Primary Malignant Melanoma of the Breast: Mankweng Breast Oncology Experience

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Abstract
Malignant melanoma is predominantly a cutaneous and mucous membrane disease. In this case report, we seek to explore and share our local experience of primary malignant melanoma of the breast and give a literature review on the standard of care as well as to stimulate physician awareness. Our interest is on the appreciation of the current lack of set guidelines on how to work-up patients that present with this rare variant of malignant melanoma and to highlight its management.

We present here a rare case of a 62 years old female with the primary malignant melanoma of the breast (PMMB).

Keywords: Malignant melanoma, Primary

1 BACKGROUND

Melanomatous lesions of the breast may occur as a metastatic manifestation of primary cutaneous melanoma or as true primary malignant melanoma of the breast (PMMB)(1,2). Metastasis from cutaneous malignant melanoma represent the majority cases melanoma involving the breast(3). PMMB, however, is a rare entity and accounts for 3-5% of all melanomas and for <0.5% of malignant breast tumors(1,4).

The South African breast cancer policy developed as series of standards of care, but not for PMMB. The aim of this process to ensure that high-quality and appropriate care administer in the diagnosis and management of patients irrespective of their geographical location or social circumstances. Early detection followed by appropriate treatment currently the most effective strategy to reduce breast cancer mortality.

The 2014 incidence as referenced in the latest national cancer registry statistics (SA) shows that malignant melanoma diagnosed histologically in females and male, with all population groups combined is at 2.00 and 2.36 per cent respectively (5). Therefore, extrapolation from this data yields results that suggests that non-cutaneous breast malignant melanoma remains an unrecognized and indeed rare

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variant of malignant melanoma. Only a few cases of PMMB derived from the breast parenchyma without skin involvement have been reported in the literature and whereas less than 190 cases have been reported from the skin overlying the breast\(^6\).

We report the primary melanoma of breast case which presented to in our Breast Oncology clinic in the Mankweng hospital. Permission is obtained for publication from Pietersburg Mankweng Research Ethic committee, reference number is PMREC 27 November UL 2019/E. The main objective of present report to share our experience with PMMB.

2 | CASE PRESENTATION

We present an elderly African female patient known hypertensive with vitiligo, local referral to the breast oncology clinic, Makweng hospital (South Africa), with a six months history of painless left breast swelling with a fast-growing mass, associated with axillary and neck swelling on the ipsilateral side and no nipple discharge. There is no notable personal and family history of previous diagnosis of malignancies. She admits to having used alternative medicine and, at one stage, consulted with the traditional healers. Local clinical examination revealed breast asymmetry, left breast peau d’orange, 15X15cm palpable irregular mass in greatest dimension with no chest wall involvement. There was matted lymph node in the Left axilla and supraclavicular region, refer to figure 1. No cutaneous, mucosal or ocular lesion was detected and all other systems on physical examination were unremarkable.

Mammographic findings revealed BIRADS 4B, with moderate suspicion for malignancy and multiple left axillary lymph nodes with reduced fatty hilum. Imaging with a computed tomography from the base of the skull (BOS) to the pelvis revealed an apparent left breast invasion with a malignant mass and extensive lymphadenopathy with metastatic deposits on thoracic vertebral body as depicted in figure 2.

![FIGURE 1: Figure1](image1)

Histopathological evaluation of the left breast core biopsy revealed cells with a moderate amount of eosinophilic cytoplasm and melanin pigment. The nuclei were markedly pleomorphic with vesicular chromatin. Mitotic activity noted, inclusive of atypical cells. Immunohistochemical stains performed revealed S100 focal positivity, Leucocyte Common Antigen (LCA) negative within the tumor cell, Melanin A positive, Microphthalmia-Associated Transcription Factor (MITF) positive. The conclusion suggested features consistent with malignant melanoma.

Discussion

Malignant melanoma of the breast has four predominant manifestations: i) Primary malignant melanoma of the breast skin; ii) malignant melanoma metastasis to the breast; iii) in-transit metastases to breast tissue and skin; and iv) primary malignant melanoma of the breast gland\(^1\).

Cutaneous and noncutaneous melanomas differ in their epidemiology even though they have a shared cell of origin. Noncutaneous melanomas tend to present at an older age and to be diagnosed at a more advanced stage\(^7\).

Breast cancer mortality rates remain high in low & middle income countries due to late presentation and inadequate access to optimal care\(^\text{[author?]}(8)\). In spite of rapidly growing mass, our patient came to the clinic 6 months after discovering first signs. As a
result, she had already metastasis to supraclavicular region and bones.

Awareness of early signs and symptoms of breast cancer is important in order to facilitate early diagnosis before the disease becomes advanced consequently enabling a more effective or simpler therapies.

Prognosis is usually poor at time of diagnosis (9, 10). However, the management is considered to be important and significantly affects prognosis. The treatment involves the critical primary surgical resection with an appropriate combinations of chemotherapy, radiotherapy, immunotherapy and targeted therapy (1, 7, 11). Radical surgical resection with free margins combined with axillary node resection or axillary sentinel node resection is the primary treatment of choice. (3) Chemotherapy is commonly used for pre- and postoperative adjuvant therapy and for those who are not suitable or refuse surgery or for those patients who exhibit widespread metastases as with our patient who had metastasis to the bone. The chemotherapy programme is usually based on a dacarbazine-based treatment plan, however, the effective rate is only 7–13%. (12) Other commonly used agents include temozolomide, cisplatin and taxol; multi-agent chemotherapy may improve the treatment outcome.

Melanomas at these unusual sites generally carry a worse prognosis (10) Early diagnosis is presently the key to proper treatment and improved survival for patients with these unusual variants.

Conclusion
Malignant melanoma predominantly affects the skin and mucous membrane; hence our experience with its extra-cutaneous primary breast melanoma invoked our interest to address and emphasize timely breast cancer screening and treatment. The diagnosis still follows a thorough, appropriate triple assessment.

Conflict of interest
None declared

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