

Common Blue Nevus with Satellite Lesions Needs a Differential Diagnosis from Malignant Melanoma

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Key Words

Blue nevus · Satellite lesions · Differential diagnosis · Malignant melanoma

Abstract

Malignant blue nevus is rare, and a common blue nevus rarely needs a differential diagnosis from malignant melanoma. Although a melanocytic nevus with a satellite lesion is usually suggestive of a peripherally disseminating malignant melanoma, very few cases of blue nevus with satellite lesions have been reported thus far. To our knowledge, this is the seventh case of a blue nevus with satellitosis. Periappendageal and perivascular concentrations of the nevus cells were observed in the main papule as well as in the satellite lesions. These findings suggest that blue nevus cells could infiltrate along the perivascular area in the dermis and form multiple satellite lesions. Blue nevus should be considered as a differential diagnosis when a locally disseminating malignant melanoma is suspected.

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Introduction

Blue nevus is an acquired benign melanocytic nevus described as a blue or blue-black, firm papule, nodule or plaque-like lesion occurring on the skin and mucous membranes. Malignant blue nevus is rare, and a common blue nevus rarely needs a differential diagnosis from malignant melanoma. Although a melanocytic nevus with a satellite lesion is usually suggestive of a peripherally disseminating malignant melanoma, very few cases of blue

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nevus with satellite lesions have been reported thus far [1–6]. To our knowledge, this is the seventh case of a blue nevus with satellitosis.

Case Presentation

A healthy 24-year-old Japanese man was referred to our hospital with a blue-black skin lesion on his left forearm. As confirmed by the patient, this lesion had developed after he accidentally pricked his forearm with a pencil 13 years earlier. Physical examination revealed a 10 × 7-mm, blue-black nodule with an irregular border, which was accompanied by 1–2-mm guttate macular satellite lesions (fig. 1a). Dermoscopic examination showed a homogeneous, blue-white structure in the absence of any other dermoscopic structures (fig. 1b). An excisional biopsy was performed with the suspicion of a common blue nevus versus a malignant melanoma. The lesion was excised with a 3-mm margin of surrounding normal skin down to the level of the superficial fascia. We recognized a black-colored restiform structure in the dermis during the operation and added another 3-mm margin. In the histopathological examination of the excised lesion, nevus cells were dispersed in the dermis, and hyperpigmented, spindle-shaped melanocytes infiltrated among the collagen bundles (fig. 2a). Periappendageal and perivascular concentrations of the nevus cells were observed (fig. 2b). Similar findings were observed in the satellite lesions as well (fig. 2c). There were no features suggestive of malignancy, such as cytological atypia, atypical mitoses or necrosis. A histological diagnosis of common blue nevus was then rendered.

Discussion

Common blue nevi are usually solitary, blue-black, dome-shaped papules, and are not difficult to diagnose. However, in a very small number of cases [1–6], including our case, a blue nevus can be accompanied by satellite lesions. This is when the physician needs to differentially diagnose it from malignant melanoma, especially the nodular type.

Under a dermatoscope, a blue nevus usually shows a typical steel-blue, homogeneous coloration generated by the presence of heavily pigmented melanocytes in the dermis, in the absence of any other dermoscopic structure. However, a recent study [7] showed that a wide spectrum of local dermoscopic features (whitish, scar-like depigmentation, dots/globules, peripheral streaks or vessels) may also be observed in blue nevi. In such cases, clinical and dermoscopic distinction from a malignant melanoma may be difficult, or impossible, and surgical excision is necessary.

Kang and Chung [1] reported that nevus cells aggregated densely around the blood vessels in the main papule, and also in the satellite lesions, suggesting that nevus cells may spread along the perivascular space to manifest clinically as guttate or linear satellite lesions. In our case, periappendageal and perivascular concentrations of nevus cells were observed in the main papule as well as in the satellite lesions. Clinically, we recognized a black-colored restiform structure in the dermis during the operation. These findings suggest that blue nevus cells could infiltrate along the perivascular area in the dermis and form multiple satellite lesions. In conclusion, we suggest that a blue nevus should be considered as a differential diagnosis when a locally disseminating malignant melanoma is suspected.

