

Amelanotic Malignant Melanoma - A Case Report and Short Review of Literature - Case Report

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Abstract: Amelanotic melanoma (AM) is a rare form of melanoma which lacks visible pigment. it is difficult to establish certain clinical criteria because of its atypical clinical presentation and varied histopathological appearance. Amelanotic melanoma has poor prognosis. Here, we present a case of 23 year old female patient presented with amelanotic melanoma defined clinically as a non-pigmented lesion and histopathologically as a tumor lacking significant melanization.

Keywords: malignant melanoma, immunohistochemistry, desmoplastic small round cell tumour, amelanotic malignant melanoma.

1. Introduction

Cutaneous melanoma represents a very aggressive type of cancers that has one of the fastest growing incidences worldwide.¹ the incidence of amelanotic melanoma has been estimated to be between 1.8% and 8.1% of all melanomas.² It is most commonly subungual.³ It presents diagnostic difficulty for the clinicians, because it lacks the usual melanin pigment and there is no fixed criteria for diagnosis are available. Immunohistochemistry play important role for diagnosis of amelanotic melanoma .

Case report : A 23 year female patient presented to the surgery department with complaint of single nodular ulcerated mass lesion in right thumb since one year. On general physical examination On general physical examination patient was afebrile, moderately built, moderately nourished. Laboratory investigations showed normal haemoglobin value, raised total leukocyte count, urine examination were within normal limit. Magnetic resonance imaging study right wrist shows large multilobulated ulcerative exophytic mass lesion noted in right thumb infiltrating underlying muscles encasing neurovascular structure. histopathological examination done .

Histopathological examination : gross features – specimen of right thumb was received measuring 11x 9 x 7 cm. with attached skin flap of size 8x8 cm. an ulceroproliferative area seen at one surface measuring 10x7 cm involving the whole thickness. Cut surfsce was homogenous white with area of haemorrhage and necrosis.

Microscopic examination shows features of Desmoplastic small round cell tumour. Lymph node metastasis was absent. Immunohistochemistry examination shows Malignant melanoma (Amelanotic)

2. Discussion

Amelanotic melanoma/ hypomelanotic melanoma is a subtype of cutaneous melanoma characterised by little or no pigmentation on clinical examination⁴

It accounts for approximately 4% of all skin cancers, but is responsible for 79% of all skin cancer related death⁵. Amelanotic melanoma is most commonly subungual, localized and appearing like an exophytic papular or plaque-like reddish lesion and is often ulcerated.^{6,7} Several studies indicate that amelanotic melanoma is associated with adverse survival because the tumors are more advanced at diagnosis. Amelanotic melanoma may present as a frequently eroded exophytic nodule simulating a pyogenic granuloma or haemangioma, or it can mimic a skin-colored dermal plaque, leading to delayed diagnosis until advanced depth of ulcerations results in metastases.^{4,8}

Other features associated with amelanotic melanoma were female sex, nodular subtype, increased Breslow thickness, presence of mitoses, solar elastosis, and lack of co-existing nevi.

Amelanotic melanomas can be found among all histologic subtypes, including superficial spreading, nodular, lentigo maligna, and acral lentiginous melanoma.^{9,10} Nodular variety is the most common variety of amelanotic melanoma . These lesions are classically pigmented but amelanotic subtype is also well documented in the literature, which is often difficult to diagnose and requires microscopic evaluation aided by immunohistochemistry for correct diagnosis.¹¹

Our case highlights the importance of IHC studies for making an correct diagnosis. Skeletal muscle metastasis is an unusual occurrence in melanoma. The exact incidence of muscle metastases of melanoma is unknown. There are very few reported cases of muscle metastases from malignant melanomas.¹²

In our case metastasis was absent in axillary lymph node sent for histopathological examination.

