

Case Report

Pigmented basal cell carcinoma: a rare variant at a rare site

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ABSTRACT

Basal cell carcinoma (BCC), is a most common malignancy reported in the western world. It arises most often in sun-exposed areas (80-85%) especially head and neck consistent with the etiologic role of solar radiation. However, there are atypical localizations such as abdomen, perianal region, groin that require a higher index of suspicion to arrive at the correct diagnosis. Exposure to sunlight is thought to be most responsible etiological factor of BCC, although trauma and scar tissue have also been implicated as possible etiological causes. It has a cure rate of 100% with early diagnosis and surgical excision. Pigmented BCC is a rare clinical and histological variant of BCC that exhibits increase pigmentation. We present a case of rare variant of basal cell carcinoma of abdominal location over a prior surgical scar.

Keywords: Basal cell carcinoma, Surgical scar, Hyper pigmented tumour, Melanocytes

INTRODUCTION

Basal cell carcinoma (BCC) is the most common cutaneous malignancy, representing around 65% of the epithelial tumors.¹ It is more prevalent after the fourth decade of life, and its peak incidence is at the sixth decade of life in both sexes. It presents local invasion, has low metastasizing potential and a cure rate of 100% after surgical excision. BCC generally occurs in adults, predominantly on the head and neck, followed by the trunk. Rare sites include genitalia, perianal skin and extremities.²

The risk factors for BCC include phenotypic characteristics of the patients, such as light skin and eye color; environmental risks, especially ultraviolet B radiation; previous exposure to arsenic; radiotherapy and genetic syndromes, such as xeroderma pigmentosum and basal cell nevus syndrome.³

Pigmented BCC (PBCC) is a rare variant with few cases described in English literature.⁴ A correlation between skin trauma, scar and carcinogenesis have also been suggested as playing role in skin cancer pathogenesis. An association between BCC and scar tissue has been noted in several reports. The most common scar types associated with BCC are previous vaccinations and small pox scars while burn scars are also associated with fewer.⁵⁻¹² Only few cases arising from surgical scars have been reported in the literatures we reviewed.¹⁰⁻¹²

CASE REPORT

A 54 years old female, resident of Maharashtra, housewife by occupation, presented to our outpatient department with complaints of painless verrucous growth over the lower abdomen with no associated complaints which patient started noticing since 1 year, initially started as small raised pea sized lesion which gradually progressed over a period of 6 months to the present size.

There was a previous history of operation of tubal ligation done at the same site 30 years back. The outcome of operation was uneventful and the lesion had been present 29 years after that operation.

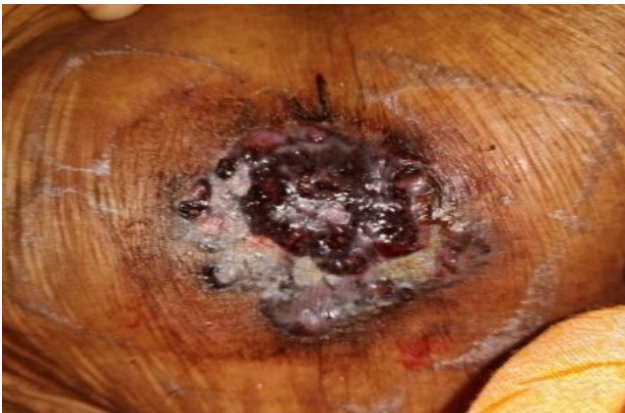


Figure 1: Well defined hyper pigmented ulcerated tumor of approximately 7×7 cm, with hyper pigmented raised beaded border, hemorrhagic crusting and minimal serosanguinous discharge.

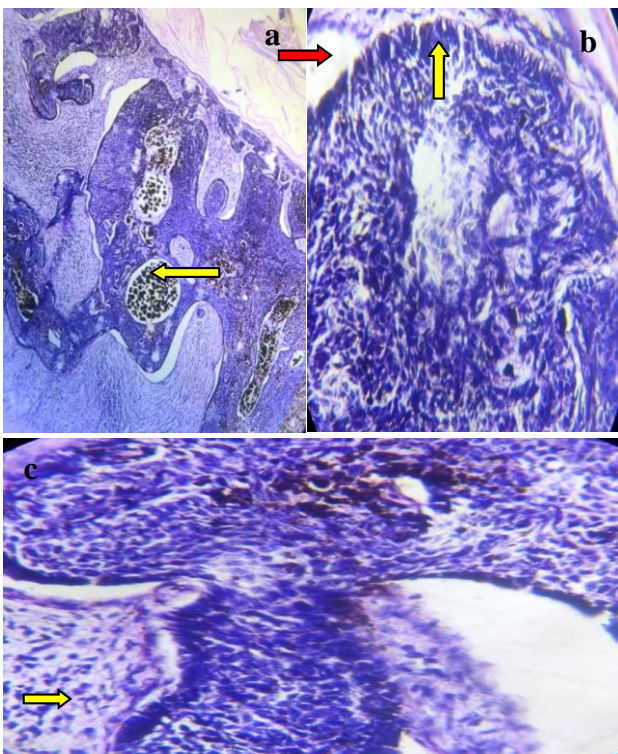


Figure 2: (a) 10X view: multiple islands of pigmented tumor cells (yellow arrow), (b) 40X view: tumor cells having basophilic nuclei with abundant melanin pigment (green arrow), peripheral palisading of cells (yellow arrow) and peripheral clefting (red arrow), and (c) 40X view: deeper tissue showing adnexal structure with fibro collagenous tissue and mild periadnexal and perivascular lymphoplasmacytic infiltrates (yellow arrow).

