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Case report

A rare presentation of a giant malignant melanoma in a 67 year old female Ugandan: A case report

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ABSTRACT

Introduction and importance: Malignant melanoma (MM) is a skin cancer whose incidence is alarmingly increasing globally. However, the public, especially among the black population, still has very little knowledge about this condition, yet its early diagnosis is associated with a good prognosis.
Case presentation: We report a 67-year-old female Ugandan who presented with a big ulcerated, fungating mass on her right foot for 3 years which was later confirmed to be a giant MM in advanced stage, and managed palliatively.
Discussion and conclusion: To the best of our knowledge, this has been one of the very few acral lentiginous MMs to be reported in Uganda and Africa at large. MM is still a cancer of public health concern. Increased public and health care workers' sensitization about its early diagnostic features is recommended for better management outcomes among those affected by this cancer.

1. Introduction

Malignant melanoma is a neoplasm that develops from melanocytes [1,2]. In the earlier years, it was considered uncommon; however, reports show its incidence has increased, especially in the developed world [2]. In a recent epidemiological assessment of cancer burden, over 325,000 new cutaneous melanoma cases, with over 50,000 deaths, occurred in 2020 [3]. It was further projected that by 2040, cases would increase to 510,000, with 96,000 people dying from the disease [2,3]. These cases were reported in developed countries, including Australia, New Zealand, and Western Europe. In Africa and Asian countries, the incidence is still low, accounting for less than 1 per 100,000 person-years [3].

Despite a considerably low prevalence, MMs are still a public health concern [4,5]. This is in part due to the slow progress and the delays in diagnosis, especially in low- and middle-income countries (LMICs) [1]. Melanomas can occur de novo on healthy skin or on pre-existing precursor lesions like common acquired nevus, dysplastic nevus, congenital nevus, and cellular blue nevus [5,6]. Factors associated with increased risk of development of MM include ultraviolet radiation, believed to be the main cause [5], genes including CDKN2A (p16), CDK4, RB1, CDKN2A (p19), PTEN/MMAC1, Ras, sunburn [1], and Parkinson's disease (PD), as recently reported in a retrospective case-control study in the Mayo Clinic among patients with PD and those with melanoma. Melanomas commonly occur at exposed sites. We report a 67-year-old female Ugandan who presented with a big ulcerated, fungating mass on her right foot for 3 years, which was later confirmed to be a giant MM in advanced stage, that was managed palliatively and has been reported in line with the SCARE 2020 criteria [7]. The case was observed in a tertiary general hospital located in Luweero district within the central region of Uganda.

2. Case presentation

We present a previously healthy 67-year-old female farmer who presented with a swelling in her right foot for 3 years. The swelling began as a dark pimple measuring about 1 mm in diameter and was painless with no preceding history of trauma. It was progressively increasing in size to the extent that her shoes could no longer fit. Two months prior to presentation, the lesion became ulcerated with a foul-smelling discharge. She reported no history of weight loss, evening fevers, or night sweats. She was neither diabetic nor hypertensive and had

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no family history of any cancers.

On examination, she was sick-looking, not in obvious distress, afebrile to touch, and had an axillary temperature of 36.2 °C. She had moderate palmar and conjunctival pallor, non-tender right inguinal lymphadenopathy, and bilateral grade II pitting oedema. She had no jaundice, cyanosis, or dehydration. The pulse rate was 103 beats per minute, the blood pressure was 123/78 mmHg, and the respiratory rate was 19 breaths per minute. The abdominal and central nervous system exams were unremarkable.

Local examination revealed a foul-smelling, firm mass measuring 8.6 × 5.1 × 10.4 cm located at the medial aspect of the mid-one-third of the right dorsum, strongly adherent to the overlying skin. It had poorly defined margins. Its overlying skin was hyperpigmented with randomly distributed blue-purplish areas and two pus-discharging ulcers. The mass was mildly tender, with no temperature gradient and no bruits. There were no visible or palpable masses in the proximal and distal surroundings of the mass.

