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Pathology

Pigmented Squamous Cell Carcinoma of Skin: A Rare Entity

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Abstract **Case Report**

Squamous cell carcinoma, the second most common form of skin cancer, is caused by the cumulative exposure of skin to UV light. It originates from epidermal keratinocytes or adnexal structures (such as eccrine glands or pilosebaceous units). Squamous cell carcinoma (SCC) has several histologic variants, such as clear cell SCC, signet ring SCC, basaloid SCC, desmoplastic SCC, verrucous and pigmented SCC, among others. Although dendritic melanin containing melanocytes can be seen in a variety of epithelial neoplasms, but only 0.01% to 7% of all squamous cell carcinomas (SCC) are pigmented. Most of which have occurred in the oral and ocular mucosa, with relatively few cases to originate in the skin. The main clinical differential diagnosis for pigmented squamous cell carcinoma are pigmented basal cell carcinoma and melanoma. Herein we report a case of 62 year old male who presented with a blue-black growth over the left inguinal region. Routine lab investigations showed no change and no lymphadenopathy was observed. Biopsy of the growth was received and histopathological evaluation revealed pigmented squamous cell carcinoma. Microscopic examination revealed squamous cell carcinoma with numerous dendritic melanophages showing pigmented melanin. Pigmented SCC can be confused with benign and malignant melanocytic neoplasms, pigmented basal cell carcinoma, actinic keratosis, seborrheic keratosis and pigmented bowen's disease. In conclusion, this case demonstrates that although pigmented squamous cell carcinomas are relatively rare, they should be included in differential diagnosis of pigmented cutaneous lesions and must be distinguished from other tumors with similar histological findings.

Keyword: Squamous cell carcinoma, Carcinoma, Skin, melanocyte.

INTRODUCTION

Squamous cell carcinoma, the second most common form of skin cancer, originates from epidermal keratinocytes or adnexal structures [1]. It has several histologic variants, such as clear cell SCC, signet ring SCC, basaloid SCC, desmoplastic SCC, verrucous and pigmented SCC, among others [2]. Although dendritic melanophages and melanocytes containing melanin can be seen in a variety of epithelial neoplasms, but only 0.01% to 7% of all squamous cell carcinomas (SCC) are pigmented. Most of which have occurred in the oral and ocular mucosa, with relatively few cases to originate in the skin [3]. Pigmented squamous cell carcinoma (PSCC) of skin often presents clinically as pigmented papule or plaque in elderly people. The main clinical differential diagnosis for pigmented squamous cell carcinoma are pigmented basal cell carcinoma and melanoma. The purpose of this case is to describe pigmented squamous cell carcinoma in a 62 year old male who presented with a blue black growth over sun protected skin.

CASE REPORT

A 62 year old man presented with 3 months history of gradually enlarging growth over left inguinal region. Physical examination revealed 1 x 1.5 cm blue black nodule with well defined margin over the left inguinal region. Routine laboratory investigations were within normal limits and no lymphadenopathy was observed. His medical history was free of any cutaneous or other malignancies. Incisional biopsy from the growth was received.

Histopathological evaluation revealed tumor arranged in the form of nests, glands, islands, cords and sheets. Tumor cells show moderate to marked anaplasia, vesicular nuclei with prominent nucleoli and moderate to scant cytoplasm. Numerous keratin pearls were noted. Interspersed between tumor malignant cells were seen numerous dendritic melanophages showing melanin

pigment, which was also appreciated in some of the epithelial cells. Mitotic activity and mucinous secretions present at places. Surface ulceration and exudation also noted. Deep resection unit was free of tumor.

