

Pigmented Squamous Cell Carcinoma of Skin: A Case Report

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Citation: Dehghani F, Binesh F. Pigmented Squamous Cell Carcinoma of Skin: A Case Report. J Rare Dis Diagn Ther. 2015, 1:2.

Abstract

Pigmented SCC is an uncommon variant of squamous cell carcinoma of the skin, with an incidence rate of 0.01 to 7% of all squamous cell carcinomas. Here we report a case of pigmented SCC of left cheek in a 90 year old Iranian man. Clinically it was presented as a dome shaped 1 × 1.2 cm blue black nodule with well-defined margin on his left cheek since 2 months ago. Microscopic examination revealed squamous cell carcinoma but melanin pigments were detected in the cytoplasm of some tumor cells that was compatible with the diagnosis of pigmented SCC. The patient underwent complete excision of lesion. The authors believe this the first case of pigmented squamous cell carcinoma of skin in an Iranian patient.

Keywords: Pigmented; Squamous cell carcinoma; Skin

Received: May 27, 2015; **Accepted:** September 03, 2015; **Published:** September 07, 2015

Introduction

Nonmelanoma skin cancer (NMSC) is the most common form of cancer seen in Caucasians [1]. Basal cell carcinoma (BCC) is a slow growing tumor accounting for 75 % of cases and cutaneous squamous cell carcinoma (SCC) accounts for approximately 20% of all skin malignancies [2]. In contrast to BCC, SCC can metastasize to regional lymph nodes or distant organs and it can cause extensive local tissue destruction without adequate treatment [3].

Pigmented SCC is a rare variant of cutaneous SCC with an incidence rate of 0.01 % to 7% of all squamous cell carcinomas [4,5]. It often presents clinically as pigmented papule or plaque on the head and neck of elderly people. Pigmented SCC can be confused with benign and malignant melanocytic neoplasms, pigmented basal cell carcinoma, actinic keratosis, seborrheic keratosis and pigmented bowen's disease [4,5].

Pigmented BCC can be distinguished by the presence of peripherally palisading basaloid cells and rarity of keratinization. Malignant melanoma with pseudoepitheliomatous hyperplasia has bland keratinocytes with malignant melanocytes, which is in contrast with the atypical squamous cells with benign appearing melanocytes in pigmented squamous cell carcinoma.

Histopathologically pigmented SCC, composed of a proliferation of atypical keratinocytes, invade into the superficial dermis. The presence of melanin within the cytoplasm of epithelial tumor cells and dendritic melanocytes is a peculiar finding [6].

According to our literature search there are only a few cases of

pigmented SCC that have been reported. The purpose of this presentation is to describe a case of pigmented SCC having occurred in a 90 year old Iranian man who presented a blue black nodule on his left cheek.

Case report

A 90 year old man was referred to our clinic with a 2 months history of a gradually enlarging lesion of his left cheek. He was a farmer and had a long history of occupational sun exposure. Physical examination revealed a dome shaped 1 × 1.2 cm blue black nodule with well defined margin on his left cheek [figure.1]. The patient underwent an incisional biopsy under the clinical diagnosis of pigmented BCC or nodular melanoma.

Histopathological study of biopsy specimen showed skin tissue with an irregular proliferation of large atypical keratinocytes arising from the epidermis and extending into the dermis. Tumor cells were polyhedral and large with ample eosinophilic cytoplasm. The nuclei were pleomorphic, and atypical mitoses were present. In addition, black pigment was visible in the cytoplasm of some of tumor cells [figures 2,3]. The histological pattern was consistent with a pigmented squamous cell carcinoma. Surgical treatment was considered and the tumor was completely resected.



Figure 1 Dome shaped blue black nodule on left cheek.

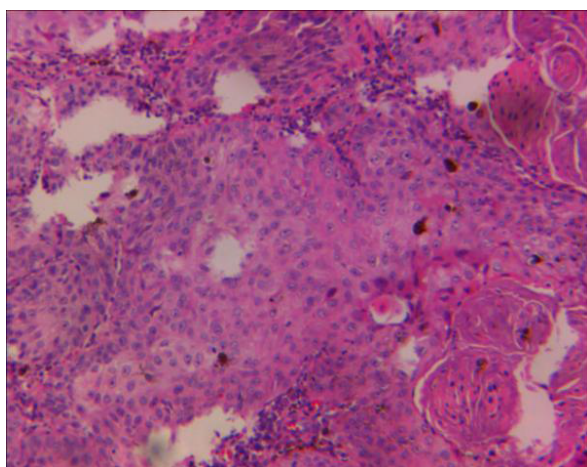


Figure 2 Shows tumoral tissue composed of polyhedral cells with ample eosinophilic cytoplasm. The nuclei are pleomorphic. In addition, black pigment is seen in the cytoplasm of some of tumor cells (H&E stain ×10).

