lesion which brought the patient to us because there was no associated pain or discomfort with the lesion. Patient used to apply topical antiseptic on the lesion to prevent infection but was unaware of the gravity of his condition. A lesion having brown-black variegated colour, asymmetric, elevated borders and a dimension of more than 1.5 cm on the face pointed towards the diagnosis of malignant melanoma [6]. Histopathologic examination and negative HMB-45 immunohistochemistry, which is positive in malignant melanoma but negative in basal cell carcinoma, helped us to reach to the final diagnosis of pigmented basal cell carcinoma.

Conclusion

Basal cell carcinoma is the most common type of skin cancer and Pigmented basal cell carcinoma is only about 6% of all Basal Cell Carcinomas. Middle aged or old people with fair skin are usually the victims but pigmented variety usually occurs in dark skinned individuals. 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. BCC starts as a small brownish-red nodule which later becomes ulcerated with well defined hard and raised, rolled-out edge with a beaded appearance. Pigmented basal cell carcinoma and malignant melanoma, both are associated with UV radiation and have similar clinical features, so histopathology and immunohistochemistry are the important tools for the correct diagnosis.

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