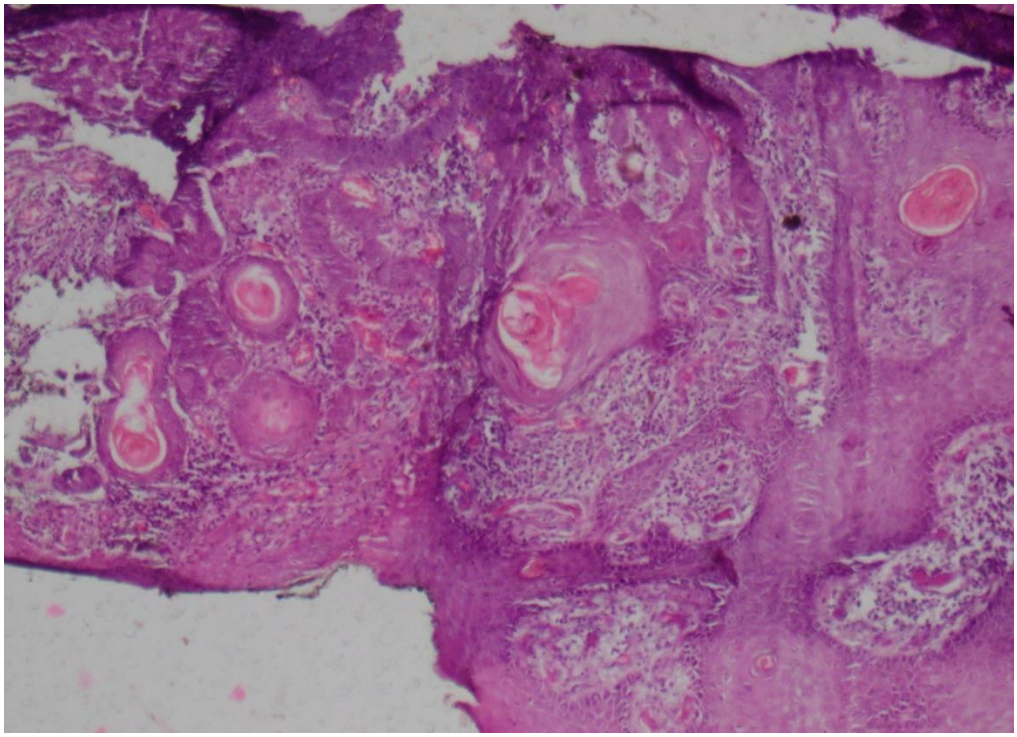

Figure 1: Microscopic features showing Keratin pearls (H&E: 100x)

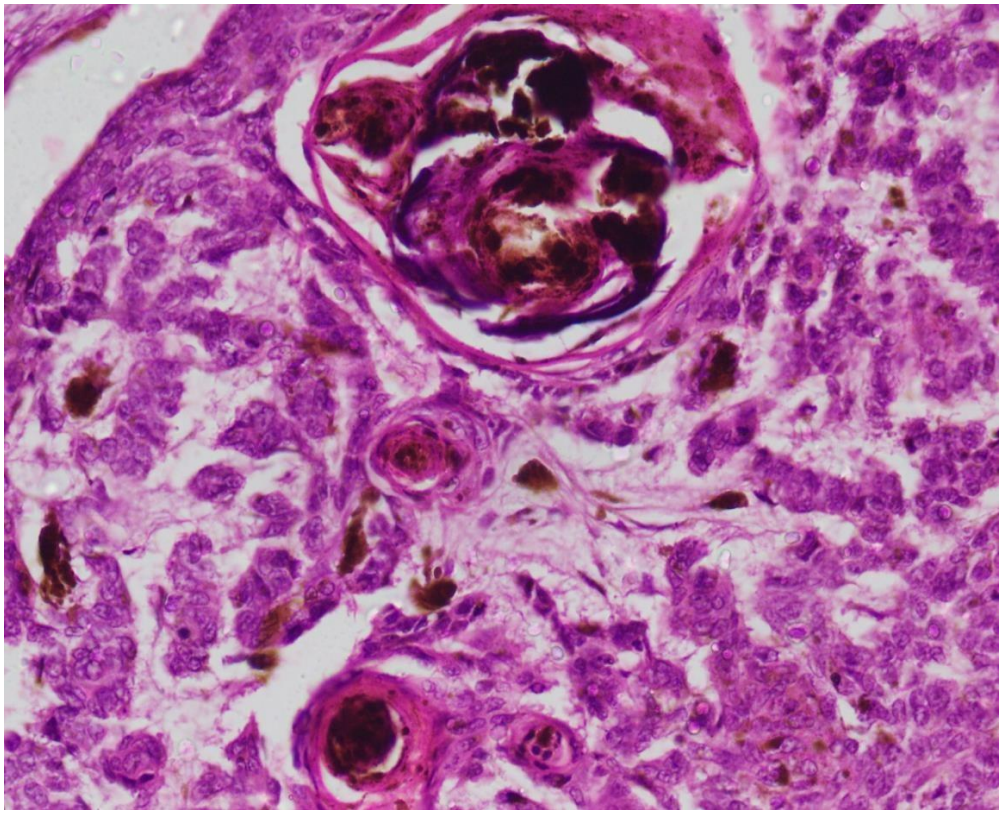

Figure 2: Microscopic features showing formation of keratin pearls admixed with pigmented melanophages (H&E 400x)

