Case report

A Rare Case of Acral Lentiginous Melanoma: A Rare Variant with Unique Diagnostic Challenges and Management

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Abstract

Acral lentiginous melanoma (ALM) is so called because of the location and histological orientation of the tumor. It can develop on the sole, palm or subungal surface. Lesions on the palms, soles or nails typically accompany this rare type of melanoma. Although it is uncommon, it is the most frequently found subtype of melanoma in people who are not Caucasian, such as Latinos, Africans, Chinese, and Koreans. The diagnosis is most commonly made in the 60s or 70s of life.

Keywords: Acral lentiginous melanoma (ALM), subungal, lesions.

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1. Introduction

Palms, soles and under nails can be home to the uncommon ALM subtype. Study done on ALM shows that majority of the cases were Black suggesting that this type of melanoma is more commonly seen in this ethnic group[1]. Based on adjustments for age, the incidence rate for ALM patients was 2.0 per million person-years[2]. There are a number of factors that can lead to a delay in diagnosis including a variety of clinical presentations, variant dermoscopy findings, a high rate of amelanosis and low awareness[3]. The genetic predisposition and pathophysiology of melanoma's clinical subtypes vary; ALM in particular has a dismal prognosis when compared to melanoma's other histologic subtypes and anatomical sites. Important prognostic markers in ALM include tumor thickness, tumor spread, age, ulceration, and tumor location at diagnosis[4].

2. Case Presentation

A 63-year-old male farmer presented to the Benazir Bhutto Hospital's Dermatology Outpatient Department (OPD) complaining of a small, discrete, blackish lesion on the left foot's heel that had been there for the previous two years and had an unclear border. Ulcer forms as lesion worsens over time; fluid containing blood occasionally expelled. Aside from a lack of itching, the patient reported no discomfort related to the lesion. Diabetes mellitus and hypertension were not present in the patient's medical history. There is no history of any skin malignancy in the family. In addition to denying pruritis, the patient denied experiencing any systemic symptoms such as fever, cough, loss of weight, or headache. There was no evidence of pallor, cyanosis, icterus, edema or lymphadenopathy on the patient's general physical examination and all vital signs were within normal limits. The results of the systemic evaluation were similarly within the typical range. During the physical examination, a crusted deep ulcer measuring 3x2.5 cm^2 was seen on the left heel. The lesion was nontender and had an uneven border. The discharge from the ulcer contained blood and the surrounding skin was hyperkeratoric and black coloured.

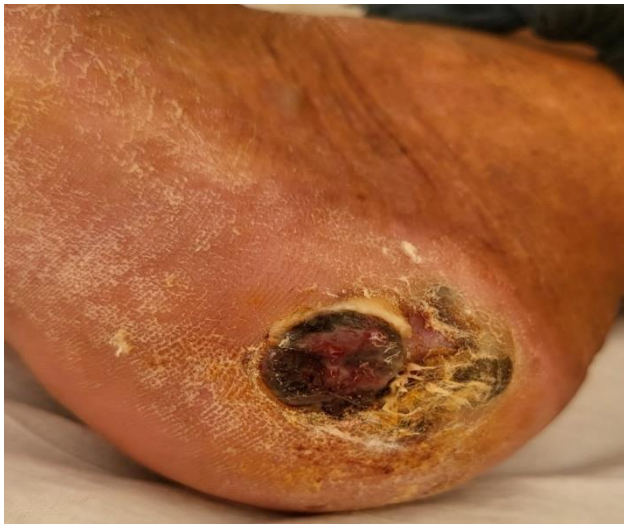

Figure 1. Discrete black lesion measuring 3x2.5cm on left heal with surrounding hyperkeratotic skin.

Management: To conduct the histological examination, a wedge biopsy was taken from the patient's left heel using an incisional technique.

Dermoscopy: The 10-mm lesion showed asymmetrical pattern, irregular diffuse pigmentation and irregular fibrillar pattern

Histopathology: The incisional fragment from the left heel showed hyperkeratosis, acanthosis, and one fragment showed surface ulceration, acute and chronic inflammation and infiltration by atypical cell in the form sheet and nest. These cells had abundant melanin pigment and pleomorphic hyperchromatic nuclei with eosinophilic nucleoli and moderate cytoplasm. The surrounding tissue showed necrosis and dense inflammatory infiltrate.

Imaging study (Contrast enhanced computed tomography result): Multiple variable sized sub-pleural and intra-pleural, soft tissue nodules were seen. Multiple bilateral inguinal lymph nodes were also seen which were suggestive of most likely secondary metastasis, making stage T4N2M1.

Treatment: As having stage 4 ALM, our patient was counselled in details. He was advised sun protection and all his family members were counselled to do regular skin examination. Patient was instructed for regular visit in Dermatology OPD for palliative care which was offered in liaison with oncology department.

3. Discussion

All racial and ethnic groups have a similar frequency of ALM, but darker-skinned individuals have a greater percentage of ALM melanomas. In contrast to other types of melanoma, where UVB exposure is known to increase the risk of development, ALM lesions commonly appear on sun-protected locations; this finding could be the result of a distinct pathophysiology of ALM[5].

Although there are more and better ways to treat cutaneous melanomas, the prognosis for plantar melanomas is often dismal. Among the many possible causes, the fact that the patients of non-Caucasian ethnicities often have more advanced tumors when they come in for treatment is a major one. This can be due to a lack of awareness about the need of preventative screenings or to the widespread belief that people having dark colour skin are immune to skin cancer. Similar to how cutaneous melanoma is managed, localised ALM is also managed. At first, the diagnosis will be confirmed and the disease stage, surgical resection extent and sentinel lymph node (SLN) therapy will be determined by biopsy and histological testing[6].

In our patient, palliative care was provided. Adjuvant treatment with immunotherapeutic drugs such as pembrolizumab or nivolumab for one year is advised for higher-stage localised illness (> Stage IIB). Another possibility is adjuvant treatment with BRAF/MEK inhibitors like trametinib or dabrafenib if a BRAF/MEK mutation is found. Drugs targeting KIT mutations, such as imatinib have been investigated in metastatic situations and the frequency of positive cases is higher in acral lentiginous melanoma. We do not yet know their function in adjuvant treatment[7]. A more favourable prognosis and shorter time to diagnosis for ALM might be achieved through public awareness initiatives, patient education and physician training that targets all ethnic groups[8].

4. Conclusion

Although it is more common in persons with dark skin, acral lentiginous melanoma is still a very rare subtype of malignant melanoma. Genetic abnormalities such as mutations in the BRAF, NRAS, and KIT genes, have been linked to the disease although the exact mechanism is still unclear. It is believed that delay and misdiagnosis contribute to the advanced stage of presentation in acral lentiginous melanoma which in turn leads to a particularly bad prognosis. In order to improve survival results for melanoma in African and Asian communities, there has to be more awareness, comprehensive physical examinations, patient education and early screenings.

Additional Information

Disclosures

Human subject: Participants in this study either provided their informed consent or chose not to provide it.
Conflicts of interest: This work's authors have made the following declarations in accordance with the ICMJE uniform disclosure form: Payment/services info: The authors have all verified that they did not receive any funding to produce this work.
Financial relationships: The authors have all stated that they do not have any financial ties to any organisations that could be interested in the submitted work either now or in the past three years.
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