A solitary Pigmented lesion in nose

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CLINICAL FINDINGS

A 58-year-old man presented to the dermatology OPD with the complaint of an asymptomatic darkly pigmented lesion on the left side of his nose over the last two years. Initially it was small in size, and then gradually progressed to the present size of 1x1cm. The patient gave history of multiple spontaneous bleeding from the lesion in the past. There was no history of pain or itching. Recently, the patient had developed small ulcers over the mass with oozing areas that started to heal forming a crust.

On examination, a solitary pigmented nodular lesion, measuring about 1x1 cm was noted on the left side of the nose just above the left ala. The surface showed some areas of superficial erosions and crust along with telangiectasia. There was no evidence of regional lymphadenopathy (Fig. 1,2). Systemic examination was within normal limits.

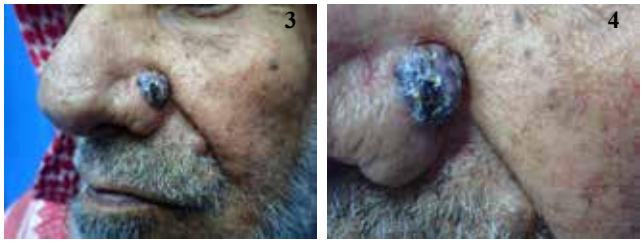

Fig. 1, 2 Ulcerative pigmented llesion in left side of nose.

What is your clinical differential diagnosis?

- BCC
- Melanoma
- Angiokeratoma
- Spitz nevus

Laboratory and pathological findings:

Patients' routine laboratory and radiological investigations including CBC, CRP, blood sugar, hepatic and renal profile revealed no abnormal findings. Serology for hepatitis B and C and human immunodeficiency virus were nonreactive. X-ray of the skull showed no attachment of the lesion to underlying bones. Systemic examination was unremarkable.

An excisional skin biopsy revealed tumor cells were found to be arranged in nesting pattern, with characteristic basaloid cells, retraction clefting, with multiple areas of melanin pigmentation.

DIAGNOSIS

Pigmented Basal Cell Carcinoma

DISCUSSION

BCC was first described in the year 1827 by Jacob.[1] It is the most common type of skin cancer with a high rate of occurrence in whites. It is more common in men than women and is more common in middle aged people or elderly people.[2] Head and neck are the most common site seen in about 85% of the patients due to the chronic exposure to ultraviolet radiations which is the main cause of development of BCC. But, lesions could be seen anywhere on the sun exposed parts of the skin such as shoulders, back or chest.[3] The existence of other contributing factors such as immu-

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nosuppression, Fitzpatrick skin type (phototype) I-II-III, trauma to the anatomical site, ionizing radiation, genodermatoses and arsenic exposure are proposed. The occurrence of BCC at a young age is a characteristic of Xeroderma Pigmentosum and Nevoid BCC syndrome.[4]

BCC has several variants based on clinical appearance and aggressiveness: nodular, pigmented, sclerosing, superficial, and basosquamous.[5] Pigmented BCC (PBCC) is a rare (6%) variant,it appears clinically as a well-defined dark brown or black pigmented papule or nodule over sun-exposed areas of skin.

Histopathologically, BCC exhibits the following characteristics: major basaloid cell type with specialized stroma, significant palisading of the lesional nuclei, and clefting artefact between epithelium and the stroma. A number of morphological and histological subgroups have been identified such as, nodular (solid), micronodular, cystic, superficial (superficial multifocal), pigmented, adenoid, infiltrating, sclerosing, keratotic, infundibulo-cystic, metatypical, basosquamous and fibroepitheliomatous. The most prevalent variety is the nodular type, which is distinguished by nodular masses of basaloid cells that spread into the dermis. The tumor cells resemble those of the epidermis's basal layer, with a minor amount of cytoplasm.[6]

Pigmented BCC is a variant of BCC showing increased melanin pigments which are produced by benign melanocytes colonizing the tumor. There are functional melanocytes dispersed throughout the tumor islands, as well as numerous melanophages in the stroma. There exist melanosome complexes as a result of recurrent phagocytosis of melanosome-containing tumor cells that have undergone apoptosis.[6]

Our patient was in his fifth decade and had a pigmented dark brown mass on the left side of the nose above the left ala. The surface showed some-superficial erosions and crust along with telangiectasia. The lesion was not associated with any local destruction. He works as a foreman, and his regular exposure to sunlight may have contributed to the development of BCC. We preferred surgical excision as the primary line of treatment in our case which was compatible to the study by Sebastian et al.[7] Our differential diagnoses mainly include PBCC, spitz nevus, malignant melanoma and angiokeratoma.(Table 1)

Table 1 Clinicopathological challenges of basal cell carcinoma.

