ABSTRACT

**Background:** Malignant melanoma is mostly found in mucous membranes and skin. So it’s occurrence on the breast skin is very rare.

**Case Presentation:** In our study, 50-year-old female came to OPD with complaint of skin lesions on the breast since 2 months. On diagnosis, skin lesion was found to be malignant melanoma and the disease had metastasized in right axillary lymph node with discoloration over breast.

**Conclusion:** The prognosis for patients with this disease is very poor. Important procedures which may increase the survival rate include, Early diagnosis and surgical resection with adjuvant therapy.

**Keywords:** Prognosis; Primary malignant melanoma; breast; IHC; Melanocytes; skin membrane.

1. **INTRODUCTION**

It mainly found in the skin, choroid, mucous membrane and. This disease arise from melanocytes that produce melanin. Ultraviolet from sunlight is most common cause melanoma. Major risk factors are fair skin, history of sunburn, excessive ultraviolet exposure, unusual mole,
and family history [1]. Three types of melanoma are found, Superficial spreading melanoma, Nodular melanoma, Acral lentiginous melanoma, Lentigo maligna [2]. This disease is very rare. Incidence of it is less than 05% of all melanoma with poor prognosis [2].

2. CASE HISTORY

50 year old female come with chief complaint of mass over right breast since 02 months. Clinical finding revealed that mass is present over upper inner quadrant of right breast measuring 04 x 03 cm with blackish discoloration and discharge from mass, local tenderness also present.

USG finding were hyperechoic vascular lesion on stem of right breast with right axillary lymphadenopathy. FNAC from right axillary node shows deposits of melanocarcinoma.

MRM was performed and specimen was submitted for histological examination.

Gross Examination: Lobular, black pigmented mass, smooth surface, hard in consistency measuring 3.5 x 03 x 1.5 cm. On cross section, jet black homogenous area identified.

Microscopic Examination: Showed spindle cells as well as polygonal cells arranged in sheets, singly and in fascicles with round nuclei having prominent mega nucleoli, shifting of chromatin towards nuclear membrane, invading the overlying dermis and also into deep structure.

![Fig. 1. Gross View of resected lesion](image1)

![Fig. 2. Histopathological Section of Melanocarcinoma 10x](image2)
Histopathological Section of Melanocarcinoma 40x

**Immunohistochemistry:** HMB-45, S-100, Melan-A. HMB-45 is much more specific marker than S-100 [2].

**Final Diagnosis:** Primary melanoma over breast.

**3. DISCUSSION**

It is highly malignant tumor which arise from melanocytes. Incidence of this disease has risen from last 10 years. It mostly occur in the skin, choroid, mucous membranes but it may occur anywhere. Primary melanoma over breast is very rare, with <5% incidence of all melanomas [3,4]. The definite etiology of it remains unknown but ultraviolet radiation from the sun consider as a main cause of it. Diagnosis of it mainly dependent on histopathology, IHC and electron microscopy. Main characteristic features during diagnosis are: i) Nuclear atypia and Pleomorphism of tumor cells ii) intracellularly scattered pigment melanin granules (6-10% of this disease show little or no pigment, known as amelanotic melanoma) [5] iii) IHC show positive results for HMB-45, S-100, and melan-A [6] iv) Melanosome identifying on electron microscopy [7]. Diagnosis of it is sometime very difficult and requires IHC staining. Positive result of S-100 is a good indicator for it, but it also show in 50% of breast tumor. So it should be confirm with positive result of HMB-45 and melan-A. Ki-67 staining also can be used to differentiate between malignant and benign tumors [8,9]. In our study, primary symptom was seen by the female was the tumor over left breast. After the clinical examination, histopathological features, that female suffered with primary malignant melanoma over breast. Primary treatment is surgery (Wide local excision), with combination of chemotherapy, radiotherapy and immune therapy [3,9]. Sentinel lymph node biopsy decrease requirement of unnecessary lymph node dissection [10,11]. Radiotherapy may be used when lesion is unremovable [12,13]. It is noted that immuno with chemotherapy may increase effectiveness of patient treatment [14,15]. Chemotherapy (dacarbazine, temozolomide, cisplatin and taxol) is mostly used for pre and postoperative adjuvant-therapy [16-20]. Studies related to carcinoma of breast and lungs have been reported [21-25].

**4. CONCLUSION**

Primary malignant melanoma over breast is a rare disease; with very poor prognosis. Early diagnosis, proper surgical resection and pre and postoperative adjuvant therapy have major role in patient survival rate.

