JPDS Journal of the Philippine Dermatological Society

CASE REPORT

Large basal cell carcinoma in a 101-year-old Filipino female: A case report

Jianella Catrisse D. Diaz, MD,[1] Daisy King-Ismael, MD, FPDS,[1]
Ma. Luisa Abad-Venida, MD, FPDS,[1] Zharlah Gulmatico-Flores, MD, FPDS[1]

ABSTRACT

INTRODUCTION Basal cell carcinoma (BCC) is the most common type of malignancy worldwide. The incidence of BCC is positively associated with increasing age; thus, centenarians, defined as those aged 100 years and above, become a vulnerable population to developing malignancy. As a person ages, risk factors such as chronic sun exposure, ionizing radiation, and immunosuppression induce mutations that contribute to tumor formation. Impaired DNA repair capacity in response to carcinogens and immune function dysfunction also increases BCC risk in the elderly. Currently, studies among centenarians with high-risk basal cell carcinoma treated with surgical interventions are limited.

CASE REPORT Presented herewith is a case of a 101-year-old female with a 15-year history of hyperpigmented, hyperkeratotic plaque over the right malar area and a one-year history of progressive pain (PS 10/10) and enlargement of the lesion, forming an ulcerated, hyperpigmented tumor. Laboratory workup showed normal findings. Histopathology was signed out as a pigmented nodulocystic basal cell carcinoma. Moh's micrographic surgery (MMS) and cheek advancement flap were performed with good wound healing and no perioperative complications.

CONCLUSION Despite the limited options of medical and physical management due to decreased life expectancy of centenarians, MMS remains the standard of therapy in high-risk BCC. MMS with reconstructive surgery is generally a safe and effective modality with no increased risk of peri- and post-operative complications.

KEYWORDS Basal cell carcinoma, centenarians, Moh's micrographic surgery

INTRODUCTION

Basal cell carcinoma (BCC), which is the most common malignancy in humans, has been increasing exponentially among older adults. In the Philippines, 215 cases of BCC in the geriatric population aged 80 and above have been recorded in the Philippine Dermatologic Society Health Information System since 2011. Among these cases, 188 patients were between 80-89 years of age, 25 patients were between 90-99 years, and 2 patients were above 100 years. Studies show that the proportion of BCC in the head and neck also increases with age, manifesting 69% to 81% in these sites.[1]

In a study by Lubeek et al., the majority of BCC cases in the elderly present with a non-aggressive disease course, characterized by slow tumor growth and rare metastasis. However, older individuals with BCC are at increased risk for poor treatment outcomes, with a higher mortality rate in patients 85 years or older compared with younger patients.[1] Thus, management of elderly patients with BCC requires a comprehensive assessment of several factors such as functional status, cognition, life expectancy, comorbidities, social support, nutritional state, and financial capability to determine the best approach to treatment.[2]

CASE REPORT

A 101-year-old female presented with a 15-year history of a solitary, hyperpigmented plaque initially measuring 1 cm x 1 cm over the right malar area with no associated tenderness, pruritus, numbness, and bleeding over the area. There was no preceding trauma, no exacerbating nor relieving factors.

One year prior to consultation, she noted a progressive increase in size of the mass with spontaneous ulceration at the center of the lesion. It was also associated with tenderness (visual analog scale 4/10) over the tumor. No oral medications were taken, and no topical medications were applied over the affected area.

Five months prior, she noted foul-smelling discharge with bleeding over the area with fur-