Disease	Clinical	Pathology
Melanoma	• Asymmetric lesion with multiple pigmentations and irregular border. Lentigo maligna melanoma is the common type in face	• Asymmetrical, none circumscribed lesion formed of atypical nests of nevus cells in the epidemis and dermis without maturation
Blue nevus	• Symmetric nodule with homogenous bluish pigmentation commonly in hand and feet	• Dendritic, spindle shaped melanocytes with melanin granules in dermis
Angiokeratoma	• Bluish or dark brownish papules or nodules less commonly to be seen in face	• Hyperplastic epidermis with dilated vascular spaces in papillary dermis
Spitz nevus	• Erythematous to dark brownish nodule may be seen in face and trunk	• Well circumscribed maturated lesion containing hyperplastic epidermis and vertically clefted nests formed of spindle and epithelioid cells and kamino bodies

Histopathological examination can help distinguish them. Seborrheic keratosis has a wide range of histologic appearances, including acanthotic, hyperkeratotic, clonal, reticulated, irritated, and pigmented. Pigmented type is confusing with PBCC in which pigment is present in basal keratinocytes with a significant increase in melanocytes. In contrast, malignant cells of malignant melanoma exhibit a wide variety of shapes, including spindle cells, plasmacytoid cells, clear cells, and epitheloid cells, as well as significant pleomorphism, nuclear hyperchromatism, and abnormal mitotic activity.[8,9]

In our patient, an excisional biopsy was performed with a safety margin of 5 mm along the resting skin tension lines followed by undermining and primary closure without any tension. As facial BCC is particularly concerning because it is often found in an aesthetically delicate location. Histopatholgical examination revealed nodular sheets of cells, a basal palisading pattern of cells, abundant melanin, and increased mitotic activity. (Fig. 3, 4)

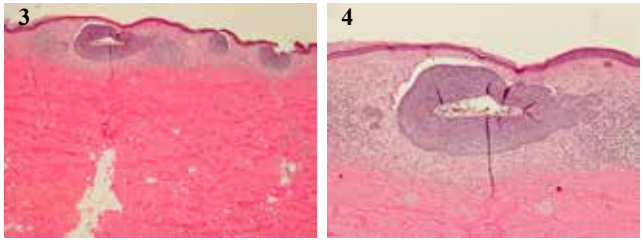

Fig. 3, 4 Multiple atypical basaliod nests with peripheral palisading and retraction clefts .Melanin pigmentation is observed within basaliod nests.

Immunohistochemistry report revealed negative HMB-45 and S-100 in neoplastic cells, ruling out the possibility of malignant melanoma. Based on the clinical and radiographic findings, histopathology and immunohistochemistry, a final diagnosis of Pigmented Basal Cell Carcinoma was made.

Although BCC is not a fatal malignancy, it may cause significant destruction and deformity if left untreated. It is critical to treat as soon as possible to avoid consequences caused by its aggressive activity.[10] Surgical excision, electric cauterization and curettage, cryotherapy, radiation, laser therapy, chemical elimination of the tumor with 5 fluorouracil, interferon-alfa, topical imiqimod, and photodynamic therapy are all therapeutic possibilities for PBCC. Surgical excision is the preferred and most extensively used therapy approach.[5] Mohs microscopic surgery is appropriate for tumors with a diameter more than 2 cm, unclear boundaries, long standing lesion, recurrent disease or aggressive histological signs (infiltrative, morphologic, and peri-neural infiltration).[11]

BCC usually has a good prognosis but periodic evaluation of such patients is necessary to prevent recurrences. BCC that has been properly removed has a lower likelihood of recurrence. PBCC has less subclinical invasion than non-pigmented ones and consequently a better prognosis.[8,12] In our case after initial 15 days follow-up, the patient had favorable outcome and no recurrence of the tumor was reported. Patient was on regular follow-up for evaluation of tumor site.

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