

Primary Cutaneous Malignant Melanoma with Papillary Features. A case report signifying Morphologic diversity in Malignant Melanoma

Abstract

Aim: The purpose of this work was to describe the way how primary cutaneous malignant melanoma can present with papillary features and hence mimicking malignant tumours which are commonly accompanied with papillary features such as papillary thyroid carcinoma.

Presentation of case: The case reported in this article was of an African female aged 61 years who presented with a darkish small swelling on the dorsum of the right hand which was slightly painful and tender with a duration of 3 months since its onset.

Discussion: Malignant melanoma as it is encountered in daily clinical practice, ought to be deemed as being a malignant tumour that can sometimes show diverse histomorphological presentation including papillary features as it was in the case herein reported. This kind of presentation can lead to wrong diagnosis, thus, contributing to delaying of proper diagnosis and even jeopardizing the prognosis of the patient.

Conclusion: Malignant melanoma should be included in the differentials of tumours with papillary features.

Keywords: Malignant melanoma, Papillary features, Mimicking, Cutaneous.

Introduction

Malignant melanoma is one of the commonest skin cancers with high incidence in people with fair skin. Reports indicate that the highest incidence rates form malignant melanoma are found in

Australia (39 new cases per 100,000 people per year) and New Zealand (34 new cases per 100,000 persons) and also USA (17 new cases per 100,000 persons) followed by the Scandinavian countries such as Germany [1]. Geographic location and genetics are the known factors for the cause of variation in occurrence of malignant melanoma across regions in the world. Malignant melanoma has been reported to have morphologic diversity posing diagnostic challenges especially when is not pigmented and at the same time presents with significant papillary features [2]. Here a 61-year old female with primary cutaneous malignant melanoma with papillary features is presented.

Case Presentation

A 61-year old Africa black female presented at the surgical department with a darkening roundish swelling involving the posterior aspect of the right fore hand below the wrist joint which was associated with pain and tenderness. The patient reported a duration of 3 months. She explained that initially it was a small blackish dot-like which some years back it started itching and widening. She denied a history of trauma or record of any family member with malignant melanoma

On physical examination, the swelling was blackish with ill- raised margins measuring 3 x 2 cm. regional lymph nodes were unremarkable. Other systems were unremarkable. Since suspicion of malignant melanoma was not made, an incisional biopsy was done followed by submission to the histopathological laboratory for histological evaluation. Five fragments of soft tissue, some with epidermis showing no ulceration, measuring 6cc in total. Microscopically, the tissue sections were infiltrated by a nodular solid tumour composed of malignant highly pleomorphic large epithelioid cells with brownish intracytoplasmic pigments (Figure 1). The mitotic count was 3 mitoses/HPF. Perineural and lymphovascular invasion were seen. There were areas with prominent tumour cells with fibrovascular cores forming a papillary pattern. Using Clark level system for assessing level of depth of tumour invasion, it was found that the level of invasion was level V. The tumour cells were strongly positive for HMB-45 antigen (Figure 2) and S-100 protein (Figure 3).

Discussion

Papillary and pseudopapillary features are commonly histopathologic findings typically associated with carcinomas arising from thyroid, pancreas, breast, prostate, bladder, kidney, ovary or mesothelioma [3]. Observation of such features in malignant melanoma may become a challenge at some point because of being uncommon. One of the possible challenge is thinking of the presence of metastatic carcinoma from one of the organs in which carcinomas with papillary features are very common. In a brief report of Balocch et al [4] on papillary formations in metastatic malignant melanoma, they argued that, the prominent papillary groups in Fine Needle Aspiration (FNA) smears from various body sites may be mistaken for metastases from other malignant neoplasms with similar features such as ovary, thyroid, pancreas, and kidney. This can lead to inappropriate management. Therefore, the key issue in understanding this subject of malignant melanoma having papillary or pseudopapillary features is centered at the point of avoiding the possibility for the one encountering such case to have a thinking that malignant melanoma can also present with papillary features morphologically and it should be included in the differentials of carcinomas with papillary or pseudopapillary features.

