

## QUIZ SECTION

### One Ulcer and Two Nodules on the Foot: A Quiz

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A 77-year-old Caucasian man presented with a 12-month history of a proximal nail fold ulceration on the fifth toe of the left foot, which appeared after local trauma. He also reported that 2 purplish-blue nodules appeared on the dorsal aspect of that toe 8 months later and enlarged rapidly. (Fig. 1a). All lesions were asymptomatic. He was in good health, and general physical findings revealed no signs of lymphnode metastases. Laboratory examinations were within normal ranges or negative. Bacteriological tests of the ulcers on the

nail bed and on the first nodule were positive for *Staphylococcus aureus* and *Pseudomonas aeruginosa*. Dermoscopic examination of the subungual ulcerative lesion revealed an erythematous, structureless area, while nodular lesions were characterized by grey-blue homogeneous areas (Fig. 1b). A biopsy of the nail ulcer, were performed for histopathological analysis (Fig. 1c).

*What is your diagnosis? See next page for answer.*

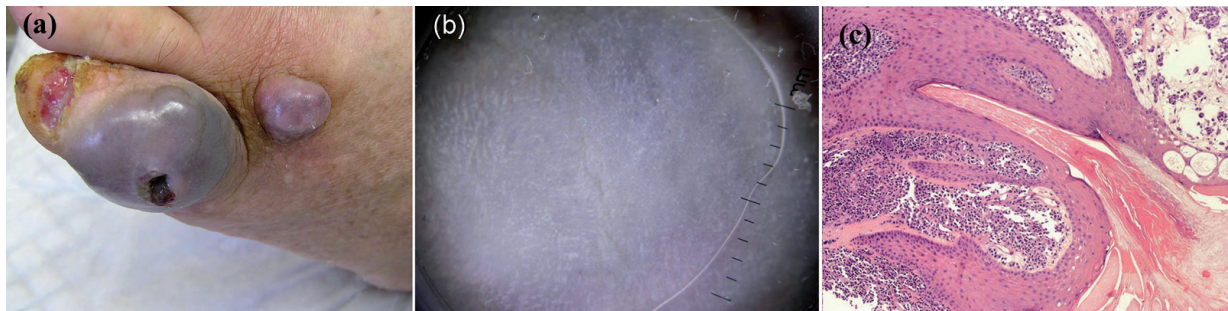


Fig. 1. (a) An ulcer and two nodules on the left foot. (b) Dermoscopy of the nodule: Unspecific grey-blue homogeneous areas with chrysalis structures. (c) Biopsy from the nail ulcer showing a radial growth of atypical lentiginous melanocytes in the dermis, with lymphocytic infiltrate (hematoxylin-eosin, original magnification  $\times 200$ ). doi: 10.2340/00015555-1337

## ANSWERS TO QUIZ

**One Ulcer and Two Nodules on the Foot: Comment**

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**Diagnosis: Subungual ulcerative amelanotic nail apparatus melanoma with giant nodular pigmented satellite metastases**

Nail apparatus melanoma (NAM) is a rare variety of skin melanoma, first described by Hutchinson in 1886 as “melanotic sarcoma of the nailbed” or “melanotic whitlow” (1). The nail matrix is preferentially involved (2, 3) and local trauma was suggested as a possible risk factor (1, 2).

Clinical guidelines for NAM have been described in literature and are helpful in the earliest diagnosis, suggested by the presence of a solitary lesion with a rapid change and ulcerative evolution (3); the prognosis of NAM is poorer and survival is lower than melanomas at other sites, often because of the delay in diagnosis (1, 2).

Approximately 20–30% of NAM are amelanotic (ANAM) (1) and clinical presentations can simulate chronic paronychia, post-traumatic ulcerations, viral warts and pyogenic granulomas (2, 3).

Dermoscopic features of NAM are represented by multiple lines of different colours and variable diameter, with disruption of the parallel ridge pattern and the micro-Hutchinson’s sign (1, 2, 4, 5). Dermoscopic differential diagnosis of NAM includes subungual haematomas, naevi, melanonychia, lentigo and squamous cell carcinoma related to specific dermoscopic features. ANAM is characterized, before the ulcerative phase, by a reddish tumour with atypical vascular structures, milky-red areas, red spots and partial or complete destruction of the nail plate (4).

A nail unit biopsy is always required for a definitive diagnosis. Histopathological findings of NAM frequently correspond to acral lentiginous melanoma (1, 6). In our patient we found a radial growth of atypical lentiginous melanocytes in the dermis, with lymphocytic infiltrate and angioneurosis on the nail ulcer and the mitotic rate was  $>1/\text{mm}^3$ . Breslow’s depth could not be calculated because of the ulceration of the lesion. A massive infiltration of atypical epithelioid melanocytes in the dermis, with angio-

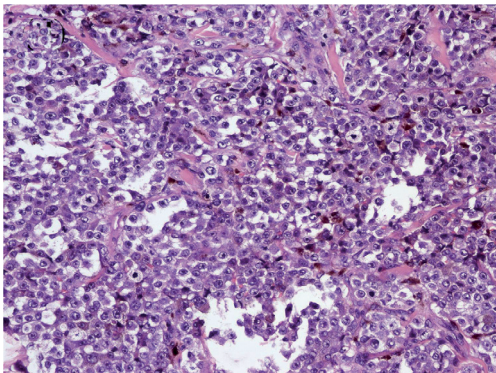


Fig. 2. Histopathological findings of the nodule revealed a massive infiltration of atypical epithelioid melanocytes in the dermis, with angiotropism. Immunohistochemical analysis showed a positivity for MelanA(+++), HMB 45(+++) and Mib-1(++), and a weak positivity for S-100 protein.

tropism, was also found on the nodule. Immunohistochemical analysis showed a positivity for Melan A (+++), HMB 45 (+++) and Mib-1 (++) , and a weak positivity for S-100 protein (Fig. 2).

The patient was subjected to a complete staging, including sentinel lymph node examination and total body computerized tomography, the result of which were all negative. The patient underwent amputation of the foot and at 18-months post-surgery he remains disease-free.

In the literature only one case of post-traumatic amelanotic subungual melanoma with topical spreading of multiple local nodular skin metastases and without regional lymphnode involvement was described (7).

Skin metastases of melanoma are usually characterized by single or multiple pigmented grey-blue nodules. Unusual features may resemble blue naevi, dermatofibromas, angiosarcomas, naevoid melanomas and halo naevi (8, 9).

In some cases the primary melanoma is not clinically and dermoscopically evident and cutaneous melanoma metastases may suggest the diagnosis. The differential diagnosis with blue naevus is particularly relevant and difficult related to clinical and dermoscopic features of a bluish cutaneous lesion with a homogeneous blue pattern.

The case described here is peculiar for the non-specific clinical and dermoscopic features of the ulcerative nail bed lesion and for the presence of satellite giant pigmented nodules whose dermoscopic grey-blue-steel pattern suggested the diagnosis.

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