Nodular Malignant Melanoma on the Abdomen of a Lactating Lady

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Ind J Med Paediatr Oncol

Abstract

Malignant melanoma is an uncommon condition in Indian and dark-skinned individuals. Additionally, it is associated with lifetime recurrences and poor prognosis. Its presence on the trunk poses a diagnostic challenge as it can simulate various skin lesions. Furthermore, it raises diagnostic and therapeutic challenges in pregnancy and lactation. Early recognition and appropriate treatment can reduce adverse events in the mother and the baby. Here, we are reporting a case of a 33-year-old lactating mother who presented with a solitary, rapidly growing nodule on the abdomen. Nodular malignant melanoma was diagnosed on further evaluation with histopathology and immunohistochemistry.

Keywords

- pregnancy-associated melanoma
- nodular melanoma
- lactation
- postpartum

Introduction

Malignant melanoma (MM), as the name suggests, is a malignant tumor arising from melanocytes. It is the most common malignancy reported during pregnancy, lactation.[1] MM constitutes 4% of skin cancers but accounts for more than 90% of skin-cancer mortality due to its metastatic potential.[2] It is twice as frequent in men than in women.[2] Incidence of MM before puberty is low but has a high incidence in the 20 to 40 years; hence, around one-third of women diagnosed are of reproductive age group. Whether MM diagnosis during pregnancy or breastfeeding affects the prognosis is debated. Its incidence varies around the world, with the least affection in Asians. In dark skin, acral melanomas are the most commonly encountered variety of melanoma. Nodular melanomas and melanomas involving the trunk are rare and constitute less than 15% of all melanomas.[2]

Surgical excision of the early primary lesion improves the survival rates.[2,3] Therefore, emphasis must be placed on the early recognition and treatment of MM, especially in lactation and pregnancy.[4]

As there is a paucity of published literature on managing such cases, we report this case.

Case History

A 33-year-old lactating woman who was 16 months postpartum and in previously good health presented with a black raised lesion on the left side of the abdomen of 2 and half years duration. She reported that it started as an asymptomatic dark, pea-sized, flat area. It did not show any changes for almost 2 years. Six months ago, the patient noted a sudden, rapid increase in the size of the dark area, along with a new red-colored growth above the surface of the dark lesion. The red-colored growth increased to the size of a lemon in 6 months. The patient complained of associated itching, intermittent pain, small amounts of purulent discharge, and bleeding from the red-colored growth. She did not complain of any history of fever, weight loss, or loss of

DOI https://doi.org/10.1055/s-0043-1777671.
ISSN 0971-5851.

Thieme Medical and Scientific Publishers Pvt. Ltd., A-12, 2nd Floor, Sector 2, Noida-201301 UP, India

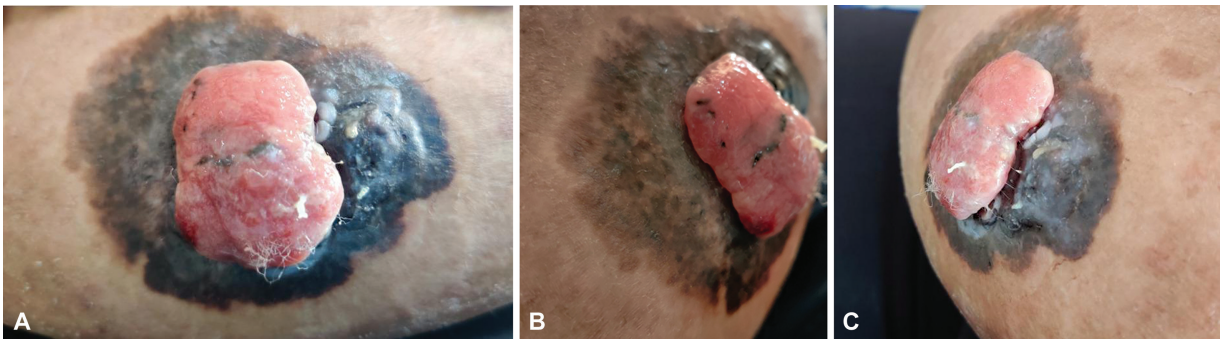

Fig. 1 (**A–C**) Hyperpigmented plaque with a well-defined border, irregular surface, on the left side of the abdomen in the lumbar region. Variegated pigmentation, seen on the right > left. Purulent discharge is seen. There is an erythematous nodule on the above-mentioned plaque with speckles of hyperpigmentation on its surface. Note that there are no satellite lesions present.

appetite. She was not a known diabetic or hypertensive. There was no family history of malignancies.