Findings of papillary growth features in malignant melanoma, in fact, are well-known in the discipline of histopathology. Several authors name this pattern as “pseudopapillary” due to discohesion for some of the tumor cells, leading to cuffs of tumor cells around stromal vessels, giving a picture of fibrovascular core appearance [3, 4]. Most of studies in this subject involve case reports and case series and very few studies reported involve a large sample size. In 1990 Nakhleh et al [5], conducted a large study which included 335 patients with malignant melanoma. In this study, the researchers wanted to evaluate the different variants of morphological patterns of malignant melanoma for 27 cases which showed diverse morphology histologically. It was found that 33.3% of the 27 cases had pseudopapillary features and the rest had other unusual histological features such as myxomatous changes etc. in their paper they insisted that where the malignant melanoma lesion is not pigmented (Amelanotic malignant melanoma) presents with unusual histological features, use of confirming tests become unavoidable such as HMB-45 antigen, S-100 protein, Fontana-Masson, vimentin and melan-A. In another study which was done by Bacchi et al [6] in 2011 involving 20 cases of metastatic malignant melanoma presenting as isolated breast tumour. Of all the 20 cases, 7 cases had

unusual histological morphology and 14.3% showed papillary feature. Niederberge et al [7] reported a case of an adolescent girl with central nervous system (CNS) malignant melanoma which had papillary histological features. In another case report of a 23-year old man with cutaneous malignant melanoma reported by Levene et al [8], it was found to have significant papillary features.

Conclusions

Malignant melanoma is supposed to be included in the differential of tumours with papillary features. For amelanotic malignant melanoma (AMM) presenting with papillary morphological features, the use of immunohistochemical and/or histochemical test is mandatory.

Consent disclaimer

As per international standard or university standard, patient's written consent was obtained and has been kept by the author.

Ethical approval

Not applicable.