She had HIV seronegative status and a random blood sugar of 77.4 mg/dl. The complete blood cell count revealed a normal white cell count, hemoglobin of 9.10 g/dl, a mean corpuscular volume of 68 fl, a mean corpuscular hemoglobin concentration of 32.7 g/dl, and a normal platelet count. The chest X-ray was suggestive of bilateral metastases in both the hilar and parenchymal areas of the lower, middle, and upper lung fields (Fig. 1a and b).

The patient was admitted to a general hospital and started on intravenous antibiotics (Ampicillin/cloxacillin, metronidazole) and analgesics (Paracetamol). A palliative wide excision biopsy with margins of approximately 2 cm by 2 cm was done by a general surgeon. Histology of the tissues confirmed an invasive melanoma with lymph node involvement. Two right inguinal lymph node histology revealed a tumor with an asymmetrical growth pattern involving the dermis diffusely. The tumor cells were pleomorphic, hyperchromatic, and had prominent eosinophilic nuclei, confirming lymph node invasion by the tumor. Fig. 2(a–d) shows the tumor and the lymph node sampled during the surgery. The postoperative period was unremarkable. A split-thickness skin graft was used to cover the defect after the wound had attained good granulation tissue, which graft took successfully. The patient was then linked to the palliative care team for further care with a final diagnosis of Stage IV Acral lentiginous melanoma with pulmonary and right inguinal metastases at T_4 N_2 M_1.

3. Discussion

Acral Lentiginous MM has remained an extremely rare but very aggressive skin cancer, whose incidence has kept gradually increasing over time [8,9]. Very few studies have been done about this disease, and most of the existing data is based on the few case reports published and describes nodular melanoma predominance. A review study revealed that from 1960 to 2016, only 19 MM case reports had been published globally, and out of these, none were from Africa [10]. Of these, eight were on the trunk, six on the upper limb, four on the head, and only one on the lower limb (thigh) [1,10,11]. However, another evaluation of melanomas among Ethiopian patients 96 % predominance of nodular melanoma among 50 cases was described with only one case of Acral lentiginous melanoma from 1996 to 2005 [13]. In contrast to this, acral lentiginous melanoma is one of the very few MM cases to be reported in Africa and on the foot globally.

The etiology of MM is still unclear, but it occurs more among whites than blacks [1,9,10]. The risk factors for MM include a positive family history of melanoma, sensitivity to sunlight, immunosuppression, and a history of a changing mole, among others [8]. In the case of our patient, she was a farmer of black race with no other significant risk factor for MM identified from her history compared to the patient in Malaysia described by Khim and colleagues who had an occupational risk exposure for MM (prolonged exposure to ultraviolent light) [1].

The clinical presentation is usually of a large mass of skin origin, which can grow on any external part of the body. The mass is usually asymmetrical, with irregular borders and variable colour over time, and an increasing diameter of usually at least 6 mm [8] with or without metastases [1,8,13]. Tumor size, metastasis, and ulceration are major determinants of the prognosis of MM [10–14]. In our case, the patient had right inguinal lymph nodes and pulmonary metastases, and this was consistent with the majority of previously published cases [1] in which regional or distant metastasis was a common finding and an indicator of poor prognosis. It is, however, in contrast to a few published reports where MMs were not associated with any metastases [10,15].

The diagnosis of MM is best done based on excisional biopsy examination findings. The lesion suspected of being a melanoma is removed

