Blue-back discolouration of the great thumb proximal lunula

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Blue-black discolouration of the great thumb proximal lunula

A 38-year-old woman presented with a one-year history of homogenous, blue-black discolouration of the proximal lunula of her right thumb nail (Figure 1A). There was no nail dystrophy, Hutchinson's sign or longitudinal melanonychia. The lesion was asymptomatic. There was no history of trauma to the nail. The remainder of her nails appeared unremarkable. She had no significant medical history and was not on any regular medications. She had no personal or family history of melanoma.

After reflection of the proximal nail fold and partial nail plate avulsion, a dark irregularly pigmented black-grey, ovoid-shaped lesion was seen in the nail matrix (Figure 1B). Tangential excision of the whole lesion was performed.

Histopathological examination revealed a well-circumscribed and symmetrical proliferation of bland, variably pigmented, dendritic appearing melanocytes associated with moderate numbers of melanophages within the upper onychodermis (Figure 2). No associated atypical intraepithelial melanocytic proliferation was identified (confirmed with SOX10 and Melan-A immunohistochemistry) and there was no mitotic activity. HMB45 immunohistochemistry was positive (Figure 2). There was no evidence of malignancy. The diagnosis of a nail matrix blue naevus was established.

Blue naevi represent benign cutaneous tumours characterised by dermal proliferation of melanocytes.¹ Blue naevi are thought to occur from defective migration of neural crest cells in the dermis during embryogenesis.² Blue naevi often present in childhood or adolescence as well-circumscribed, dome-shaped, blue-grey or blue-black papules. While blue naevi may occur anywhere on the skin surface, common sites include the extremities, face and scalp. Subungual blue naevi are exceedingly rare with only approximately ten cases reported in the literature to date.²

The most important differential diagnosis of subungual blue naevus is subungual melanoma. Other differential diagnoses may include glomus tumour, drug-induced pigmentation or a vascular

aetiology.¹ Biopsy for histopathological assessment is usually required to distinguish subungual blue naevi from subungual melanoma, the most serious diagnosis in onychology.³ Adequate biopsy technique and careful communication between the treating clinician and the histopathologist are important to ensure accurate diagnosis. In our case, the absence of both Hutchinson's sign and longitudinal melanonychia were clinical clues to diagnosis of nail matrix blue naevus. Nonetheless, biopsy was required for histopathologic assessment. The overall features on histologic examination were consistent with nail matrix blue naevus. The patient will have follow up with regular clinical surveillance. We present a case of a blue naevus occurring in an exceedingly rare anatomic location.

References

1. Causeret AS, Skowron F, Viallard AM, et al. Subungual blue nevus. *JAAD* 2003; 49: 310-312.
2. Gershtenson PC, Kronic A, Chen H, et al. Subungual and periungual congenital blue naevus. *Aust J Dermatol* 2009; 50: 144-147.
3. Haneke E. Important malignant and new nail tumours. *J Dtsch Dermatol Ges* 2017; 15: 357-386.

Figure 1. (A) Homogenous blue-black discolouration appearing on the proximal lunula of the patient's right thumb nail. (B) A dark, irregularly pigmented, ovoid-shaped lesion was seen in the nail matrix after reflection of the proximal nail fold and partial nail plate avulsion.

Figure 2. Histopathology shows a well-circumscribed proliferation of bland, variably pigmented, dendritic appearing melanocytes associated with moderate numbers of melanophages within the upper onychodermis (haematoxylin eosin staining 20x original magnification, blue ink proximal. Insert boxes: haematoxylin and eosin (left), Melan A immunohistochemistry (middle) and HMB45 (right) 100x original magnification).

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