On cutaneous examination, there was solitary hyperpigmented plaque measuring 5 × 6cm with a well-defined border on the left side of the abdomen. A variegated appearance of pigmentation was present. On top of this was a fleshy nodule of 2 × 2 cm, with purulent discharge on its surface. No satellite lesions were present. On palpating, it was tender, firm in consistency, and nonmobile. There was no significant lymphadenopathy. On palpation of the abdomen, it was soft, nontender, and no organomegaly was noted. Clinical differential diagnosis of pyogenic granuloma based on the tendency to bleed and the morphology of the lesion was considered. Other malignancies like pigmented basal cell carcinoma, squamous cell carcinoma, and MM were the other differentials based on the presence of recent history of rapid increase in size, pain, and bleeding tendency and atypical appearance of the lesion (►**Fig. 1**). She was counseled, and an excision biopsy was done. Histopathological examination revealed an ulceroproliferative tumor lined by stratified squamous epithelium. The epidermis and the underlying dermis showed epitheloid melanocytes in expansile nodules. Tumor cells were round to polygonal, occasionally pleomorphic, having irregular nuclei, containing prominent nucleoli, coarse, speculated, irregularly thickened chromatin, in frequent typical and atypical mitosis 6 to 8/high power field. Focal areas in the nodules and epidermal tumor cells showed melanization. Nonbrisk lymphocytic infiltration was present. The tumor cells invaded the papillary dermis and extended into the reticular dermis. No lymphovascular or subcutaneous adipocyte infiltration was noted. Breslow thickness of 8 mm and Clark level-IV were observed. A histopathological diagnosis of invasive melanoma, nodular melanoma subtype, was made. The pathologic stage classification was pT3b (melanoma >2mm in thickness with ulceration) as per American Joint Committee on Cancer (AJCC) 8th Edition. On immunohistochemistry, tumor cells were positive for S-100, HMB45, and Melan-A, suggesting MM. A contrast-enhanced computed tomography showed no local and distant metastasis. Hence, a final diagnosis of invasive melanoma, nodular melanoma subtype, was made (►**Fig. 2**). As the lesion was already removed, adjuvant radiotherapy was advised, which the patient refused and is currently on regular follow-up.

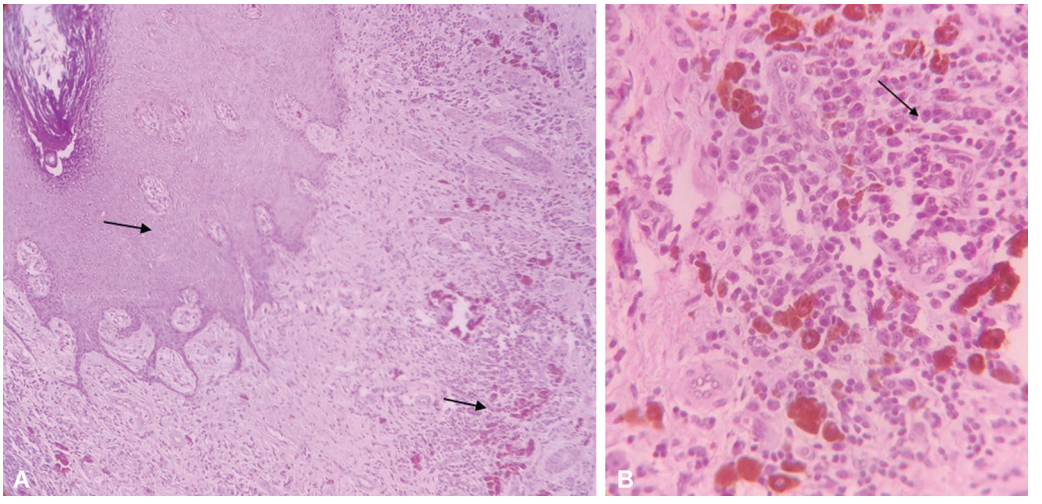

Fig. 2 (**A**) Histopathology—An ulceroproliferative tumor lined by stratified squamous epithelium. The epidermis and the underlying dermis show nests of epitheloid melanocytes in expansile nodules (hematoxylin and eosin [H&E] x10). (**B**) Histopathology: The epidermis and the underlying dermis show nests of epitheloid melanocytes in expansile nodules. Tumor cells round-polygonal, occasionally pleomorphic having irregular nuclei (H&E x40).

