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Case Report

Pigmented basal cell carcinoma over trunk: An unusual location

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Abstract Basal cell carcinoma, also known as "ulcus rodens", was first described by Jacob in 1827. It is the most frequent type of skin cancer, accounting for approximately 80% of all non-melanoma skin cancers. No precursor lesions have been described for BCC. In 80-85% of the cases, BCC commonly develops over head and neck. Rarely, basal cell carcinoma has been reported over unusual locations such as axilla, groins, umbilicus, trunk, palm and soles. Only ten percent of tumors are seen over trunk. We report a case of pigmented basal cell carcinoma in a 22-year-old female located on trunk, highlighting its dermoscopic, histopathological and immunohistochemistry findings.

Key words
Pigmented basal cell carcinoma, dermoscopy, truncal basal cell carcinoma.

Introduction

Basal cell carcinoma (BCC) also known as "ulcus rodens", was first described by Jacob in 1827.[1] Its current nomenclature was proposed by Krompecher in 1903.[1] It is the most frequent type of skin cancer, accounting for approximately 80% of all non-melanoma skin cancers.[2] It is clinically divided into five types: nodular-ulcerative, pigmented, sclerodermiform or fibrosing, superficial and fibroepithelioma. Exposure to ultraviolet radiation is the main risk factor. Other principal risk factors associated are fair skin, advancing age, male gender, family history of skin cancer, light eyes and blond hair, freckles in childhood, chronic inflammation and immunosuppression.[1-2] No precursor lesions have been described for BCC. Although half of the cases of BCC occur in 50-80 years of age, the incidence in individuals less than forty years old has also been increased. BCC is rarely reported in childhood.[2]

In 80-85% of the cases, BCC commonly develops over head and neck. Rarely, BCC has been reported over unusual locations such as-axilla, groins, umbilicus, trunk, palm and soles. Only ten percent of BCC are seen over trunk.[2] We report a case of pigmented BCC in a 22-year-old female located on trunk, highlighting its dermoscopic, histopathological and immunohistochemistry findings.

Case report

A 22-year-old female presented with asymptomatic brown colored lesion over lower abdomen for 6 months, which slowly increased in size. Patient denied history of any birth mark on trunk. There is no history of any prior trauma, radiotherapy, chemotherapy or arsenic exposure. There was no history of excessive sun exposure, patient had indoor occupation.

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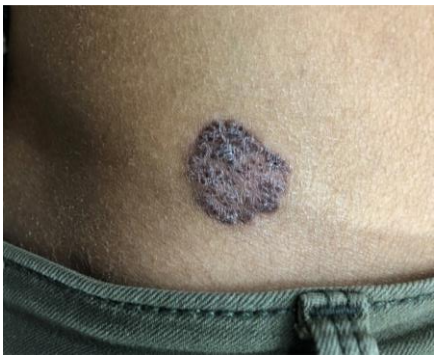

Figure 1 Well-defined purplish-brown plaque with raised and irregular margins over right side of lower abdomen.

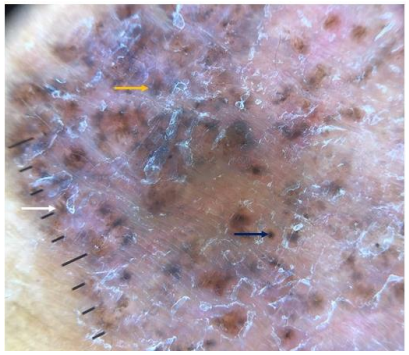

Figure 2 Non-contact dermoscopy under polarised mode using DermLite DL4 showing multiple blue-gray globules (orange arrow), specks of brown - gray pigment (black arrow) with spoke-wheel areas (white arrow) on periphery of the lesion.

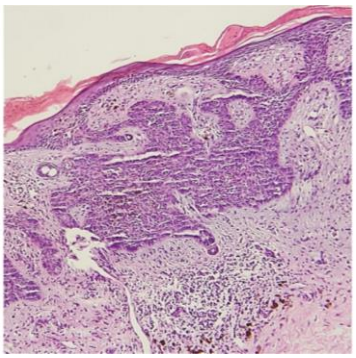

Figure 3 Histopathology showing presence of nests of tumor cells in dermis, which is attached to the overlying epidermis with palisading basal nuclei and retraction clefts around the nests.(H&E, 100X).

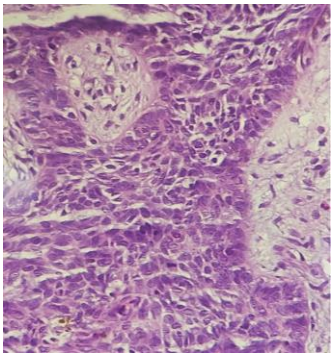

Figure 4 Photomicrograph showing tumor cells in the dermis in palisading arrangement. (H&E, 400 X).

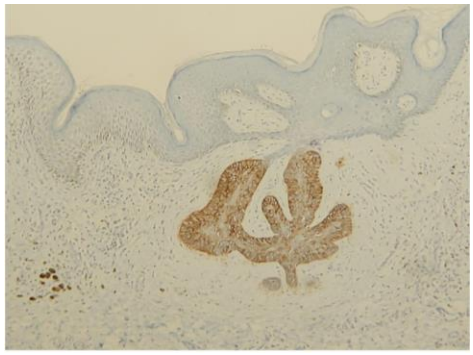

Figure 5 Immunohistochemistry showing lesional cells with positive staining for Ber EP4.