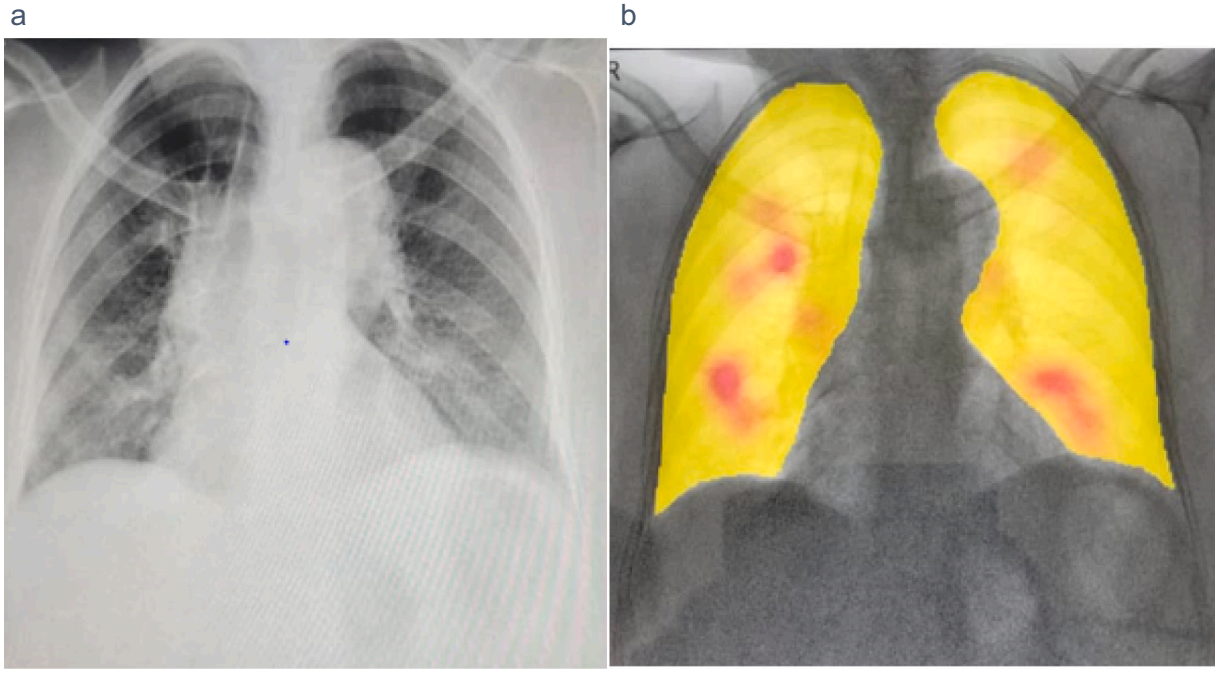


Fig. 1. Chest radiographs (a) and (b) showing lung metastases.