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UNDER PEER REVIEW

FIGURES

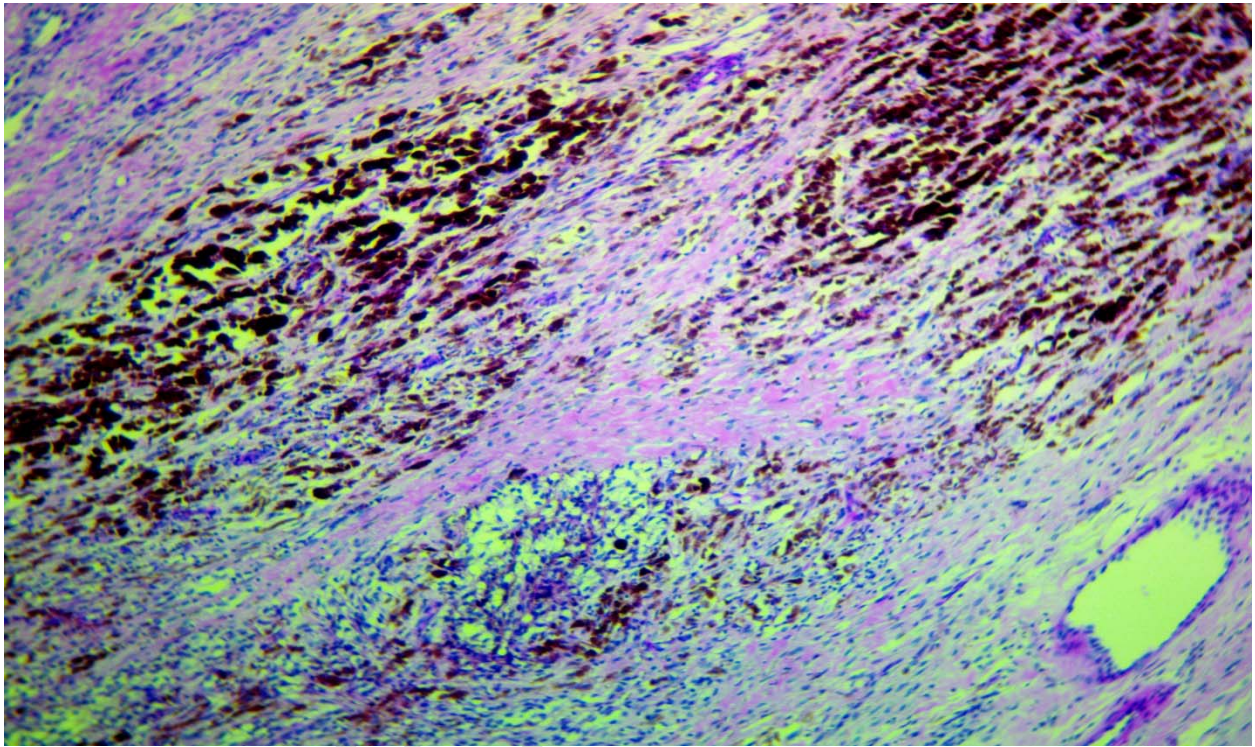


Fig 1 Photomicrograph of H & E stain showing infiltrating brown pigmented tumour cells (200x magnification)

UNDEER

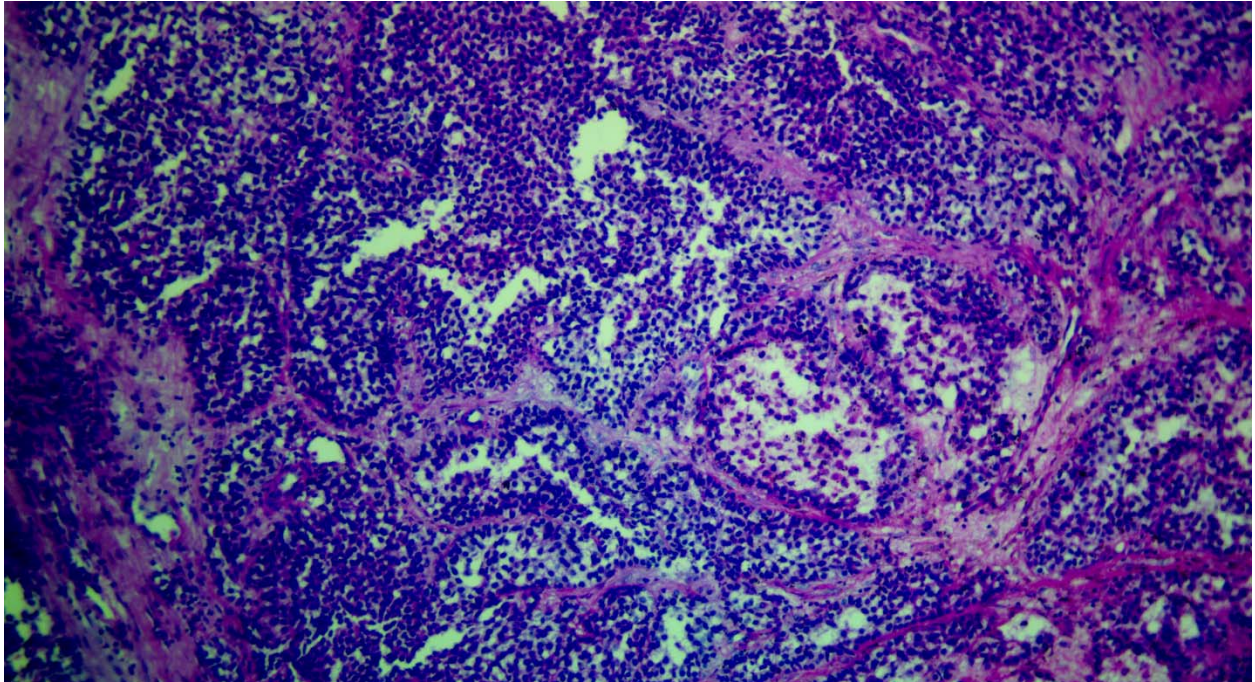


Fig 2 Photomicrograph of H & E showing fibrovascular cores indicating the papillary features where the tumour cells are amelanotic (200x magnification)

