

BRIEF ARTICLE

Polypoid Melanoma: Diagnostic Hardships Concerning A Rare Melanoma Variant

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ABSTRACT

Skin cancer is the most common cancer in the United States, with a disproportionate amount of cases diagnosed as basal and squamous cell carcinoma. While melanoma accounts for only a small fraction of all skin cancers, it has greater potential for invasion and metastasis if not identified and treated early. Within this higher mortality subtype of skin cancer, there is a rare variant called polypoid melanoma (PM) that compounds the diagnostic hardships of distinguishing melanomas from more benign lesions. This aggressive melanoma has a wide variety of clinical presentations that can range from an amelanotic, sessile papule to a pedunculated, melanotic nodule. Its growth pattern also contributes to the lesion's ambiguity, generally undergoing a slow development period that can spontaneously transition into rapid growth. This can present challenges for all potential parties involved, including the patient, primary physicians, and dermatologists alike. Such characteristics can act as barriers in clinically determining the urgency of a biopsy, thereby affecting time to diagnosis and prognosis of their patients. We report one such case of protracted diagnosis of polypoid amelanotic melanoma due to a combination of aesthetic ambiguity and lack of patient proactivity.

INTRODUCTION

Polypoid melanoma is a rare variant of melanoma that most frequently appears as an ulcerated, exophytic nodule that can be amelanotic and occur in a younger patient demographic. The initial lesion exhibits a slow radial growth phase but within months can transform into a rapidly growing vertical phase.¹ PM can fit into two subcategories, both of which individually predict higher mortality rates. Nodular melanoma is considered the most aggressive, with five and ten year survival at 51.67% and 38.75%, respectively.² Amelanotic melanomas can arise within any histological subtype, and account for 2-20% of all

melanomas.³ Defining a lesion as amelanotic or not is based off either a visual inspection of the lesion before biopsy or lack of melanin pigment seen on Hematoxylin-eosin stained sections.³ The lack of pigment has also been associated with increased rapid growth, increased Breslow thickness, and mitoses.⁴ These traits can lead to late biopsy and poorer prognosis. Below we present a case highlighting the diagnostic hardships that accompany the presentation of PM.

CASE REPORT

A 46 year old Caucasian female with a history of hypertension, asthma, and

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hyperlipidemia presented with a growth on the right lateral thigh for the past 5 years. Patient stated that it had been growing slowly over time but recently noted a rapid change in size. It also became itchy, darkened and crusted at the tip of the lesion, but denied bleeding or pain.

On physical exam, the right lateral thigh showed a 3 cm largely flesh colored exophytic and pedunculated plaque with a crusted necrotic tip, extending down to half the plaque (Figure 1).



Figure 1. Polypoid melanoma. Clinical picture of an exophytic pedunculated flesh colored plaque with necrosis and ulceration at the tip extending to middle of lesion.

There was no surrounding pigment noted at the base. A shave removal of the lesion was performed. The histologic report stated the melanoma was at least 5.0mm in thickness and extended to the base (Figure 2A-B). There were atypical melanocytes in both the epidermis and dermis. Ulceration was present and 6 mitoses/mm² were noted. Microsatellitosis, tumor regression, and lymphovascular invasion were all absent. These relevant findings lead to a pathologic

primary tumor staging of pT4b of a polypoid melanoma. The patient was immediately referred to a surgical oncologist for further management.

DISCUSSION

While uncommon melanoma variants account for less than 5% of melanomas, their route to treatment can be prolonged by misdiagnoses.⁵ Specifically for the polypoid variant, the superficial appearance of the tumor is usually described as a pedunculated or sessile lesion that can be ulcerated with or without pigmentation. Such morphologic diversity leaves the physician's differential unfocused and open for error. If melanotic, one could think of infarcted intradermal nevi, nodular basal cell carcinoma, or Merkel cell carcinoma. If amelanotic, the lesion might look similar to an acrochordon, pyogenic granuloma, or vascular malformation. When ulcerated, possibilities of keratoacanthoma dermatofibrosarcoma protuberans enter the mix. With this broad range of possibilities including benign entities, the urgency of further analysis can be masked. However, only histological evaluation of the lesions can provide clearer delineations. PM would show high mitotic count with cellular atypia and nuclear pleomorphism. While the poor prognosis of this disease was found to be related to the tumor's unusual thickness and extent of ulceration, it can be compounded by late diagnosis. Both contributing to polypoid melanoma's low five-year survival rate—42%.⁶ This is contrasted with a 57% 5-year survival for non-polypoid nodular melanoma, and a 77% for superficial spreading melanoma.⁶

