

# Diagnostic pitfall of localized lentigo accompanied by post-inflammatory pigmentation on the palm with a several-month history

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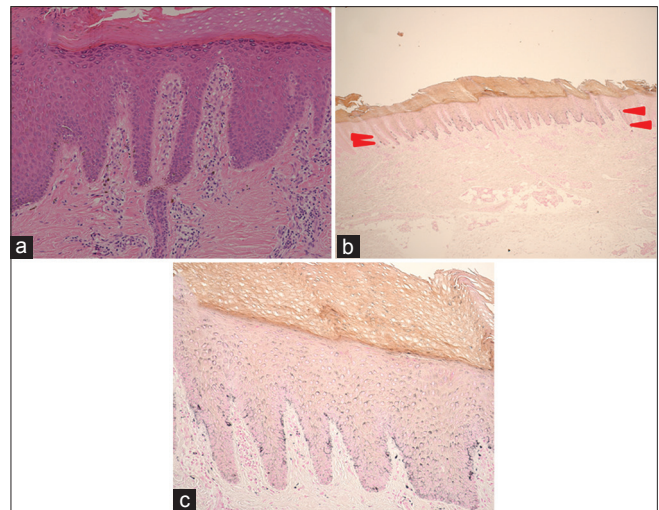
Sir,

When dermatologists see acquired and well-circumscribed pigmented macules on the palm, dorsal hand or forearm of the elderly, they tend to consider blue nevus, hematoma, nevus cell nevus and malignant melanoma as differential diagnoses [1]. We herein described the very rare case of localized lentigo accompanied by post-inflammatory pigmentation in a patient who has been treated for palmoplantar pustulosis for a long time. This eruption mimicked some kinds of lentiginous lesion and it was difficult to diagnose clinically.

A 59-year-old female was referred to our hospital with a pigmented macule on her left palm. She had been to the family doctor for treatment of palmoplantar pustulosis by topical steroid ointment application for several years. According to the history-taking interview, she said that the lesion had appeared 5 months before referral to our hospital as a tiny pigmented macule and had gradually enlarged during those 5 months (Fig. 1a). In clinical appearance, the macule was dark brown to black, well-demarcated, flat, round and 3 x 4 mm in size. Dermoscopic examination showed homogenous brownish pigmentation; however, the parallel ridge or furrow pattern that is commonly observed in acral lentiginous lesions was not apparent (Fig. 1b). Histopathological findings with hematoxylin-eosin staining showed acanthosis and spongiosis in the epidermis, liquefaction degeneration at the dermal-epidermal junction and scattered melanophages in the superficial dermis (Fig. 2a). Neither aggregation



**Figure 1:** Clinical manifestations. a. The macule is brown to dark black, well-demarcated, flat, round and 3 x 4 mm in size. b. Dermoscopy of the macule shows homogenous brownish pigmentation without the parallel ridge or furrow pattern that is commonly observed in acral lentiginous lesion



**Figure 2:** Histopathological findings. a. Histology of the macule shows acanthosis, spongiosis, liquefaction degeneration, basal melanosis and some melanophages in the superficial dermis (Hematoxylin and eosin stain; x100). b. Fontana-Masson staining revealed the melanin granules to be in the epidermis at full-thickness, and the melanin granules were distributed with a clear boundary on the bilateral side. Red arrowhead shows the edge of melanin-granules distribution. (Fontana-Masson; x20). c. A number of melanin granules are distributed on top of the nuclei in the prickle cell layer (Fontana-Masson; x100).

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of melanocytes in the epidermis nor proliferation of dermal melanocytes was observed, nor there no subcutaneous bleeding. Fontana-Masson staining revealed the melanin granules to be in the epidermis at full-thickness, and the melanin granules were distributed with a clear boundary on the bilateral side (Fig. 2b, red arrowhead). Notably, in the prickle layer, a number of melanin granules were distributed on top of the nuclei (Fig. 2c). From these findings, we finally made the diagnosis as lentigo accompanied by post-inflammatory pigmentation.

Prior to the study, patient gave written consent to the examination and biopsy after having been informed about the procedure.

It is very difficult to define correct diagnosis in the case of dissociation among present illness, dermoscopic and histological findings. Our initial diagnosis was blue nevus. However, the dermoscopic findings were inconsistent with typical blue nevus, which has homogeneous blue pigmentation and a bluish-white structure [2,3]. Furthermore, the histologic features included a lack of the dermal melanocytes that are typically seen in blue nevus.

Fontana-Masson staining revealed a distinctive distribution of melanin granules in the upper portion of epidermis, which was very similar to those seen in lentigo and in sun-damaged skin [4]. We were easily able to find *incontinentia pigmenti histologica* due to the liquefaction degeneration.

In this case, although the cause of the localized pigmentation is unclear, the homogenous brownish pattern in dermoscopy, interestingly, may be due to a

combination of melanin deposition in the epidermis and the aggregation of dermal melanophages.

In conclusion, it is noteworthy that we must keep this pathological condition in mind when we encounter a well-circumscribed pigmented lesion in a patient who has been treated for inflammatory diseases such as palmoplantar pustulosis, dishydrotic eczema and the like.

## CONSENT

The examination of the patient was conducted according to the Declaration of Helsinki principles. The patient has provided permission to publish these features of her case and the identity of the patient has been protected.

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