Discussion

The consequences of pregnancy-associated hormonal changes on MM development and progression are debatable. More aggressive MM may be due to pregnancy-induced immunosuppression and higher estrogen levels.[5,6] MM has hormone-sensitive components, as demonstrated by the darkening of moles during pregnancy, higher MM diagnosis post-puberty, and progesterone and estrogen receptors on its surface.[2,7] Further, change in pigmentation and size of nevi may be misinterpreted as physiological changes of pregnancy, leading to delay in diagnosis. Also, fetal concerns might give rise to less-aggressive treatment, leading to poor prognosis.

Cutaneous surgeries can be performed safely in lactating or pregnant patients, as long as anesthetic, analgesic, and antibiotic medications that are safe during pregnancy and lactation are chosen. Subsequent pregnancies are to be delayed for 2 to 3years due to a high risk of recurrence, as suggested by Driscoll et al.[1]

A British cancer register study studied prognoses of various malignancies in the postpartum period and noted significantly-greater mortalities in MM diagnosed during first-year postpartum (hazard ratio: 2.06, 95% confidence interval: 1.42–3.01).[8] This may be due to disproportionately higher and delayed diagnoses of MM in initial postpartum, which were missed in gestation. In a case report by Ziogas et al, five cases of pregnancy-associated melanoma (PAM) were reported. All of them developed extensive metastatic disease with multiple organ involvement. All cases progressed in less than 6 months under therapy and died. All the delivered babies were alive and healthy; one developed MM by age 2. It shows that case-to-case variations are seen, and the neonates are to be monitored closely for signs of development of MM.[9]

Stensheim et al in their study published in 2009, involving all cancer types, with 160 PAM and 4460 non-PAM, showed increased mortality in PAM.[10] Although earlier reports suggested a poorer prognosis of PAM, recent studies have shown no such effects on survival in localized MM (AJCC I, II).[11–13]

A population-based cohort study of MM in women of childbearing age and pregnancy in California between 1994 and 2015 concluded that postpartum period was associated with increased thickness of the tumor and no lymph node examination compared to non-PAM. It again emphasized the relevance of race/ethnicity, socioeconomic status, and health insurance impacting the survival of these patients. Another observation was that demographic, clinical, histological characteristics and management were identical for both PAM and non-PAM.[14]

Van Rooij et al reported a case of an Australian, Fitzpatrick skin type 1 woman with dysplastic nevus syndrome who, over 15 years, developed nine MMs, with eight clustered around an 18-month perinatal–postpartum period. Of the nine MMs, the first eight MMs were in situ lesions, and the ninth was invasive melanoma. Her father had lentigo MM at the age of 48 years old and died of nonmelanoma skin cancer at the age of 64 years old. Her lesions were excised. No metastatic disease was observed over an extensive follow-up period of 18 years.[15]

There is a paucity of data regarding the prognosis of MM diagnosed in the postpartum period and the influence of pregnancy. To the best of our knowledge, there is no such case of PAM reported in India as of today and hence our case becomes important.

Conclusion

Any fleshy nodule detected during pregnancy has to be carefully evaluated with a high index of suspicion, both clinically and by histopathological examination, to rule out malignancy.

Authors' Contributions

Banavasi Shanmukha Girisha and Kavya Chikkanna were involved in conceptualization, designing, definition of intellectual content, literature search, clinical and experimental studies, data acquisition and analysis, statistical analysis, manuscript preparation, editing, and review. S Teerthanath contributed to conceptualization, definition of intellectual content, clinical studies, data analysis, and manuscript editing and review. Caren D'souza helped in conceptualization, definition of intellectual content, experimental studies, data analysis, and manuscript preparation. All the authors provided guarantee for this study.

Presentation at a Meeting

Organization: IADVL Mid Dermacon 2022.
Place: Lucknow, India.

Patient Consent

Taken.

Source(s) of Support

Nil.

Conflict of Interest (If present, give more details)

None declared.

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