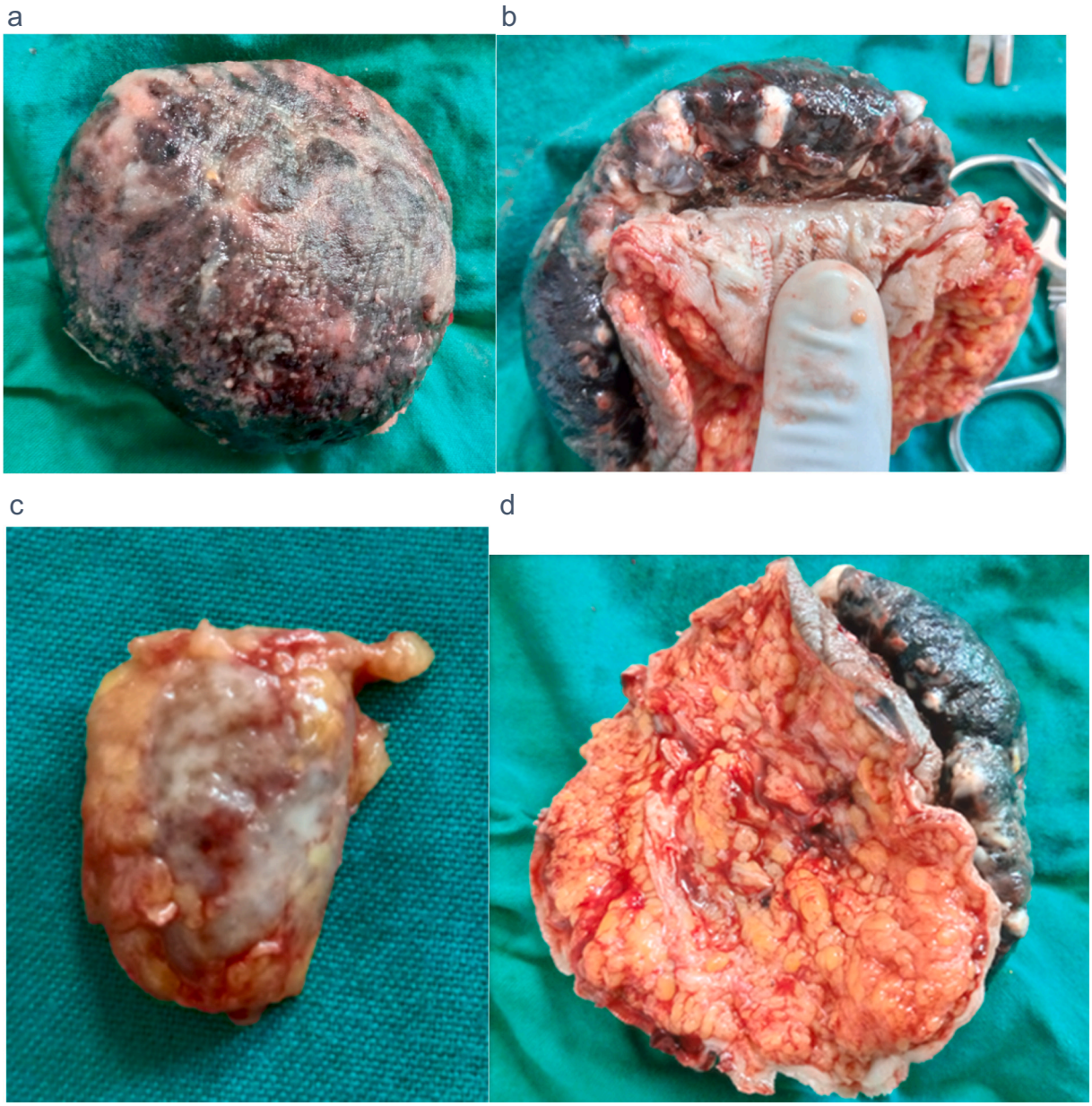


Fig. 2. (a) Tumor mass still intact. (b) Inferolateral aspect of the tumor mass after excision, (c). Lymph node tissue after excision, (d) inferior aspect of the tumor mass after excision.

completely with both vertical and horizontal margins. The whole lesion must be excised so that a measurement of tumor thickness from the granular cell layer to the deepest malignant cell (Breslow's measurement) is done [1,8]. The extent of this thickness is crucial because it determines the prognosis of the disease [10].

The definitive treatment for giant MMs with a Breslow depth of 4 mm or more is wide local excision with a minimum excision margin of 2 cm [1]. In cases of regional lymph node involvement, radical dissection of the MM is the recommended therapy [1,8]. For inoperable or recurrent MMs, radiation therapy should be considered the primary treatment. Radiotherapy also provides palliative treatment in cases of advanced-stage and metastatic disease. Our patient had advanced invasive malignant melanoma and was linked to the palliative care team.

4. Conclusion

Malignant melanoma is a curable disease, especially when diagnosed early. Targeted immunotherapy should be considered as a treatment modality especially in these limited resource settings due to its efficacy. Despite late presentation, patients' quality of life can still improve with appropriate intervention. We therefore recommend mass sensitization campaigns targeting at-risk groups. Additionally, we recommend community screening strategies which could be done in form of medical camps with melanoma screening strategies for early disease identification.

Consent for publication

Written consent was obtained from the patient for publication of this case report and accompanying images and is available for the review by the Editor-in-Chief of this journal on request.

Ethical approval

This case report was exempted from ethical approval by Kampala international university research and ethics committee because the

report was made in retrospect after the patient had been managed

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Author contribution

Godfrey Wekha, Isaac Ebiju and **Innocent Ayesiga** managed the patient and wrote the first draft. **Joshua Muhumuza and Blaise Kiyimba** critically revised and edited the manuscript.

All authors approved the final manuscript submitted.

Guarantor

Godfrey Wekha.

Research registration

Not applicable.

Declaration of competing interest

No conflict of interest.

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