There was no similar personal or family history. Patient did not have any significant past medical history. On examination, there was a well-defined purplish-brown plaque with raised and irregular margins, measuring 2.5x2 cm over the right side of lower abdomen. Surface of the plaque was rough with mild superficial whitish scales **(Figure 1)**. Rest of the cutaneous and systemic examination was normal. All routine investigations were found to be normal.

Non-contact dermoscopy of skin was done using DermLite DL4, under polarised mode which revealed multiple blue-gray globules, large blue-gray ovoid nests and specks of brown - gray pigment. Spoke-wheel areas and structureless leaf-like areas on the periphery of the lesion were seen **(Figure 2)**. Based on these dermoscopic findings, provisional clinical diagnosis of BCC was kept. Wide surgical excision with flap reconstruction was done. Tumor tissue sections were sent for histopathology which revealed the presence of nests of tumor cells in dermis, containing basaloid hyperchromatic nuclei with scanty cytoplasm. Palisading basal nuclei along with retraction clefts around the nests were seen. The tumor was locally attached to overlying epidermis and pigment incontinence was noted **(Figure 3, 4)**. Immunohistochemistry showed lesional cells with positive results for Ber EP4, confirming the diagnosis of pigmented basal cell carcinoma **(Figure 5)**. Patient is on regular follow-up.

Discussion

BCC is more common in Caucasians than blacks and Asian skin.[2] It is rare in dark skin because of the inherent photoprotection of melanin and melanosomal dispersion.[2] In 80-85% of the cases, BCC commonly develops over head and neck.[3,4] BCC may occasionally occur on non-sun-exposed sites. In Caucasians and blacks, 10% to 15% of BCCs arise on the trunk whereas a slightly lower percentage is observed in Asian Indians.[5] The habit of sunbathing is associated with a five-fold increased risk of development of BCC on the trunk.

Truncal BCC is more often reported in men than women (1.5-2:1), which probably results from professional reasons, and males are also associated with a greater number of tumours.[6,7] Neale *et al*. reported that BCCs of the trunk were more likely to occur in men; they also occurred at a younger age than BCCs of the head.[8]

Pigmentation is present in more than 50% of BCCs in blacks, Hispanics, and Japanese. In contrast, only 6% of BCCs in Caucasians are pigmented. The presence of pigmentation in BCC may make it difficult to differentiate from other lesions, such as seborrheic keratoses, epidermal inclusion cysts, nevocellular nevi, blue nevi, Bowen disease, lentigines, or malignant melanoma.[2]

Menzies *et al*. described dermoscopic features of BCC in a detailed manner.[9] On dermoscopy, pigmented BCCs are always asymmetric in pattern and are relatively hypomelanotic lesions. Two thirds have 50% of their tumor area pigmented, and only 7% have 75% of their area pigmented. Because of their irregularity, the differential diagnosis of pigmented BCCs includes both invasive melanoma and benign pigmented lesions. Asymmetric pigmentation on dermoscopy has overall diagnostic sensitivity of 93% and specificity of 89%. Similar findings of asymmetric pigmentation was seen in our case. Large, gray-blue ovoid nests are found in 55% of pigmented BCCs. This feature was also observed in our case.

Multiple gray-blue globules are seen in one-third of lesions. They should be distinguished from multiple gray-blue dots (melanophages), which are smaller and "pepper like" in morphology. Maple leaf-like areas, while present in only 17% of lesions, are highly specific (100%). They are brown to gray-blue, discrete, bulbous extensions forming a leaf like pattern. They differ from pseudopods (found in melanoma) because maple leaf like areas are discrete pigment nests (islands) never arising from a pigment network and usually not arising from an adjacent confluent, pigmented area. The least frequent (10%) but highly specific (100%) feature of BCCs in the diagnostic model is the spoke wheel area. These are seen as radial projections, usually tan but sometimes blue or grey, meeting at an often-darker central axis. Arborizing treelike telangiectasis are found in 52% of lesions and are also a positive feature. The final positive feature of ulceration is found in 27% cases.[9] In our case, dermoscopic findings observed were multiple blue-gray globules, large blue-gray ovoid nests and specks of brown - gray pigment with spoke-wheel areas and structureless leaf-like areas on the periphery of the lesion. We correlated histopathological findings with dermoscopic findings. Large blue ovoid nests, leaf-like areas were seen due to nodules of pigment basal cell tumor in dermis; spoke-wheel areas, formed by nests & proliferation of pigmented basal cell carcinoma cells; specks of grey dots were due to melanin pigment within the papillary dermis, in small nests of melanocytes or melanophages. Brown dots reflect either small nests of melanocytes in basal epidermis, focal pigmented keratinocytic

proliferation. Dermoscopy is a non-invasive method which aids in initial diagnosis of cutaneous malignancies.

Conclusion

BCC may rarely be located over unusual covered sites such as trunk. This case is presented in view of its unusual location in a young Asian female over a sun protected site. Classical dermoscopic features of pigmented BCC observed in this case are highlighted.

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