UNDER PEER REVIEW

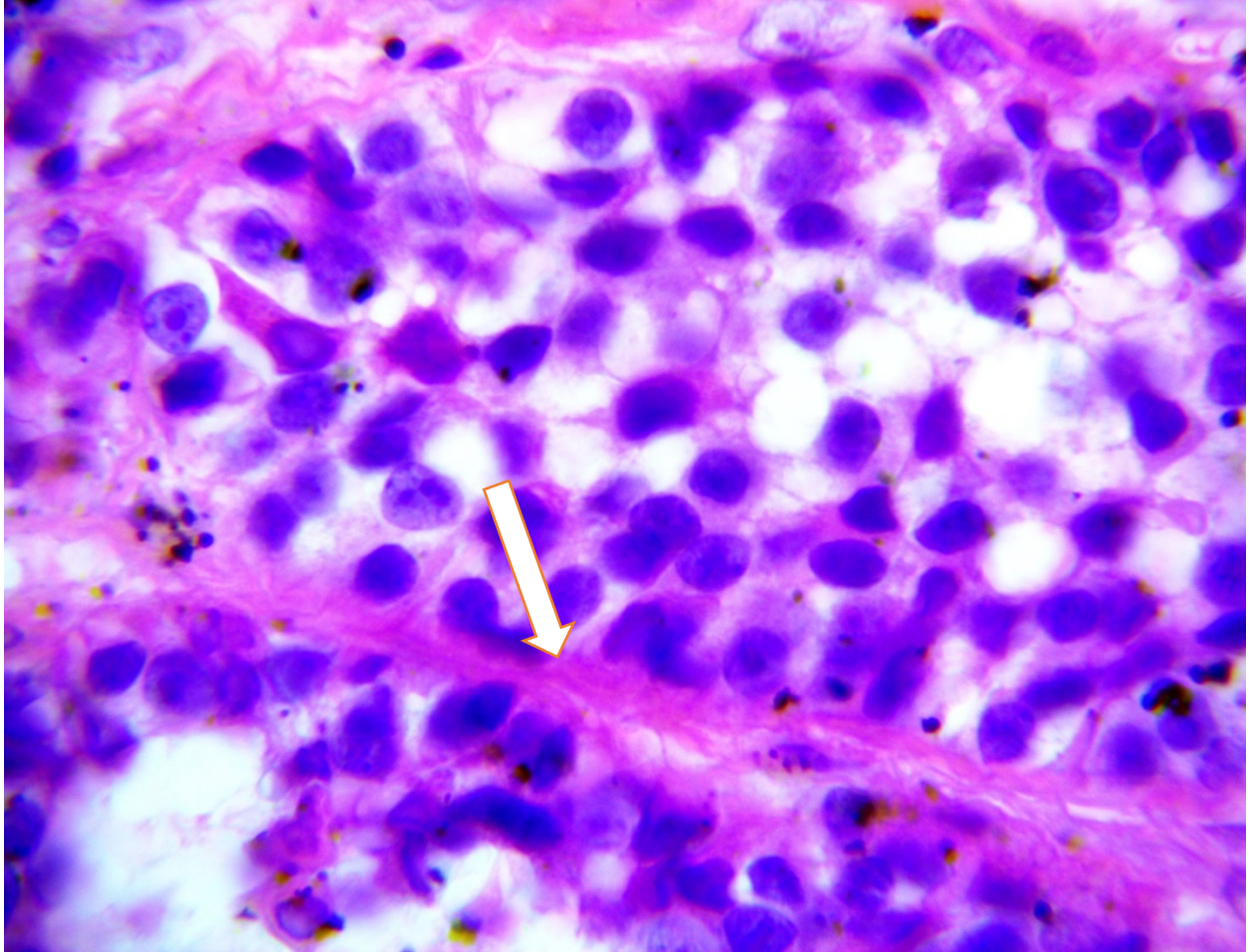


Fig 3a Photomicrograph of H & E showing fibrovascular cores indicating the papillary features (headed arrows) where the tumour cells are amelanotic (400x magnification)