**CONSENT AND ETHICAL APPROVAL**

As per international standard or university standard guideline patients consent and ethical approval has been collected and preserved by the authors.
COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. He Y, Mou J, Luo D, Gao B, Wen Y. Primary malignant melanoma of the breast: A case report and review of the literature. Oncology Letters. 2014;8(1):238-240.
2. John R, Goldblum et al: Rosai & Ackerman’s Surgical Pathology First SOUTH ASIA EDITION : Volume 1 Tumor and Tumor like Condion of Skin. 2014;77,78,79
3. Kurul S, Taş F, Büyükbabani N, et al: Different manifestations of malignant melanoma in the breast: a report of 12 cases and a review of the literature. Jpn J Clin Oncol. 2008;35:202-206.
4. Jr BFP, Federico R. Tewes. What attorneys should understand about Medicare set-aside allocations: How Medicare Set-Aside Allocation Is Going to Be Used to Accelerate Settlement Claims in Catastrophic Personal Injury Cases. Clinical Medicine and Medical Research. 2021;2(1):61-64. Available: https://doi.org/10.52845/CMMR/2021v111a1
5. Alzaraa A, Sharma N. Primary cutaneous melanoma of the breast: A case report. Cases J. 2008;1:212.
6. Duggal R and Srinivasan R: Primary amelanotic melanoma of the cervix: case report with review of literature. J Gynecol Oncol. 2010;21:199-202.
7. Bonetti F, Pea M, Martignoni G, et al: False-positive immunostaining of normal epithelia and carcinomas with ascites fluid preparations of antimelanoma monoclonal antibody HMB45. Am J Clin Pathol. 1991;95:454-459.
8. Taatjes DJ, Arendash-Durand B, von Turkovich M and Trainer TD: HMB-45 antibody demonstrates melanosome specificity by immunoelectron microscopy. Arch Pathol Lab Med. 1993;117:264-268.
9. Daniel V, Daniel K. Diabetic neuropathy: new perspectives on early diagnosis and treatments. Journal of Current Diabetes Reports. 2020;1(1):12–14. Available:https://doi.org/10.52845/JCDR/2020v111a3
10. Ohsie SJ, Sarantopouloos GP, Cochran AJ and Binder SW: Immunohistochemical characteristics of melanoma. J Cutan Pathol. 2008;35:433-444.
11. Lee AH: Use of immunohistochemistry in the diagnosis of problematic breast lesions. J Clin Pathol. 2013;66:471-477.
12. Biswas A, Goyal S, Jain A, et al: Primary amelanotic melanoma of the breast: combating a rare cancer. Breast Cancer. 2014;21:236-240.
13. Daniel V, Daniel K. Perception of Nurses’ Work in Psychiatric Clinic. Clinical Medicine Insights. 2020;1(1):27-33. Available:https://doi.org/10.52845/CMI/2020v111a5
14. Thompson JF, McCarthy WH, Bosch CM, et al: Sentinel lymph node status as an indicator of the presence of metastatic melanoma in regional lymph nodes. Melanoma Res. 1995;5:255-260.
15. Lee RJ, Gibbs JF, Proulx GM, et al: Nodal basin recurrence following lymph node dissection for melanoma: implications for adjuvant radiotherapy. Int J Radiat Oncol Biol Phys. 2000;46:467-474.
16. Calabro A, Singletary SE and Balch CM: Patterns of relapse in 1001 consecutive patients with melanoma nodal metastases. Arch Surg. 1989;124:1051-1055.
17. Thompson JF, Scolyer RA and Kefford RF: Cutaneous melanoma. Lancet. 2005;365:687-701.
18. Daniel V, Daniel, K. Exercises training program: It’s Effect on Muscle strength and Activity of daily living among elderly people. Nursing and Midwifery. 2020;1(01):19-23. Available:https://doi.org/10.52845/NM/2020v111a5
19. Hauschild A, Weichenthal M, Rass K, et al: Efficacy of low-dose interferon α2a 18 versus 60 months of treatment in patients with primary melanoma of >= 1.5 mm tumor thickness: results of a randomized phase III DeCOG trial. J Clin Oncol. 2010;28:841-846.
20. Anand, Anupam Surya, and Raju Kamlakarrao Shinde. “To Compare the Effects of Adjuvant and Neoadjuvant Chemotherapy on Outcome of Stage III Carcinoma Breast.” Journal of Evolution of Medical and Dental Sciences-Jemds. 2020;9(8):496–501. Available:https://doi.org/10.14260/jemds/2020/112.
21. Mathur, Akash, Naincy Rastogi, Dinesh Gurjar, Ramkrishna Sai, Arvind Lakesar, and Hemant Malhotra. “Safety and Efficacy
of Weekly versus Three-Weekly Paclitaxel plus Platinum Neoadjuvant Chemotherapy in Patients with Locally Advanced Squamous Cell Head and Neck Carcinoma: A pilot study." South Asian Journal of Cancer. 2018;7(4):254–57. Available:https://doi.org/10.4103/sajc.sajc_18_17.

22. Khatib, Mahalaqua Nazli, Abhay Gaidhane, Shilpa Gaidhane, and Zahiruddin Syed Quazi. “Ghrelin as a Promising Therapeutic Option for Cancer Cachexia.” Cellular Physiology and Biochemistry. 2018;48(5):2172–88. Available:https://doi.org/10.1159/000492559.

23. Gupte, Mohit, Ulhas Jadhav, Babaji Ghewade, Dada Sherekar and Diti Gandhasiri. To Study the Incidence of Lung Cancer in Patients of Newly and Previously Diagnosed Chronic Obstructive Pulmonary Disease at AVBRH." Medical Science. 2020;24(102): 658–63.

24. Lamture, Yashwant R., Balaji Salunke, and Shahabuddin Md. “Carcinoma of breast-a study profile.” Journal of Evolution of Medical and Dental Sciences-jemds. 2018;7(45):4857–61. Available:https://doi.org/10.14260/jemds/2018/1082.

25. Anil Kumar Gupta, Ashish Agrawal, Naveen K. Choudhary, Shailendra Wadhwa Antibacterial Activity of Hydroalcoholic Extract of Terminalia chebula Retz on Different Gram-positive and Gram-negative Bacteria, International Journal of Pharmaceutical & Biological Archives. 2010;1(4)ISSN (O) 2582-6050: 485 – 488.