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## Dermoscopic Appearance of Amelanotic Volar Melanoma Compared With Volar Angioma

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The survival rate of acral lentiginous melanoma is poorer than that of other cutaneous melanoma types, largely owing to difficulty in diagnosis and more advanced stages at presentation.<sup>1</sup> A single-center retrospective study of 53 acral melanomas found that at least 34% (n = 18) were initially misdiagnosed; of the misdiagnosed cases, 50% (n = 9) were amelanotic.<sup>2</sup> The amelanotic variant of acral volar melanoma is scarcely reported, and its clinical and dermoscopic characteristics are unknown. Özdemir et al<sup>3</sup> described a dermoscopic feature on the periphery of pigmented acral lentiginous melanomas as a “vascularized parallel ridge pattern,” defined as erythema and dotted vessels filling the ridges and sparing the furrows. However, volar angiomas have similarly been observed to harbor a vascularized parallel ridge pattern on dermoscopy.<sup>4,5</sup> Herein, we describe the dermoscopic features of a subungual melanoma with an amelanotic volar component and compare these findings with the dermoscopic features of volar hemangiomas.

### Report of a Case |

An adult man presented with a new diagnosis of melanoma of the left great toe. He reported a gradual worsening dystrophy of the left great toenail over the past 5 to 6 years. A biopsy of the nail bed confirmed a diagnosis of melanoma, at least 0.57 mm in Breslow depth. Clinical inspection of the left hallux revealed irregular brown pigmentation on the distal aspect of the dorsum of the hallux and a prominent pink tumor on the medial aspect. Dermoscopic examination of the pink plaque revealed chaotically distributed red dotted vessels on the ridges, sparing the furrows (Figure, A). A punch biopsy of the red plaque was interpreted as melanoma in situ, with both superficial acrosyringal/eccrine duct and deep eccrine gland involvement (Figure, C). The patient underwent amputation of the left great toe at the distal interphalangeal joint, and the final Breslow depth was 4.6 mm. Findings of a sentinel lymph node biopsy of the left groin were negative.

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We also examined 3 patients with volar hemangiomas. They all presented dermoscopically with a parallel ridge pattern composed of red-to-purple dots. In contrast to the amelanotic volar melanoma, the dots were regularly aligned at the edges of the ridges, sparing the eccrine pores (Figure, B). Histopathological examination of a biopsy specimen of a volar hemangioma revealed capillary vascular proliferations that extended up into the dermal papillae, sparing the eccrine structures (Figure, D).

## Discussion |

The presence of a pigmented parallel ridge pattern has been shown in numerous studies to be associated with acral lentiginous melanoma and is particularly helpful for recognizing acral melanoma in situ.<sup>6</sup> Herein we describe a case of acral lentiginous melanoma with prominent amelanotic volar involvement that displayed a vascular parallel ridge pattern composed of chaotically distributed red dots. Additionally, we and others have found that volar hemangioma, which is an important differential diagnosis for amelanotic acral melanoma, has a distinct dermoscopic presentation of a parallel ridge vascular pattern composed of red or purple dots aligned at the edges of the ridges and sparing the eccrine pores (the *linear, double-dotted ridge pattern*).<sup>4,5</sup> Our observations require validation in future studies but may aid in distinguishing volar amelanotic melanoma from volar angioma.

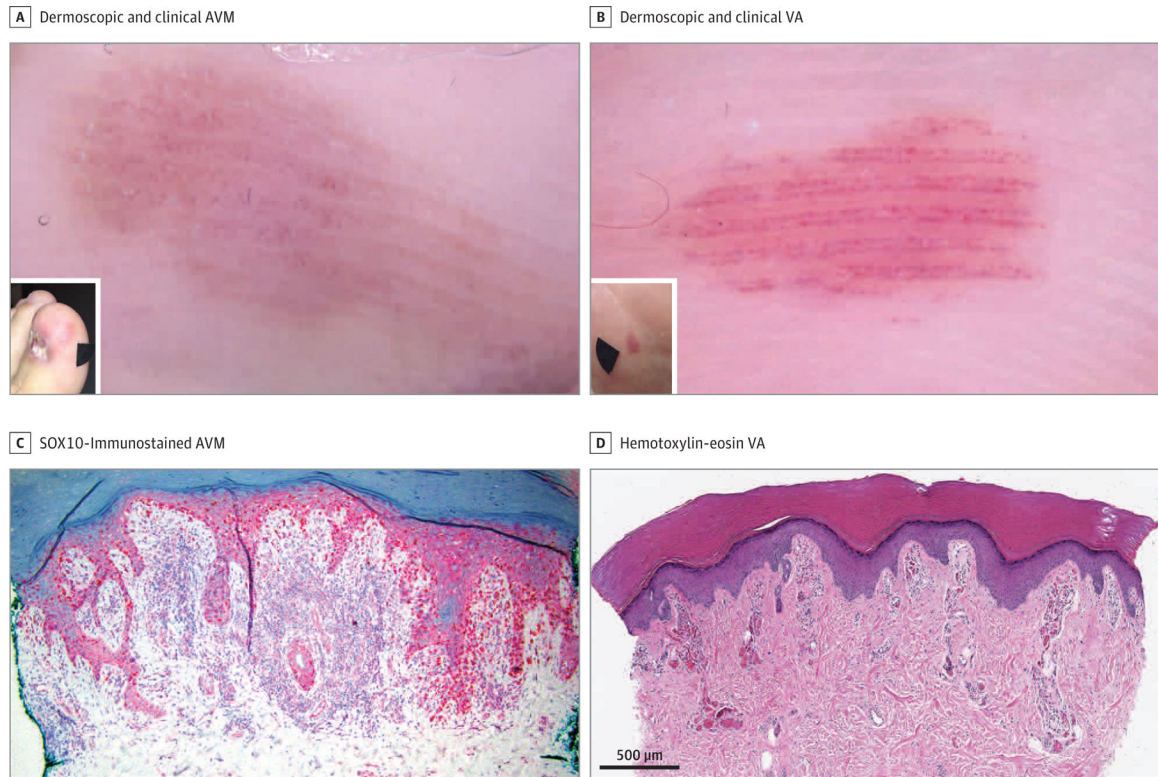
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**Figure. Clinical, Dermoscopic, and Histopathological Presentation of Amelanotic Volar Melanoma (AVM) and Volar Angioma (VA)**

A and B, Polarized light dermoscopy, original magnification  $\times 10$ . A, Dermoscopic and clinical (inset) appearance of AVM with parallel ridge presentation of chaotically distributed red dots. B, Dermoscopic and clinical (inset) appearance of VA with parallel ridge presentation of red dots aligned at the edges of the ridges with sparing of the eccrine pores. C, Immunohistochemical analysis of AVM in situ using SOX10 immunostain, showing atypical melanocytes in the epidermis and involving the eccrine ducts, with a slight increase in the density of small vascular channels in the superficial dermis associated with inflammation (original magnification  $\times 10$ ). D, Histopathologic analysis of VA showing capillary vascular proliferations that extend up into the dermal papillae that surround the crista profunda intermedia and spare the eccrine structures (original magnification  $\times 4$ ).