Even on histopathology melanoma has attained diagnostic notoriety for its capacity for histomorphological diversity and ability to masquerade as a number of non-melanocytic neoplasms, especially true for the amelanotic variety¹³ amelanotic melanoma should be differentiated from following clinical entity-

- Ewing sarcoma /primitive neuroectodermal tumour
- Rhabdomyosarcoma
- Poorly differentiated synovial sarcoma
- Mesenchymal chondrosarcoma
- Malignant adnexal tumour
- Small cell carcinoma
- Melanoma
- Haematopoietic malignancies.

We made provisional diagnosis on histopathology as desmoplastic round cell tumour. Various IHC marker were applied as HMB45, S-100, Melan A, Vimentin, Pan CK. Final diagnosis was made as amelanotic malignant melanoma.

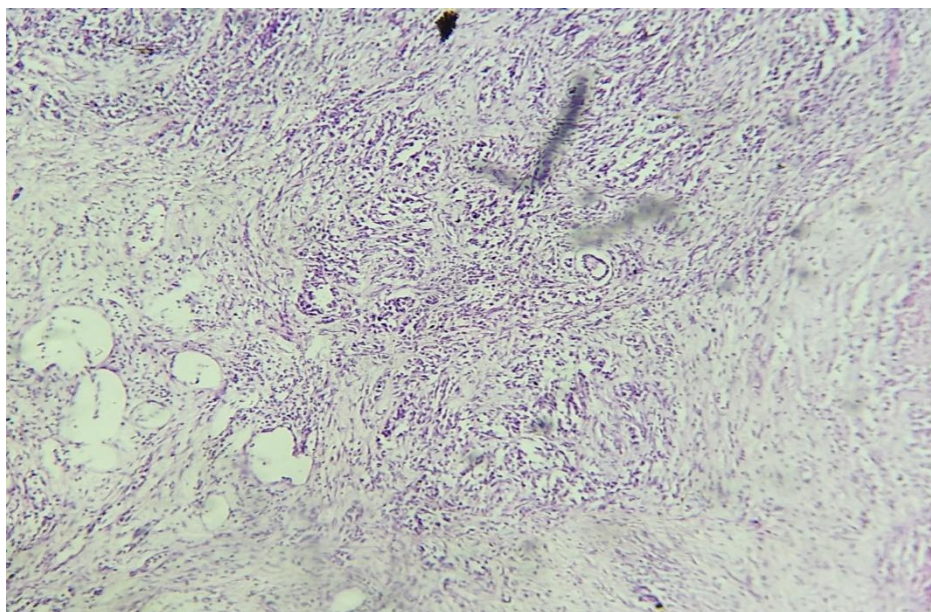
3. Conclusion

Amelanotic melanoma poses a distinct challenge in diagnosis, as lack of pigment makes these tumors difficult to identify at early stages. Histopathology and immunohistochemistry are essential for diagnosis of AM. AM should be regarded as poorly differentiated form of melanotic melanoma with grave prognosis if not treated timely.¹⁴ Summary, though amelanotic melanoma of the hand is a rare clinicopathological entity, we recommend non-healing hand ulcers should engender a suspicion of malignancy and demand early biopsy. This case report emphasizes the importance of early diagnosis of amelanotic melanoma for medical practitioners.