[1]Department of Dermatology, Jose R. Reyes Memorial Medical Center, Manila

Corresponding author
Jianella Catrisse D. Diaz, MD

Conflict of interest
None

Source of funding
None

JPDS
Journal of the Philippine Dermatological Society

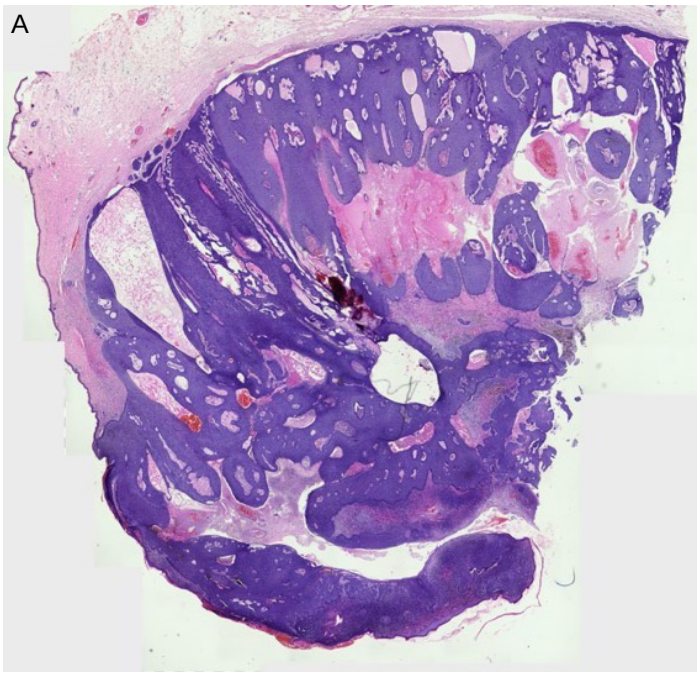
Figure 1. Solitary, hyperpigmented tumor with surrounding telangiectasia and associated ulceration, measuring approximately 3.5 cm x 4 cm x 2.5 cm over the right malar area.

ther increase in size and tenderness (visual analog scale 9-10/10, radiating towards the periorbital area); thus, prompting consult.

The patient was hypertensive for 30 years maintained on medications. She had a history of chronic sun exposure without sunscreen use. There were no personal and family histories of skin cancer and other skin diseases, nor was there a history of sunburns over the face and body.

On physical examination, the patient presented with a solitary, firm, irregularly-shaped, hyperpigmented, friable, exudative tumor with surrounding telangiectasia and associated whitish, foul-smelling discharge and ulceration, measuring approximately 4 cm x 2.5 cm over the right malar area (Figure 1). There were no palpable cervical, axillary, inguinal lymphadenopathies. The rest of the physical examination was unremarkable.

Preoperative workups, including complete blood count (CBC), prothrombin time (PT), partial thromboplastin time (PTT), international normalized ratio (INR), fasting blood sugar (FBS) and bleeding time (BT) were normal. Her biopsy revealed flat epidermis, and attached to this and extending throughout the dermis are islands of basaloid cells with cystic spaces, peripheral palisading of nuclei and retraction artifacts (Figure 2A). Numerous atypical cells, mitotic figures, and clumps of melanin were noted. The dermis showed moderately dense lymphocytes and dilated blood vessels (Figure 2B). This was signed



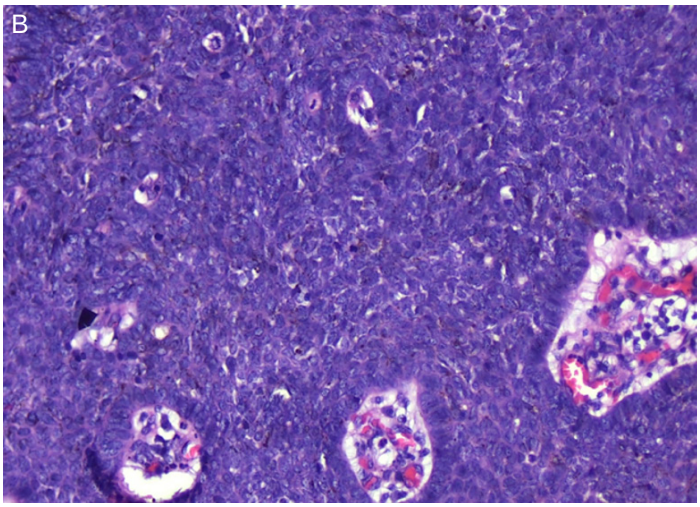


Figure 2. **A.** Islands of basaloid cells with peripheral palisading of nuclei and clefts around (H&E stain, 10x); **B.** Numerous atypical cells and mitotic figures were noted (H&E stain, 40x).

out as pigmented nodulocystic basal cell carcinoma.

The patient underwent one stage of Moh's micrographic surgery with clear margins. The repair was then performed using rotational cheek flap (Figure 3). No post-operative complications were noted. She was advised to take co-amoxiclav 625 mg tablet every 12 hours for one week and apply topical mupirocin 2% ointment twice daily for one month.

One month postoperatively, the patient noted good wound healing with no pain, tenderness or bleeding over the surgical site. After six months, no recurrence of the lesion was noted

over the face and there were no associated symptoms over the post-operative site (Figure 4).

