SKIN

BRIEF ARTICLE

Beware of the “Blue Nevus”: A Case Report

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ABSTRACT

We report a case of a malignant melanoma clinically mimicking a blue nevus. The patient presented for evaluation of a “seborrheic keratosis” status post cryotherapy that clinically resembled a blue nevus albeit with concerning clinical course prompting biopsy. Histopathologic examination revealed malignant melanoma in association with a melanocytic nevus to include areas resembling tumoral melanosis which likely contributed to clinical presentation. We conclude this report with a brief review on the topic of melanoma masquerading as benign lesions (e.g., blue nevus), underscoring the importance of clinical history and histological examination in the evaluation of this entity.

INTRODUCTION

Despite its increased awareness in the last 40 years, clinical diagnostic accuracy of malignant melanoma remains a challenge, especially as it may resemble benign lesions including seborrheic keratoses, intradermal nevi, speckled lentiginous nevi, and blue nevi.[1] In this report, we highlight this issue as we present a case of malignant melanoma that was initially treated as seborrheic keratosis, with subsequent presentation resembling a blue nevus. In doing so, we hope to emphasize the significance of clinical history in avoiding this potential pitfall while elaborating on the role of histological examination in making this distinction.

CASE REPORT

A 78-year-old female patient presented with a 6 mm, oval-shaped, blue-black macule on her right anterior upper arm (**Figure 1**) suggestive of the diagnosis of a blue nevus. Discussion with the patient revealed that the lesion was previously treated with cryotherapy by another provider in the past year and documented as an irritated seborrheic keratosis. The patient presented six months after cryotherapy noting the lesion had returned and had changed in morphology. The remainder of her physical exam was negative, with no evidence of lymphadenopathy or visceromegaly. She denied any other history of trauma or blistering sunburn to the area.

A punch biopsy was performed with a differential diagnosis of blue nevus versus melanoma. Histopathological examination revealed a dermal mass of melanophages

Figure 1. Clinical examination revealed a 6mm, oval-shaped, blue-black macule on the upper arm suggestive of a blue nevus.

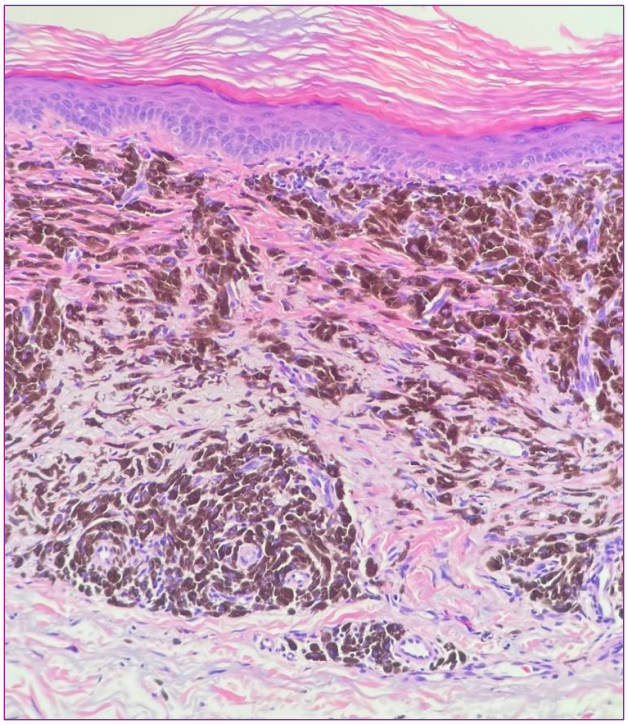

Figure 2. 20x, a dermal mass of melanophages characteristic of tumoral melanosis is present in this field of view.

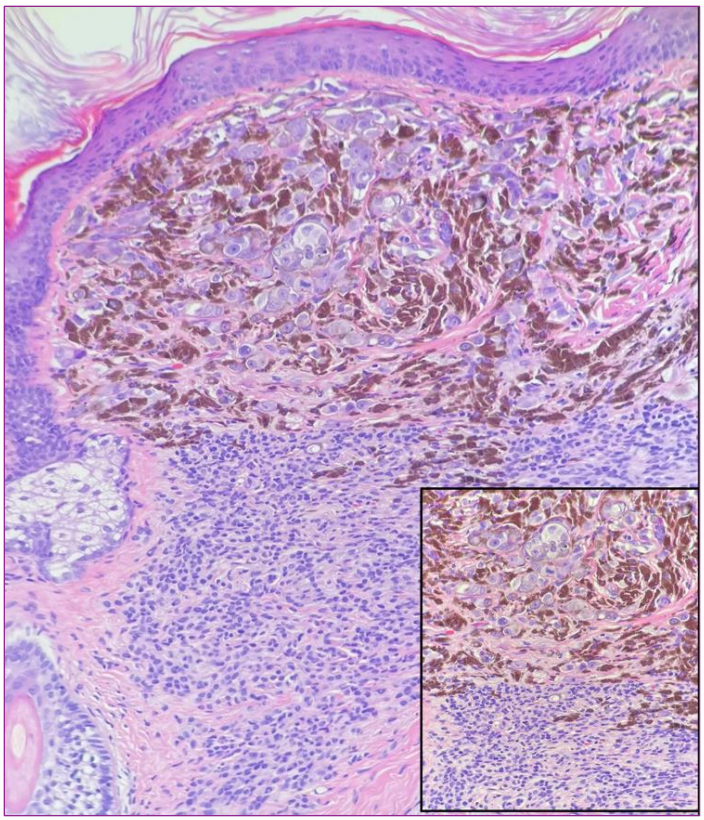

Figure 3. 20x, a contrast between the melanoma and melanocytic nevus is evident, with the former demonstrating prominent cytological atypia and pleomorphism. Provided insert shows higher power view (40x) of area outlined in red, with mitosis indicated by red asterisk (*).

