

## Blue Naevus with Pigment Network-like Structure on Dermoscopy

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Sir,

Blue naevus (BN) is one of the dermal dendritic melanocytic proliferations (1, 2). Clinically it usually presents as a small bluish-grey papule or plaque (2). On dermoscopy, it presents structureless homogeneous steel-blue pigmentation (1, 3–5). We describe here a case of BN presenting a pigment network-like structure on dermoscopy.

### CASE REPORT

A 58-year-old Japanese man presented with a lesion on his left forearm; a black-grey macule 4 mm in diameter that had appeared in his childhood (Fig. 1a). He worked in an office and had no history of trauma at the site of the lesion. BN and basal cell carcinoma was suspected macroscopically. On dermoscopy, however, there was a pigment network-like structure consisting of randomly arranged, black-to-grey-coloured, blurred

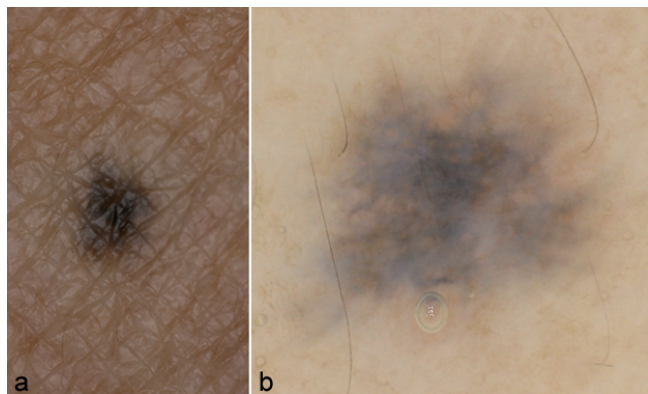


Fig. 1. (a) Macroscopic findings: a blue-grey macule on the left forearm. (b) Dermoscopic findings: a pigment network-like structure consisting of black to grey-coloured, blurred thick lines arranged randomly.

lines of irregular width. In the centre of the lesion the lines were thicker and crowded, forming a nearly diffuse pigmentation, and faded and disappeared gradually towards the periphery (Fig. 1b). Histopathologically, the lesion comprised pigmented dermal spindle cell proliferation with a low cell density, and was restricted to the superficial dermis (Fig. 2a, b). These spindle cells were stained positively for S100 protein (Fig. 3a), but not for CD68. The pigment granules in these cells were highlighted by Masson-Fontana staining (Fig. 3b) and disappeared on application of a demelanizing process (Fig. 3c). This indicated that the spindle cells were melanocytes containing melanin granules. A diagnosis of BN was made.

### DISCUSSION

Although other structures, such as a blue globules and dots, can be observed in the steel-blue pigment typical of a BN (5), no pigment network-like structure has been described. Extensions into normal adjacent skin by BN (pseudopods) also have been seen, which histologically correspond to radially oriented bundles of melanocytic cells and pigment-laden macrophages (5). In the case described here, dermal melanocytes were distributed sparsely only in the upper dermis. It is possible that this low density of melanocytes led to the lack of a completely homogeneous area and formed only pseudopods, resulting in the pigment network-like structure seen in this case. The obscure shape of this structure may mean that the pigmented cells are located not in the epidermis, but in the dermis. This case report suggests that BN can present a pigment network-like structure in the early stage before the melanocytes increase in number and form a homogeneous blue pigmented area.

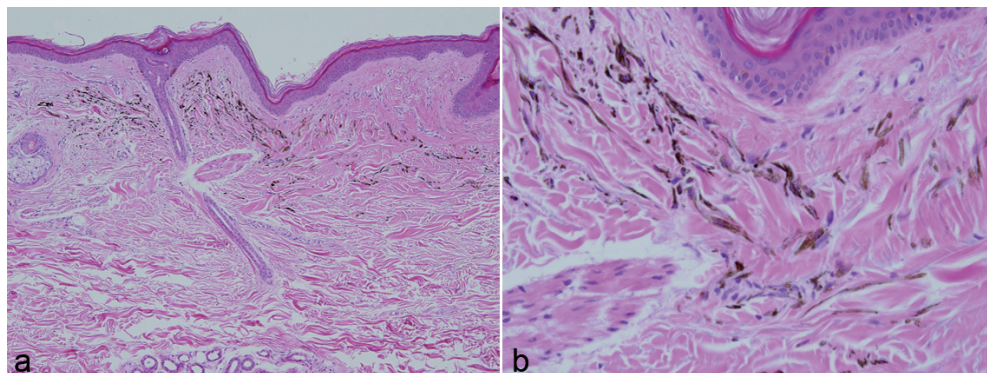


Fig. 2. Histopathological findings. (a) The lesion was restricted to the superficial dermis and consisted of (b) a proliferation of pigmented spindle cells. (a: haematoxylin and eosin (HE) stain  $\times 100$ ; b: HE stain  $\times 400$ ).

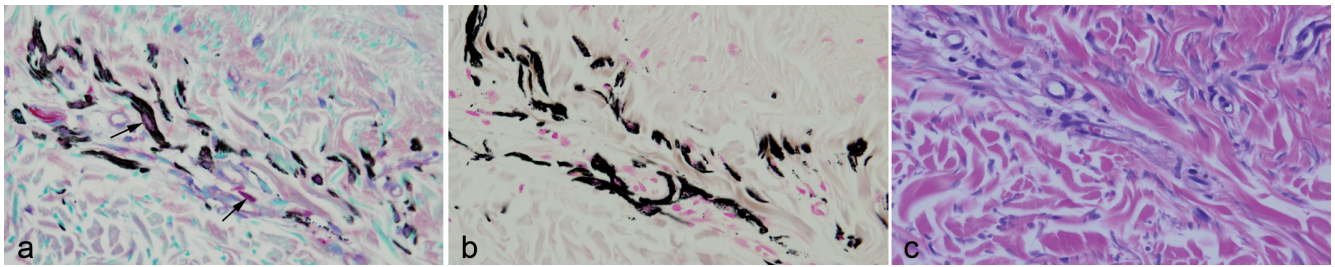


Fig. 3. (a) These spindle cells were positively stained for S100 protein (stained red, arrow). (b) The pigment granules in these cells were highlighted by Masson-Fontana staining, and (c) disappeared on application of a demelanizing process ( $\times 600$ ).

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