

## SHORT COMMUNICATION

### Melanocytic Naevus Shows Parallel Ridge Pattern due to the Melanin Columns Under the Ridges

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Dermoscopy has contributed to differential diagnosis of malignant melanoma from melanocytic naevus on acral volar skin. Most acquired melanocytic naevi show a parallel linear pigmentation corresponding to the furrow of the surface skin marking (a parallel furrow pattern [PFP]). In contrast, a parallel ridge pattern (PRP), defined as a band-like pigmentation on the ridge of the surface skin marking, is highly specific for malignant melanoma (1). Only 1% of acral melanocytic naevus was reported to present the PRP (2). Here, we report a case of acral melanocytic naevus showing the PRP, in which melanin deposition was predominantly distributed under the surface ridge.

#### CASE REPORT

A 47-year-old Japanese woman presented with a pigmented lesion on the right heel with a long medical history. There was a brown macule, 10.9 × 6.0 mm in size (Fig. 1a). Dermoscopic examination revealed diffuse and filamentous pigmentation with dots corresponding to the surface ridge (Fig. 1b). The macule was removed, and sections were cut perpendicular to the surface skin marking. Histopathological examination showed that nests were predominantly situated at the bottom of the epidermal rete ridges under the surface ridge (crista profunda intermedia) together with a few nests in the ridges under the surface furrow (crista profunda limitans) (Fig. 2a). There were no features suggestive of malignant melanoma, such as cellular atypia and single-cell spread. The lesion was diagnosed as junctional melanocytic naevus. To examine the distribution of melanin deposition, 4 specimens taken at regular intervals were stained with the Fontana–Masson

method. Five columnar melanin depositions (melanin columns) per specimen were regularly arrayed under the surface ridge whereas 2 melanin columns were under the surface furrow. Each specimen showed 2.2 nests in the crista profunda intermedia, whereas 0.5 nests were seen in the crista profunda limitans (Fig. 2b).

#### DISCUSSION

The PRP is a specific dermoscopic pattern for malignant melanoma on the acral volar skin. It may reflect the solitary proliferation of melanoma cells under the surface ridge (3). In contrast, the PFP is characteristic of benign melanocytic naevus, which histopathologically correlates to the predominant distribution of melanin columns under the surface furrow (4). However, nests under the surface ridge are not infrequently detected in melanocytic naevi, although they are not associated with melanin columns (4). In our case, both the nests and melanin columns were detected more predominantly under the surface ridge than under the surface furrow, which could lead to the PRP. Our case was diagnosed as melanocytic naevus even with the PRP, because neither cellular atypia nor single-cell spread was observed histopathologically. In addition, the nests and melanin columns were regularly distributed under the surface ridge. These histopathological findings suggested that this was a case of benign naevus.

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*The authors declare no conflict of interest.*

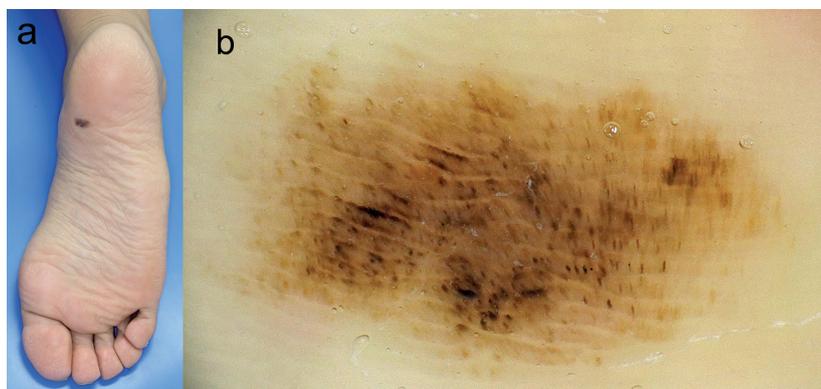


Fig. 1. Clinical and dermoscopic features. (a) A brown macule, 10.9 × 6.0 mm in size, on the right heel. (b) Diffuse and filamentous pigmentation on skin ridges accompanied with crista dots.

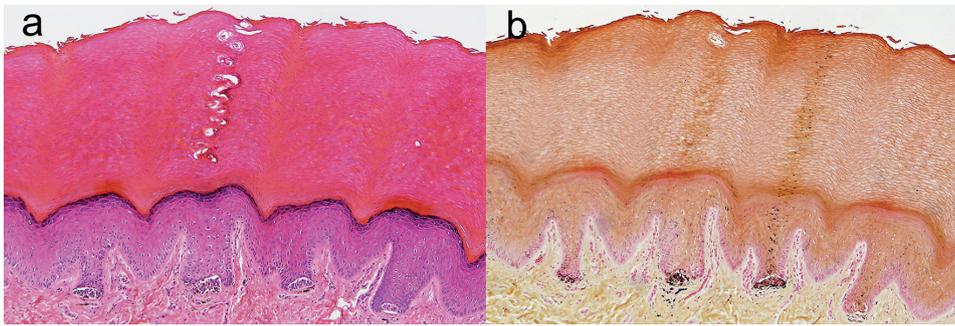


Fig. 2. Histopathologic features. (a) Nested melanocytes without cellular atypia were predominantly distributed in the crista profunda intermedia. Single-cell spread was not observed. (b) Melanin columns were derived from the melanocytic nests located in the crista profunda intermedia. (a: Haematoxylin and eosin stain, b: Fontana Masson stain. Original magnification: a, b  $\times 100$ )

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