Melanoma is almost universally correlated with “discolored moles” by the general

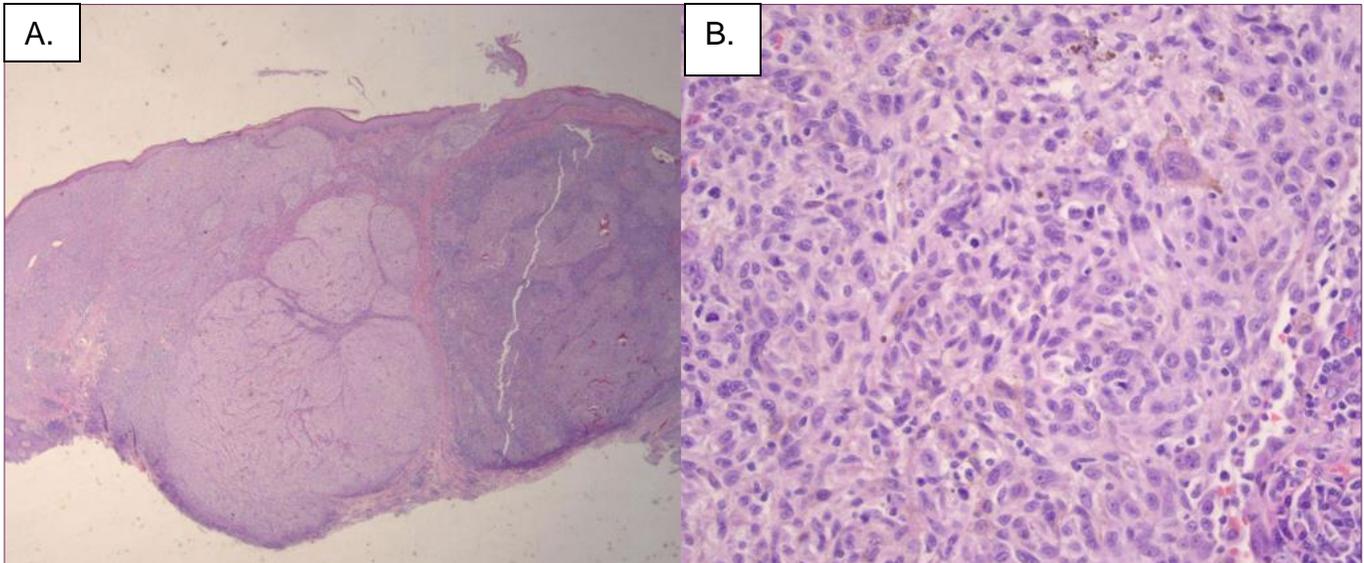


Figure 2 **A)** H&E 4x. Collection of melanocytes in a both epidermis and dermis with ulceration. **B)** H&E 40x. Grouping of atypical melanocytes with scattered mitoses present

population. When abnormal, non-pigmented lesions arise, they may be unnoticed longer and incite less anxiety in the bearer than their pigmented counterpart. Such traits could contribute to procrastination in seeing a doctor, let alone a dermatologist. Once at the office, the ABCDE (asymmetry, border irregularity, color, diameter, and evolution) acronym used to identify suspicious skin lesions for melanoma is affected due to the absence of color. With one of the five criterion negated, the other aspects of the malignancy need to be at a later stage in development for visual identification. Again, uncertainty leaves the differential open to potential distractors. Clinical misdiagnosis has been reported in previous studies, with one showing that melanoma was included in the differential only 32% of the time for amelanotic melanomas vs 94% of the time for pigmented variants.⁷ Late recognition could account for amelanotic melanomas presenting at a more advanced tumor stage, causing the higher mortality rates, as seen in our case and outlined in previous studies.³ The case we presented demonstrates the consequences of each aforementioned aspect of PM.

Throughout our case and those found in the literature, patients diagnosed with polypoid melanoma were seen months after the initial growth appeared. Either from the patient's own dismissal or through misdiagnosis, the lesions were biopsied only once they changed to a more aggressive growth pattern, with an average time to diagnosis being 15.6 months.⁸⁻¹² Our patient's results staged her to be pT4b; having a > 4.0 mm thickness with ulceration. With the final diagnosis, our patient can proceed through the next steps of wide local excision, sentinel lymph node biopsy, and the possibility of adjuvant chemotherapy, both of which have been standard therapies.

CONCLUSION

There is an unfortunate tendency to overlook melanomas when they are not confined to their typical presentation. Lack of patient education and self-advocacy played an instrumental part in the 5 year long growth of this polypoid melanoma. Also increased awareness of rare variants of melanoma across physician specialties,

especially in the realm of family medicine, could instill a lower biopsy threshold for indistinct growths and lead to quicker diagnosis and management. While the ABCDE algorithm is a staple when it comes to diagnosing melanoma, use of other modalities, such as the “Ugly Duckling Sign,” and particularly for nodular melanoma the “EFGs” (Elevated, Firm, Growing), could be beneficial in early detection of these aggressively malignant subtypes.

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