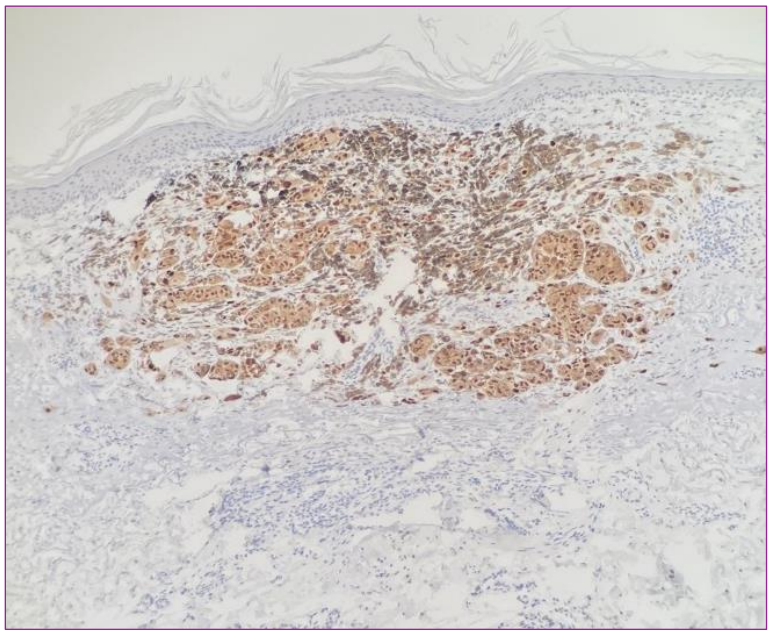

Figure 4. 10x, PRAME immunohistochemistry: the melanoma demonstrates diffuse nuclear positivity with notable absence of staining of melanocytic nevus.

characteristic of tumoral melanosis (**Figure 2**), which likely contributed to clinical presentation. Further examination revealed a significantly atypical melanocytic proliferation juxtaposed to a banal appearing proliferation of melanocytes (**Figure 3**), with PRAME immunohistochemistry demonstrating diffuse nuclear positivity in the atypical melanocytic proliferation only (**Figure 4**). A diagnosis of malignant melanoma in association with a melanocytic nevus was made and the lesion was excised completely at a subsequent visit.

DISCUSSION

Blue nevi encompass a range of congenital and acquired dermal dendritic melanocytic proliferations that exhibit complex clinical and histopathologic features. The lesions emerge as a singular, well-demarcated macule, papule or plaque that is oval or round in shape.[2] Blue nevi appear blue, gray, blue-black, or black in color due the absorption of longer wavelengths by melanin in the dermis and the reflection of shorter wavelengths of blue light through a phenomenon known as the Tyndall effect.[3] Lesions typically occur in the scalp, buttocks, and dorsal aspects of the extremities. However, they have been reported in the oral and nasal mucosa and other unique locations including the esophagus, bronchus, cervix, endometrium, vagina, penis, prostate, and lymph nodes.[3,4,5]

A potential pitfall to the diagnosis of blue nevus is the fact that malignant melanoma can be a clinical mimic – especially in the setting of tumoral melanosis as was observed in the current case – and location of the lesion, clinical duration, and history of melanoma can help clinicians discern between the two.[1,7] Malignant melanoma can masquerade as other lesions as well. Eads et al reviewed 577 excised lesions clinically diagnosed as seborrheic keratoses and 37 were proved to be malignant tumors.[8] While our patient's lesion clinically resembled a blue nevus at time of presentation, the possibility that this malignant melanoma was masquerading as a seborrheic keratosis prior to cryotherapy cannot be fully excluded. This case serves to reinforce that a low level of clinical suspicion is needed for further examination to include histopathologic evaluation. Moreover, physicians must carefully utilize the patient's medical history, histopathologic, and immunochemical results when making an accurate diagnosis with unusual dermatologic presentations.

CONCLUSION

This case is a cautionary tale to beware of the "blue nevus" as a potentially devastating diagnostic pitfall was avoided through thorough patient history review and maintaining a low threshold to biopsy a clinically suspicious lesion. This case also emphasizes the significance of screening for the possibility of prior procedure or trauma as it may distort the clinical picture as observed in the current case. As this paper illustrates, many challenges exist in the clinical diagnostic accuracy of malignant melanoma, reaffirming the importance of history and physical examination, as well as the role of histological examination in the evaluation of these difficult lesions.

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