Primary Malignant Melanoma of the Breast: A Rare Case Report

Arvind Kumar¹, Neha Nigam²

¹Senior Resident, Department of Pathology, All India Institute of Medical Sciences, New Delhi, India, ²Senior Resident, Department of Pathology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, Uttar Pradesh, India

ABSTRACT

Malignant melanoma of breast is very rare as compared to skin, mucous membrane, and choroid. Melanomas of the breast are commonly metastatic, and primary melanomas are extremely rare. Primary melanoma of breast is either cutaneous or glandular. Differentiating them is very important in deciding treatment strategies. We report a case of primary malignant melanoma in view of absent primary lesion elsewhere. This case is reported to increase the awareness of rare tumors of the breast.

Key words: Melanocytic tumor, Primary malignant melanoma breast, Breast

INTRODUCTION

Malignant melanoma is a melanocytic tumor. It predominantly occurs in the skin, mucous membranes, choroid, and common sites involved are head and neck, back and lower extremities. Malignant melanoma of the breast is commonly metastatic though cases of primary melanoma of breast are also reported. The incidence of primary melanoma of the breast is <5% of all melanomas.¹ We report a case of a 50-year-old female, presenting with painless lump in the left breast, and diagnosed as a primary malignant melanoma of breast in view of absent primary lesion elsewhere. Clinico-radiological, histopathological, and immunohistochemical findings are required to identify primary malignant melanoma of the breast. This case report aims to increase understanding of uncommon tumors of the breast.

CASE REPORT

A 50-year-old female patient was presented with the complaints of painless lump in the left breast, in the Department of General Surgery, All India Institute of Medical Sciences, New Delhi, India. The lump was present since 3 months with a recent rapid increase in size. She had regular menstrual history, and there was no significant medical history or family history of carcinoma. Clinical examination revealed a 7 cm × 5 cm firm, irregular mass in the upper inner quadrant of the left breast with normal nipple, areola, and surface skin. Multiple sub centimetric lymph nodes were palpable in the left axillary region. No organomegaly was noted on abdominal examination and ultrasound. Other relevant investigations were within normal limits. We received a left mastectomy specimen of 10 cm × 7 cm × 5 cm size. Outer surface showed unremarkable skin flap and nipple areola complex. On serial sectioning, a gray-white growth with focal tan-brown areas was identified, measured 7 cm × 5 cm. Skin and base were grossly free from growth (Figure 1). Microscopic examination showed an infiltrating tumor disposed of in sheets and nests. Tumor cells are large with markedly pleomorphic nuclei, high nucleocytoplasmic ratio, prominent large eosinophilic nucleoli, and abundant granular cytoplasm. Frequent mitotic figures were also noted. No significant intracellular pigment was observed (Figure 2). Possibility of ductal carcinoma, malignant melanoma, high-grade lymphoma, and neuroendocrine carcinoma has been considered. The sections were further subjected to immunohistochemistry with the panel of CK, HMB45, Melan-A, S100, LCA, CG, ER, PR, and HER2neu. Tumor cells show immunoreactivity for S100, HMB45, and Melan-A, whereas they were negative for markers including CK, CG, LCA, ER, PR, and HER2neu. Excluding the possibilities of epithelial, mesenchymal, and lymphoid malignancy (Figure 3). By analyzing histopathological and immunohistochemical findings, diagnosis of malignant melanoma has been proposed. Now, we left with the possibilities of primary
or metastatic malignant melanoma of breast. By taking detailed history and clinical examination, no detectable cutaneous, mucosal, or ocular lesion was identified. Thus, the patient was finally diagnosed as a case of primary malignant melanoma of the left breast (Figure 4).

**DISCUSSION**

Malignant melanoma is a malignant melanocytic tumor. Etiology of the tumor is unknown and hypothesized to be commonly associated with excessive exposure to ultraviolet radiations with an additional role of ethnicity, endocrine and immune systems, and chronic stimulation. The incidence of malignant melanoma has risen markedly over the last decade. It is a tumor of the skin, mucous membrane, and choroid and occurs anywhere in the body; however, the common sites are head and neck, back, lower extremities, oral and anogenital mucosa, meninges, and eye. Breast is the rare site to be involved by malignant melanoma and is mostly metastatic. Primary melanoma of the breast is very rare, with an incidence of <5% of all malignant melanomas.\(^1,2\) Primary melanoma involves the skin and less commonly the glandular parenchyma of the breast.\(^3\) Definite diagnosis is important for treatment strategies.
CONCLUSION

Primary malignant melanoma of the breast is a rare tumor. The diagnosis depends on histopathological assessment and immunohistochemical staining combined with a detailed clinical history and careful physical examination. Early diagnosis, correct surgical resection, and comprehensive adjuvant therapy play an important role in patient survival.

REFERENCES


Source of Support: Nil. Conflict of Interest: None declared.