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## Diagnostic Pitfalls of Using Dermoscopic Features to Differentiate Between Malignant Melanoma and Pigmented Seborrhoeic Keratosis

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Differentiation of malignant melanomas (MM) and the pigmented variant of seborrhoeic keratosis (SK) can be difficult. Cases of MM mimicking SK (1) and of SK clinically mimicking MM (2) have been reported. Dermoscopy is a useful non-invasive method of differential diagnosis between MM and SK. However, these tumours have several histological variants whose specific dermoscopic findings are not always the same (3). We report here a case of pigmented SK on the lower leg that clinically mimicked MM. We describe the pitfalls of using dermoscopic features for differential diagnosis, with reference to this case.

### CASE REPORT

An 80-year-old Japanese man was referred to our department for the treatment of a pigmented lesion on the lower leg. The lesion had been gradually enlarging for 6 months. Physical examination revealed a black nodule 2 cm in diameter, with a light-brownish pigmented macule with a long axis of 3.5 cm at the base of the nodule (Fig. 1). Dermoscopic examination showed a pigmented network-like structure in the area of the macule (Fig. 2a) where prominent multi-component structure in the area of the nodule. Irregular black globules and a conspicuous blue-whitish veil predominated (Fig. 2b). Comedo-like openings were not detectable and faint milia-like cysts were seen, although the blue-whitish veil made them difficult to recognize. Histological examination by excision showed the intraepidermal proliferation of highly pigmented basaloid cells intermingled with horn cysts corresponding to typical SK.



Fig. 1. A blackish nodule arising from a reticular dark-brownish pigmented macule appears on the lower leg. Dermoscopic finding is shown in Fig. 2. Excision showed seborrhoeic keratosis.

### DISCUSSION

Regarding the first decision on differentiation by dermoscopic diagnosis of the pigmented tumours, the most important point is to avoid misdiagnosing SK as melanocytic tumour. If the lesion is considered melanocytic, it might lead to the diagnosis of MM in many cases (4). It is reported that pigmented SK sometimes shows a network structure that resembles the pigmented network seen in melanocytic lesions. Conversely, the most common dermoscopic characteristics of SK are a comedo-like opening and milia-like cysts. However, the specificity of these findings is not 100% (5) and in some cases the area of comedo-like opening is undetectable as such against the background of diffuse, brown homogeneous pigmentation.

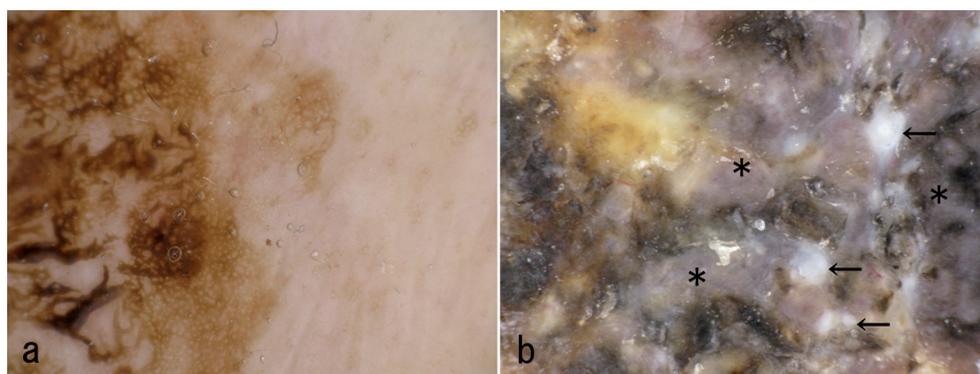


Fig. 2. a) The pseudo-pigment network in the area of the macule. b) Irregular black globules and a conspicuous blue-whitish veil (asterisk) predominate in the nodule. Meticulous observation reveals milia-like cysts (arrows) within the blue-whitish veil.

In our case, the most common dermoscopic findings of SK (comedo-like openings and milia-like cysts) were not clearly visible. For practitioners who have little experience with pigmented SK, it is easy to mistake pigmented SK for MM, which often shows a multi-component structure with a pseudo-network.

To improve the reliability of dermoscopic differential diagnosis between pigmented SK and MM, we highlight 3 diagnostic pitfalls based on our case: *(i)* misdiagnosing a pseudo-network as an atypical pigment network, *(ii)* making errors in perception such as mistaking multi-component structure with a pseudo-network for malignant findings, and *(iii)* failing to make meticulous observation to detect insignificant milia-like cysts. Careful evaluation of the entire lesion must be undertaken to ensure that the dermoscopic findings are all consistent with the diagnosis.

*The authors declare no conflict of interest.*

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