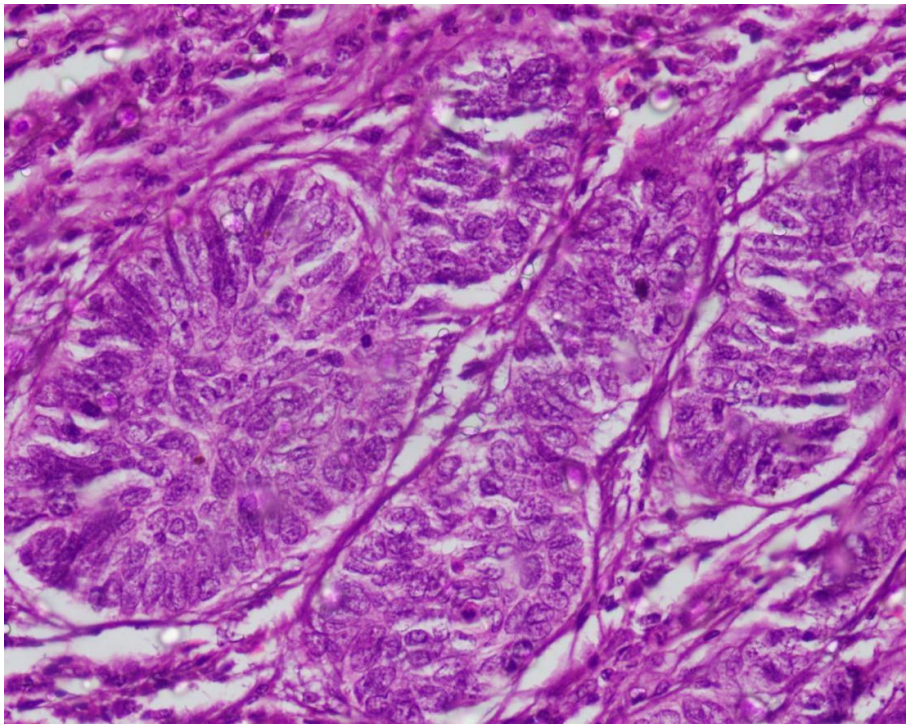

Figure 3: Tumor nests showing vesicular nuclei with prominent nucleoli (H&E 400x)

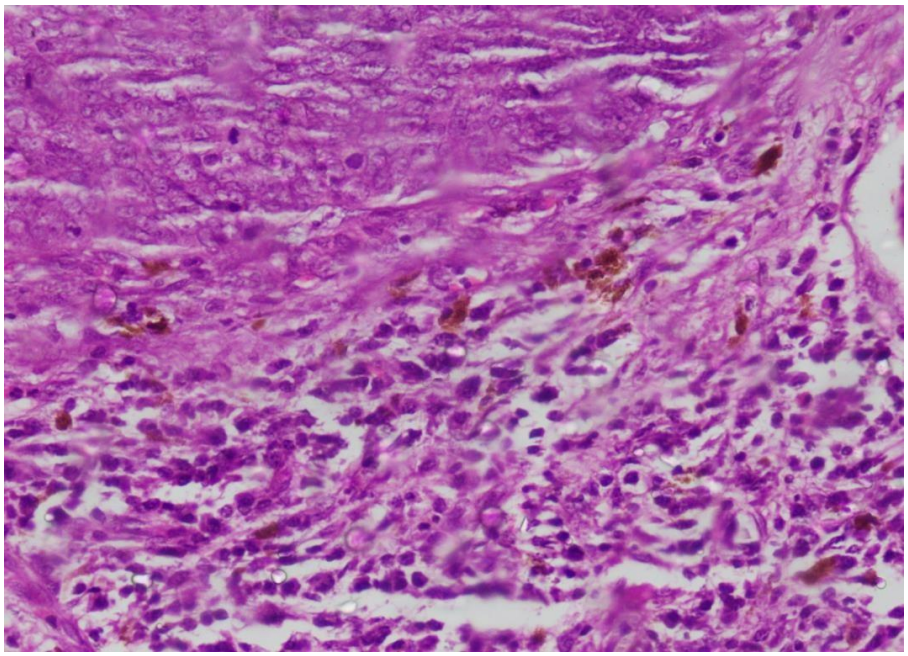

Figure 4: Microscopic features showing inflammatory response and atypical mitotic activity (H&E 400x)

DISCUSSION

Only 0.01% to 7% of all squamous cell carcinomas (SCC) are pigmented, with relatively few cases originating in the skin. Most of the cases of cutaneous pigmented SCC have been located in head and neck region which can be attributed to chronic UV exposure. However, we here reported a case of pigmented squamous cell carcinoma in the sun protected area. The histological differential diagnosis of pigmented squamous cell carcinoma include Pigmented keratinizing basal cell carcinoma, Malignant melanoma with pseudoepitheliomatous hyperplasia and Pigmented squamous cell carcinoma in-situ (Pigmented bowen disease) [4, 5].

Differential Diagnosis

- Pigmented Basal Cell Carcinoma- The tumor exhibits peripheral palisading of basaloid cells with stromal retraction clefts and accumulation of mucin.
- Malignant Melanoma with pseudoepitheliomatous hyperplasia- Epidermal and dermal nests of melanoma cells or atypical epithelioid

melanocytes in pagetoid spread seen

CONCLUSION

In conclusion, this case demonstrates that although pigmented squamous cell carcinomas are relatively rare, they should be included in differential diagnosis of pigmented cutaneous lesions and must be distinguished from other tumors with similar histological findings.

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