Nodular Melanoma Presenting with Cutaneous Horn and Displaying Rhabdoid Features: An Unusual Presentation

Sir,

The incidence of melanoma is increasing rapidly worldwide. Fair skin, ultraviolet light exposure, genetic predisposition, and a high melanocytic nevus count are well-known risk factors. Early diagnosis and treatment are the most important prognostic factors. Melanoma can mimic many benign and malignant tumours clinically, dermoscopically, and histopathologically. Lentigo maligna, lentigo maligna melanoma, superficial spreading melanoma, and nodular melanoma are the classical histological subtypes of melanoma. Diagnosis can be quite challenging, especially when rare cytomorphological and architectural features are present.

An 80-year-old female patient presented with a horny mass on the right eyebrow that had existed for 15 years and had recently darkened in colour. The lesion was completely excised with a preliminary diagnosis of cutaneous horn. Two tissue samples were sent to the pathology laboratory. On macroscopic examination, a 1.8 × 1.5 × 1.5 cm brownish-black, polypoid mass was observed, representing the soft tissue component (tumour tissue) of the sectional surface and the lesion surface (cornu cutaneum) (Figure 1A). Histologically, the tumour comprised both conventional malignant melanoma cells and cells with a rhabdoid configuration, showing variation in density and number from one microscopic field to another. Rhabdoid cells had abundant eosinophilic polygonal cytoplasm, an eccentric large oval nucleus containing prominent nucleoli, and intracytoplasmic hyaline inclusions. The brownish-black appearance of the tumour was caused by melanophages, haemorrhagic areas, and classic melanocytes containing melanin (Figure 1B). There were few rhabdoid cells containing melanin pigment (Figure 1C). Neoplastic cells showed positivity for Vimentin, Melan-A, HMB45, and S-100, while they exhibited focal staining for NSE and CD56 (Figure 1D). Melan-A was more widely stained than HMB45. Desmin, SMA, MSA, panCK, CK19, CK20, CD99, and GFAP were negative. The Clark level of the tumour was IV with a Breslow thickness of 12 mm. The case was diagnosed as 'nodular malignant melanoma with rhabdoid features'. No lymph node or distant metastasis was detected in the clinical and radiological evaluation of the patient at the time of diagnosis. No local recurrence or metastasis was observed in the patient within the following 18 months, during which she was followed up after extensive re-excision.

Cutaneous horn is a term that refers to skin lesions composed of keratotic material. Although approximately 60% of cutaneous horns are benign, the possibility of an underlying malignant skin tumour should always be considered. Molluscum, verruca, Bowen's disease, squamous cell carcinoma, malignant melanoma, and basal cell carcinoma may present with a cutaneous horn.

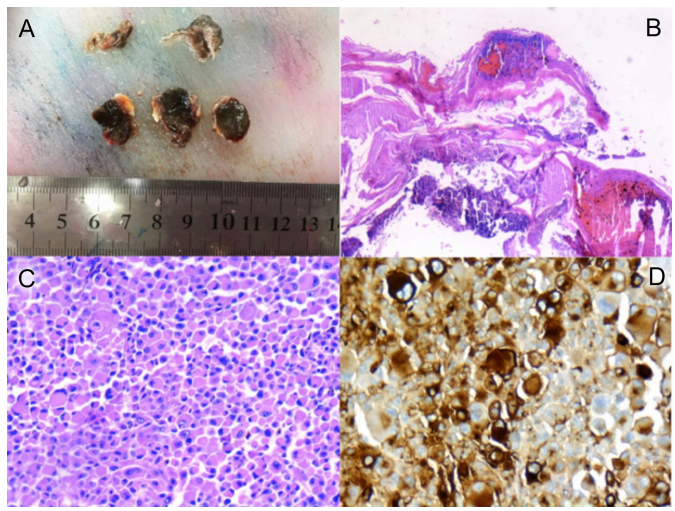

Figure 1: (A) On macroscopic examination, the superior material corresponds to the cornu cutaneum, and the inferior material corresponds to the tumour tissue beneath the hyperkeratotic layer. (B) Microscopic image of the tissue over the tumour, consistent with a cutaneous horn, shows a thick hyperkeratotic, parakeratotic layer containing inflammatory cells and fibrin (H&E, ×100). (C) The tumour consists of large eosinophilic, polygonal cells with pleomorphic, vesicular nuclei, often pushed to the periphery, with prominent nucleoli; some multinucleated, and globular, containing intracytoplasmic hyaline inclusions (H&E, ×200). (D) Immunohistochemically, HMB-45 positivity was found in the tumour (×200).

The term "rhabdoid" was first defined in the context of the histopathological features of an aggressive childhood renal tumour. Rhabdoid morphology is characterised by an eccentric nucleus, a single prominent nucleolus, and large hyaline cytoplasmic inclusions. After the definition of "renal rhabdoid tumour", rhabdoid tumours of many organs have been described.[1] Amelanotic features and a lack of one or more of the melanocytic markers in the immune profile are expected in the primary rhabdoid melanomas. Additionally, it has been suggested that as melanoma in the rhabdoid phenotype becomes dedifferentiated, the likelihood of negativity of immune markers increases.[1,2]

In the present case, due to the presence of a non-pure rhabdoid pattern, the positivity for melanocytic immune markers, and the rare presence of melanin pigment in rhabdoid cells, the term "melanoma with rhabdoid features" was chosen instead of "primary rhabdoid melanoma", based on the current literature.[1-3]

Only three cases of malignant melanoma presenting with cornu cutaneum have been reported in the literature.[4-6] However, no case of melanoma with rhabdoid features presenting with cornu cutaneum has been found.

In cases with a cutaneous horn, the possibility of melanoma should be considered, in addition to basal cell carcinoma and squamous cell carcinoma beneath the lesion. Clinical examination should be performed carefully. If there is suspicion of a tumour, shaving excision and cryotherapy should be avoided before a final diagnosis, and total excision should be preferred. Histological differential diagnosis of tumours involving the skin, such as melanoma, which may present with rhabdoid morphology, should be conducted carefully. In descriptive pathology reports, the presence of tumours with rhabdoid morphology should not immediately lead the clinician to consider mesenchymal tumours, and the possibility of melanoma should be investigated. Histologically, other mesenchymal tumours such as rhabdomyosarcoma, extrarenal malignant rhabdoid tumour, epithelioid sarcoma, undifferentiated pleomorphic sarcoma, carcinomas, and metastatic tumours of unknown primary should be excluded from the diagnosis. Understanding these extraordinary clinical and histological features may be critical in guiding the diagnosis and treatment process correctly.

COMPETING INTEREST:
The author declared no conflict of interest.

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AK: Design of the work, acquisition, analysis and interpretation of the data, drafting of the draft, clinical analysis, revision, and approval of the final revisoin of the manuscript to be published.

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