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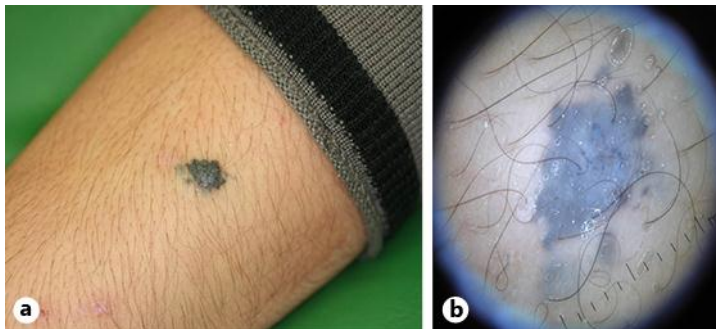


Fig. 1. **a** A 10 × 7-mm, blue-black nodule with an irregular border, which was accompanied by 1–2-mm guttate macular satellite lesions, was observed on the left forearm. **b** Dermoscopic examination revealed a homogeneous, blue-white structure in the absence of any other dermoscopic structures.

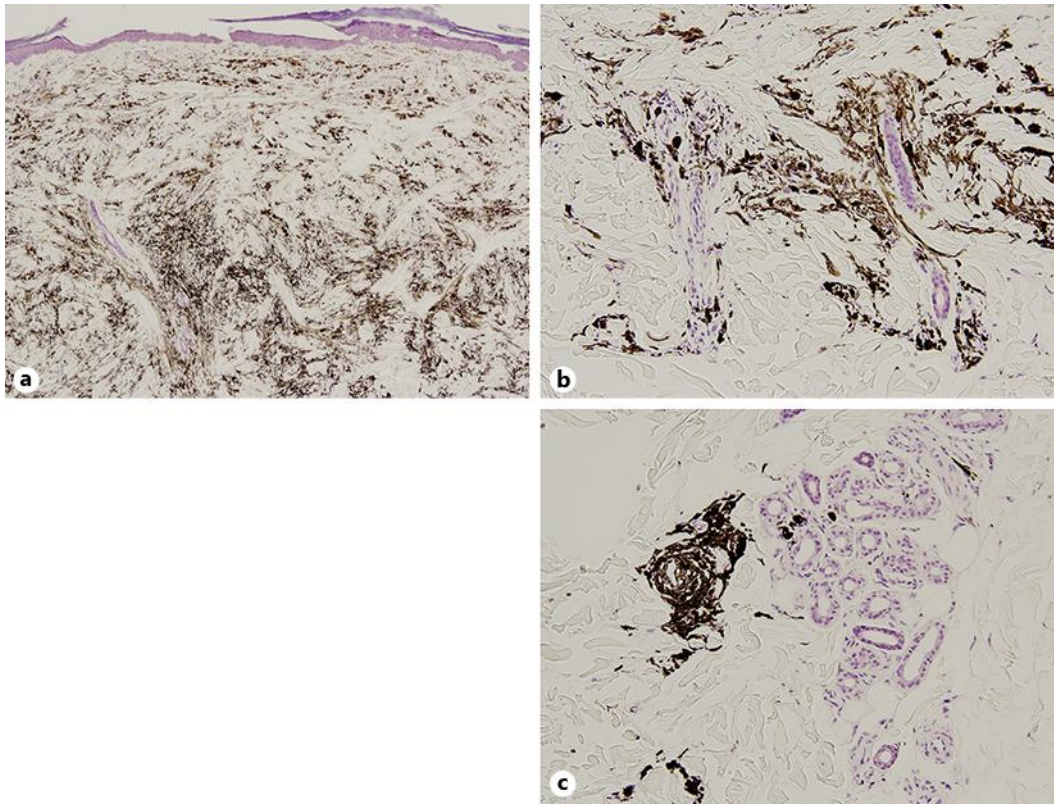


Fig. 2. **a** In the main papule, there were hyperpigmented, spindle-shaped melanocytes infiltrating among the collagen bundles. No features suggestive of malignancy were seen, such as cytological atypia, atypical mitoses or necrosis. HE. Original magnification $\times 40$. **b** Periappendageal and perivascular concentrations of the nevus cells were observed in the main lesion. HE. Original magnification $\times 100$. **c** Perivascular concentration of the nevus cells was observed in the satellite lesions as well. HE. Original magnification $\times 100$.