UNDER

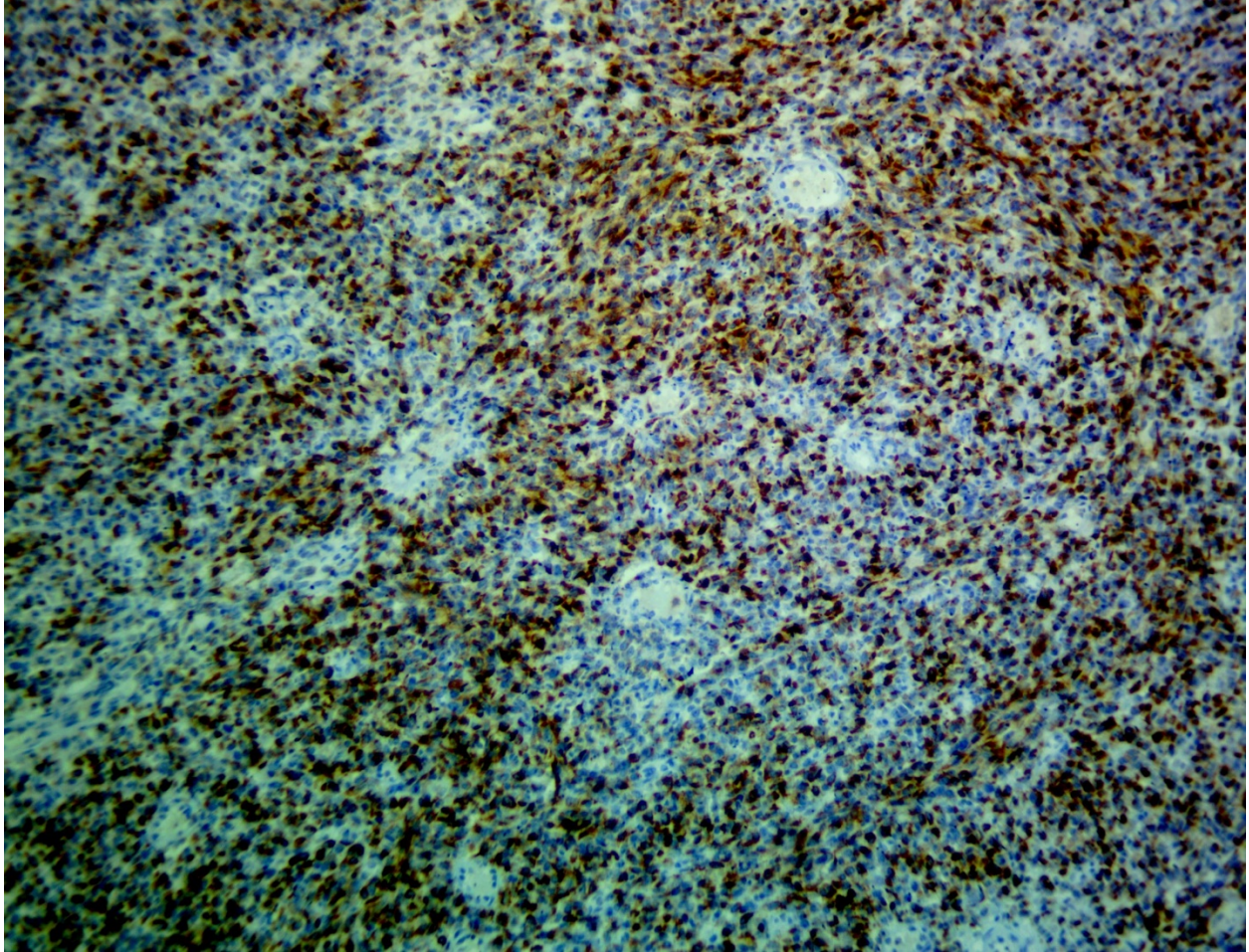


Fig 3b Photomicrograph showing immunohistochemistry strong positivity of HMB-45 antigen (200x magnification)

