

## Melanoma on Preexisting Benign Dermal Melanocytic Nevus

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### Abstract

**Observation:** A 54-year-old woman was presented with a heterogeneously pigmented, slightly elevated lesion on the leg. Dermatoscopy revealed atypical pigment network and pseudopods, whitish veil on the center on a pinkish background. Histopathological diagnosis of the totally excised lesion was melanoma in situ on preexisting dermal melanocytic nevus. The occurrence of multiple dermatoscopic findings of an atypical lesion led us for suspicion of melanoma in this case. Therefore, the importance of dermatoscopy for early diagnosis of melanoma on a preexisting benign nevus was emphasized by the agency of the presented case.

### Introduction

Desmoplastic melanoma (DM) is a rare histopathological variant of cutaneous melanoma characterized by spindle shaped malignant melanocytes and dense dermal collagenous stroma, representing less than 5% of all melanomas. DMs are clinically nonpigmented or hypomelanotic, which leads to inaccurate diagnosis [1].

Dermatoscopy of DM include mostly areas of white scar-like depigmentation, peppering images and four or more multiple colors [1, 2, 3]. Three patients with ages of 76, 43 and 83 years, histopathologically diagnosed as DM were presented with their dermatoscopic findings.

### Case Report

A 54-year-old woman presented with a pigmented long standing lesion on the right leg. She reported color changes in the last weeks. She had no personal or family history of melanoma and she was otherwise healthy. On dermatologic examination, a 10x15mm heterogeneously pigmented and centrally elevated macule was observed (**Figure 1**)

On dermatoscopy, atypical pigment network and pseudopods, shiny white streaks and whitish veil in the center surrounded by dotted vessels on a pinkish background were noted (**Figure 2**).

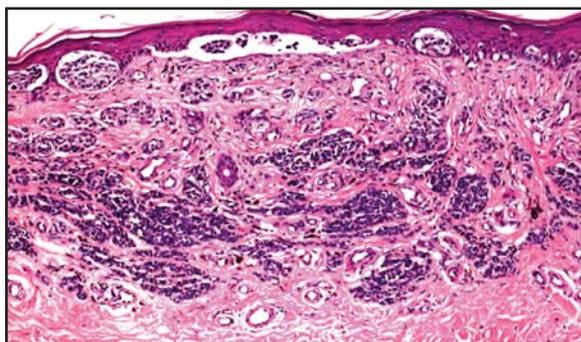
Histopathology of the totally excised lesion revealed an asymmetric melanocytic proliferation composed of atypical melanocytes with large cytoplasm in single units in the upper part, and atypical nests in all layers of epidermis and papillary dermis (**Figure 3a**). Below the papillary dermis, a second cell population consisting of compact nevoid melanocytes together with melanophages and



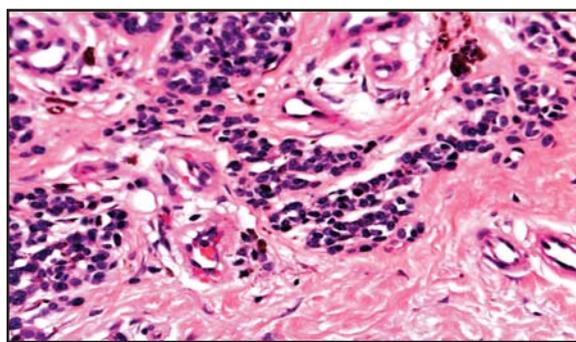
**Figure 1.** Clinical view of the pigmented lesion on the leg



**Figure 2.** Dermatoscopy of the lesion; note shiny white streaks and veil on the center with dotted vessels peripherally.



**Figure 3a.** Atypical melanocytes in irregular nests and single unit in all layers of the epidermis and irregular nest of atypical melanocytes in the upper part of the dermis. In the middermis monomorphous, round-oval, regular melanocytes and few dendritic melanocytes were observed (H&E, x100).



**Figure 3b.** Nevoid melanocytes and melanophages in deeper parts (H&E, x400)

scarse lymphohistiocytic infiltration were observed (**Figure 3b**). MIB-1 stain revealed mitosis present in the upper parts of the lesion, and HMB45 was positive only in the upper part of the lesion, labeling the melanoma cells. Diagnosis was melanoma in association with a melanocytic nevus. The Breslow thickness was 0.4 to 0.7mm including the nevus part (AJCC 2009: T1a).

### Discussion

Melanoma arising in a nevus is mainly a histopathological finding rather than a clinical diagnosis. In a recent study, histopathological evidence of an associated nevus was reported as 29.3% in all melanoma cases [1]. However, except for association, there have been only a few reports of melanoma arising in nevus, recently. After a case of melanoma within an intradermal nevus reported in 1994

[2], Hashiro et al reported a case of a 58-year-old male having a black nodule with satellites on the abdomen which was diagnosed as melanoma developing from an intradermal nevus histopathologically [3]. Nevus components showed features of both acquired or congenital nevi and male predominance with trunk location has been reported [1, 2, 3]. Two other recent cases were advanced stage melanomas derived from cerebriform intradermal nevus [4] and a patient with albinism with a pinkish tumor over the pubic area [5].

The occurrence of multipl dermatoscopic features of an atypical lesion led us for suspicion of melanoma in this case. A retrospective study revealed that atypical pigment network and regression structures were mainly observed in melanomas developing in preexisting nevi [6]. However, significant proportion of melanomas associated with nevus may exhibit benign dermatoscopic features, making

the diagnosis a real pitfall. On the other hand, benign dermatoscopic features cannot be identified when melanoma was associated with deeper dermal nevus remnants [7].

Melanoma could be mixed with nevus cells [2], or located either beneath [5] or on top of nevus cells [3,4]. Likely the cases of Hashiro [3] and Hayashi et al.[4], melanoma developed above the nests of intradermal nevus cells in the presented case. This might explain why benign dermatoscopic features were not identified except for only one feature of typical pigment network in a small peripheral region of the lesion. Detection of atypical pigment network, irregular white streaks and vessels were the most remarkable dermatoscopic findings in our case, in addition to absence of benign dermatoscopic features which might mask clues for melanoma arising in a nevus.

In addition to dermatoscopic findings, sparse lymphocytic infiltration was observed histopathologically in this case of melanoma in association with a melanocytic nevus, which was unreasonably suggested as a specific feature in melanoma derived from intradermal nevus [3].

The clinical nature was less suspicious for melanoma and leg location of the lesion was different in our case comparing with the previous cases. Moreover, none of the previous individual cases included dermatoscopic ima-

ges of the lesions. Therefore, the importance of dermatoscopy for early diagnosis of melanoma should be emphasized, in order to detect earlier melanomas arising on preexisting melanocytic nevi.

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