On physical examination she presented a well-defined hyper pigmented ulcerated tumor of approximately 7 by 7 cm, with hyper pigmented raised beaded border, hemorrhagic crusting over floor and non-tender non indurated base with minimal serosanguinous discharge, without any other alterations in the surrounding skin (Figure 1).

Provisional diagnosis of Bowens disease, secondary infected porokeratosis basal cell carcinoma and squamous cell carcinoma was made. A punch biopsy was performed in the vicinity of the border which showed tumor tissue arising from basal layer arranged in sheets, lobules and nest. Individual tumor cells had basophilic nuclei with abundant melanin pigment. Tumor cells were having peripheral clefting. Deeper tissue showed adnexal structure with fibro collagenous tissue and mild periadnexal and perivascular lymphoplasmacytic infiltrate (Figure 2). With these histopathological findings, we established a diagnosis of BCC arising on a surgical scar. Subsequently the patient was referred to plastic surgery for total excision of the lesion.

DISCUSSION

BCC is the most common skin cancer with a predilection for chronically sun-exposed areas, mainly the face and neck, and is most frequently seen in adults aged 40 years or older.

The existence of BCCs in non-sun-exposed areas is rare and suggests the existence new, currently unknown, etiologic factors. Approximately 80-85% of BCC documented in medical literature are located on the head or neck, 15% on the trunk and less than 2% in areas considered unusual such as abdomen, genitals, perianal skin, lateral edge of the foot, axilla, superior or inferior lip.¹³

Among all variant of BCC, pigmented BCC variety is about 6% and histo-pathologically it is similar to nodular BCC with increased melanisation.¹⁴

In a review of 2126 cases of BCC in 1979, Rabbari and Mehregan recorded the anatomical location of each lesion and reported that 82.92% were situated on the head or neck, 9.84% on the trunk, 6.76% on the limbs and 0.48% in the genitals or perianal region.¹⁵

In another review of 873 cases of BCC in Argentina in 2010, Abeldano et al, established the proportion of BCCs in different anatomical regions.¹⁶ The results showed that 65.4% occurred in the head or neck, of which 59.1% were located solely on the face. Less than 2% of lesions appeared in infrequent locations, such as abdomen, perianal region, groin, among others.

The main etiologic factor in the development of BCC is ultraviolet radiation, however, considering the occurrence of lesions in non-sun-exposed areas, the existence of

other contributing factors has been proposed. These include: immunosuppression, Fitzpatrick skin type (phototype) I-II-III, ionizing radiation, genodermatoses, nevus sebaceous and arsenic exposure.

Trauma and scar tissue have also been associated with the development of BCC, and the period between the onset of trauma and tumor formation can range from weeks to decades.¹⁷⁻¹⁹ The aetiology of the apparent association between trauma and BCC may be related to inflammation and growth factors involved in wound healing, a lack of immunological mechanisms in scars creating an environment interfering with the immune surveillance has been theorized, and it has been suggested that depressed cellular immunity could play a role in carcinoma development in scars.^{20,21} The malignancy resulting from scars are frequently squamous cell carcinoma, but BCC, carcinosarcoma, adenoacanthoma, and malignant melanoma and sarcoma developing on these unstable scars have been already reported.^{17,22,23}

Nodular basal cell carcinoma is the most common variety of basal cell carcinoma. It begins as a small, slightly elevated papule with central depression. Pigmented basal cell carcinoma in addition to features seen in lesions of nodular BCC, contains increased brown or black pigment. Our case too showed all the features of a BCC along with increased pigmentation. Cystic BCC lesions are translucent blue-grey cystic nodules that may mimic benign cystic lesions. Superficial BCC presents as scaly patches or papules that are pink to red-brown in color often with central clearing. Superficial BCC is often found on the trunk and extremities, although 40% still occurs on the head and neck.²⁴ Micro-nodular BCC appears as yellow-white when stretched, whereas morphea form and infiltrating basal cell carcinoma present as sclerotic plaques or papules. Ulceration, bleeding and crusting are uncommon. Both micro-nodular and morphea form subtypes are aggressive in nature.

The mainstay of treatment remains the wide local excision with at least 2 cm margins.²⁵⁻²⁸ Alternatively, Mohs micrographic surgery can be considered. Radiation therapy often follows excision as an adjuvant therapy, depending on the type of tumor.^{26,28} The prognosis of the cutaneous malignancies in this setting depends on several factors including location, type of malignancy, immune status, progression of disease, and lymph node metastasis. Our patient's presentation with a BCC should carry a good overall prognosis, though she will need to be closely followed for recurrence after wide local excision.

CONCLUSION

This novel presentation of rare variant of BCC i.e., pigmented BCC in a surgical scar at an unusual site may serve as a reminder to consider this diagnosis and biopsy in a non-healing ulcer within any type of chronic wound or scar.

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