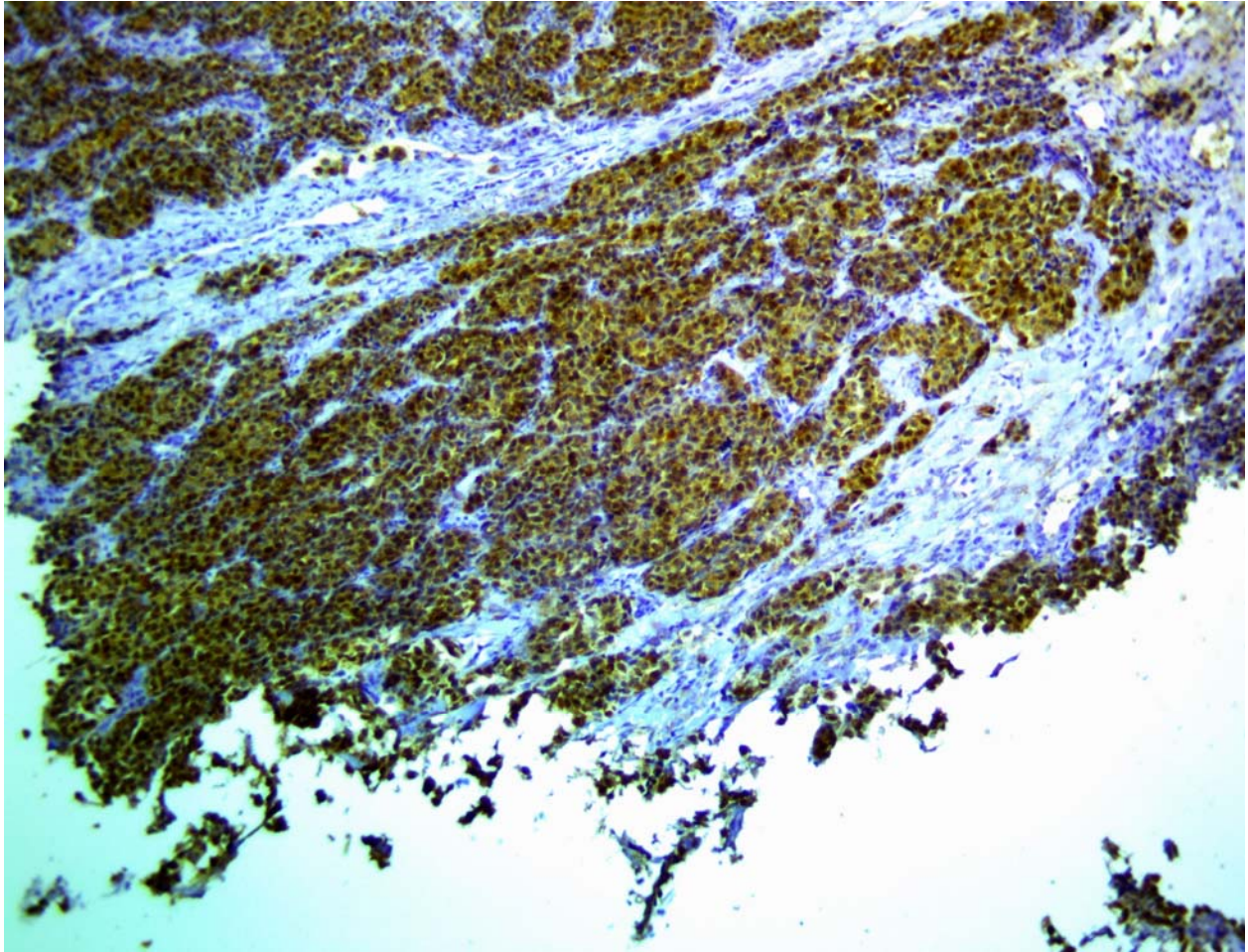


Fig 4 Photomicrograph showing immunohistochemistry strong and diffuse staining positivity of S-100 protein (200x magnification).