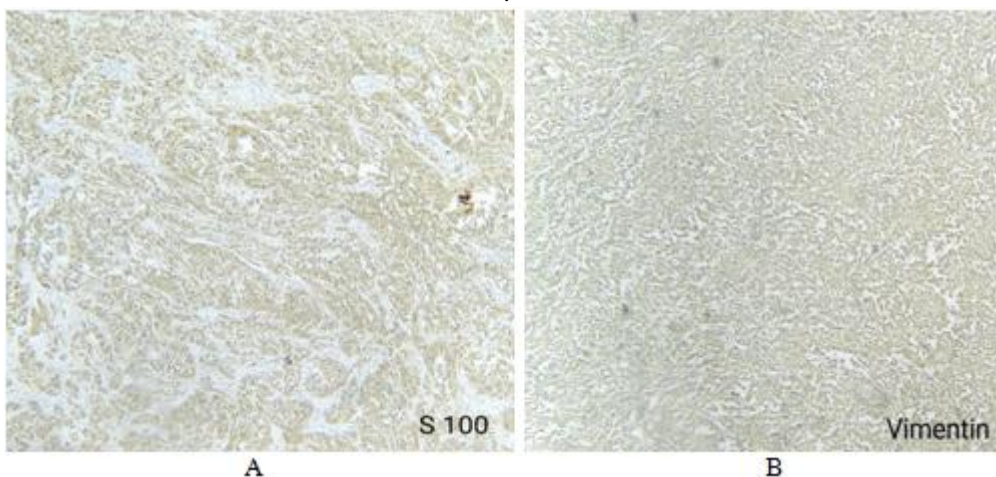
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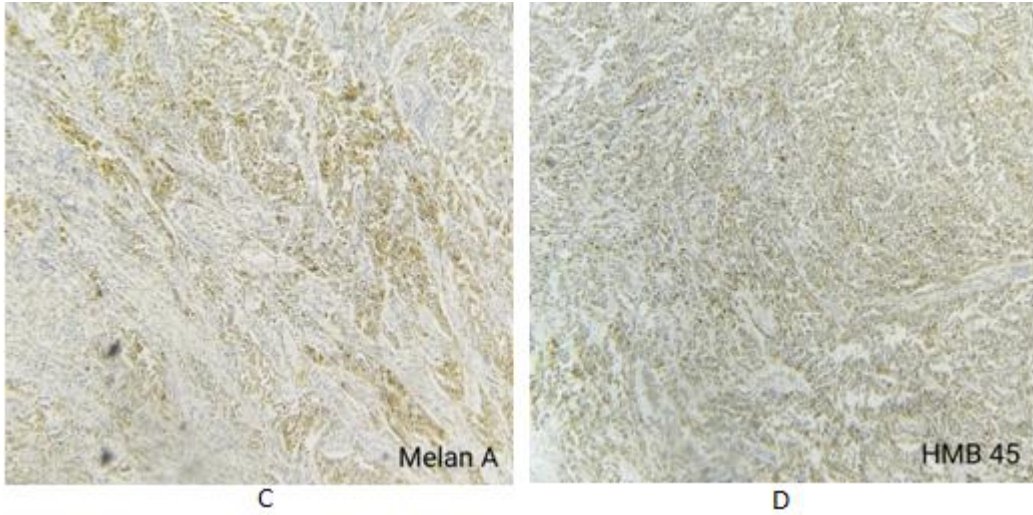
Figures



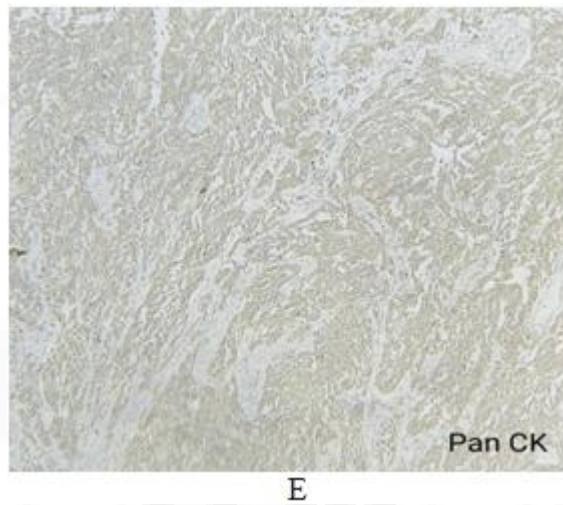
Photomicrograph of amelanotic malignant melanoma (H & E) X 40x



A) Immunohistochemistry photograph showing S-100 positivity.
B) Immunohistochemistry photograph showing Vimentin positivity



C) Immunohistochemistry photograph showing Melan A positivity.
D) Immunohistochemistry photograph showing HMB 45 positivity.



E. Immunohistochemistry photomicrograph showing Pan CK Positivity.