DISCUSSION

Basal cell carcinoma accounts for most documented cases of malignant tumors in the elderly. Common risk factors of BCC are male sex, chronic sun exposure, old age, ionizing radiation, immunosuppression, fair skin phototype, chronic arsenic ingestion, and family history.[3] In this case, the patient's age and inherent age-related cumulative UV exposure without the use of sun protection are the main factors that increased her predisposition of developing BCC.

The clinical manifestations of a patient with BCC differ based on the subtypes, which include nodular, pigmented, superficial, morpheaform, and fibroepithelioma of Pinkus. The pigmented nodulocystic type, which is seen in this case, often presents as a solitary, hyperpigmented, translucent nodule with associated telangiectasia and rolled borders on the head and neck.[4] Similarly, 51.7% to 60.7% of BCC cases in the elderly are the nodular type, and the lesions are often distributed on the head and neck.[2,4] In some studies, tumor size in the elderly ranged from 1.8 to 3.0 cm with a depth of 1 cm to 2.5 cm, presenting as pigmented tumors on the head and chest.[5,6] In this case, the patient had a tumor size of 3.5 cm with a depth of 2.5 cm, which was a relatively larger presentation compared to other studies.

Most BCCs are slow-growing skin tumors, characterized by local tissue invasion and minimal risk of metastasis.[1] For this patient, she had a 15-year history of a hyperpigmented plaque on the face, which did not manifest with rapid enlargement until one year prior to consulting. Systemic signs and symptoms of metastasis such as bone pain, dyspnea, and palpable lymphadenopathy were also absent, which is consistent with the features of BCC.[7]

The most common dermatoscopic features in BCC include arborizing vessels, short-fine telangiectasia, large blue-gray

Figure 3. Appearance of surgical site after performing rotational cheek flap.

Figure 4. Postoperative site after six months.

ovoid nests, shiny white structures, and ulceration. In a study by Caresana and Giardini, the clinical and dermoscopic assessment of extension measurement showed concordance in 65% of cases.[8] For this case, dermoscopy-guided assessment of lesion borders was done after one stage of Moh's micrographic surgery (MMS). Dermoscopic findings showed the absence of telangiectasia, which supported clearance of peripheral borders.

BCC is managed using various treatment options that encompass medical, physical, and surgical management based on whether the tumor is high risk or low risk. High-risk BCC is clinically based on several parameters such as location/size of lesion, border, recurrence, immunosuppression, and prior radiation therapy.[9] In this case, the patient presented with a high-risk tumor on the malar area with a diameter > 10 mm, with poorly defined borders and inherent age-related immunosuppression.

Surgery remains the mainstay of therapy in high-risk BCC cases, since it provides complete removal of the tumor, reduces contiguous spread of malignant cells and preserves surrounding tissue. Among these modalities, MMS is the standard of treatment for high-risk BCC since it allows analysis of tumor margins while maintaining maximal tissue conservation.[9]

Even though MMS with reconstruction has a low risk of complications, some clinicians opt for medical management in centenarians since skin aging may contribute to decreased tolerance to complex surgery and reconstructions. Hence, there is paucity of literature on the surgical intervention and reconstruction to treat BCC among centenarians.

Nevertheless, Moh's surgery with reconstructive surgery has been shown to be a safe procedure for high-risk tumors in the elderly. In a study by Delaney et al., the average patient age of nonagenarians who underwent MMS was at 92.3 years with no reported deaths one month post-operatively.[10] Other characteristics such as defect size, number of surgical stages, and closure type did not affect survival in this age group. MMS among elderly patients also did not result to increased morbidity and mortality among patients with skin malignancy. Furthermore, nonagenarians who underwent MMS for skin malignancy, peri- and post-operative complications were absent. There were no significant differences in prognosis between patients who underwent 1 to 2 stages and those who had 3 and above. In this case, the patient underwent one stage of MMS and reconstruction with rotational cheek flap, which was well-tolerated and resulted in complete wound closure and repair.

CONCLUSION

Despite the limitations of medical and physical management due to decreased life expectancy and longevity among centenarians, MMS remains the standard of therapy in high-risk BCC. As seen in this case, MMS with reconstructive surgery is generally a safe and effective modality in the elderly population. The risk of peri- and post-operative complications and mortality is not increased among elderly patients who undergo surgery. Thus, MMS and rotational cheek flap is advised as the primary treatment modality among centenarians with high-risk basal cell carcinoma. Due to the rising incidence of BCC and extended lifespans of the geriatric population, it would be beneficial for physicians to be aware of the complete curative technique of MMS with reconstruction.

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