Discussion

Cutaneous squamous cell carcinoma is a malignant tumor of epidermal keratinocytes or adnexal structures and its incidence continues to increase in recent decades [7,8]. There are a great number of histologic variants of squamous cell carcinoma including clear cell, spindle cell, signet ring type, adenoid, desmoplastic, verrucous, papillary, acantholytic and keratoacanthoma. In a small number of cases of squamous cell carcinoma a population of enlarged melanocytes intermingled with squamous cells which called pigmented SCC [9]. Although pigmented SCC have been

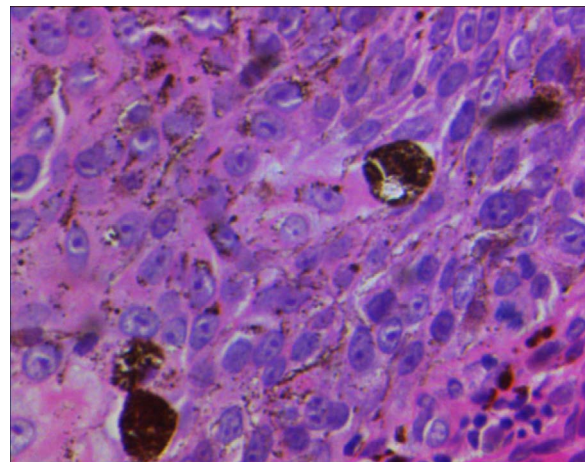


Figure 3 Reveals atypical keratinocytes with black pigment in their cytoplasm (H&E stain × 40)

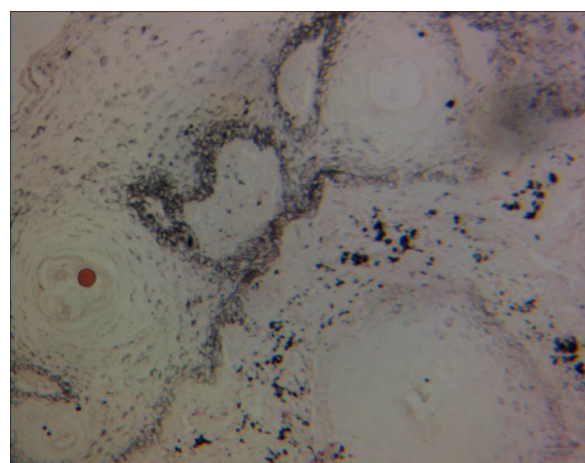


Figure 4 Melanin stain microphotograph (Fontana-Masson ×10).

reported in the oral and ocular mucosa, they are relatively rare in the skin [10]. We made use of PubMed search engine in order to find relevant articles. On the basis of English literature there have been a few reports of pigmented SCC previously and until 2011, 19 cases of pigmented squamous cell carcinoma have been described [9].

Most of the cases of cutaneous pigmented SCC have been located in head and neck region which can be attributed to chronic UV exposure. Rosendahl C et al, Terada T et al and Satter K et al reported the cases with pigmented SCC of cheek in elderly people [5,11,12]. The case we report like above cases is an old man with a deeply pigmented raised nodule on his cheek. Our patient has a history of frequent sun exposure because of his job.

However in some cases pigmented SCC of sun protected skin is described. In 2015, Dimitra K and his colleagues reported a 70 year old man with an ulcerated black nodule on his lower back. They considered the differential diagnosis of nodular melanoma, pigmented BCC and pigmented actinic keratosis. Microscopically the lesion consisted of atypical keratinocytes and a few dendritic melanocytes that were colonized within the SCC nests. The

authors believe that stimulation of melanocytes by several cytokines and growth factors produced from tumor cells is required for colonizing of melanocytes [6,9]. Furthermore, in a previous report of pigmented SCC by Satomura et al, prominent expression of stem cell factor and endothelin-1 in the neoplastic squamous cells showed that these factors had an important role in the activation of melanocytes [13].

However the precise mechanism of melanocytes' stimulation and colonization is still unknown and more investigations are required

to determine the pathophysiology of pigmented squamous cell carcinoma.

In conclusion we described a case of pigmented squamous cell carcinoma of skin presenting clinically as a black indurated nodule of cheek in an old man. As we know there has been only one report of pigmented SCC in situ (Bowen's disease) from Iran[14]. We report the first case of pigmented SCC of skin in an Iranian patient .

Pigmented SCC is rare variant of squamous cell carcinoma and should be considered in the differential diagnosis of pigmented skin lesions.

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