

Eruptive Nevi on the Palms and Soles with no Association with an Underlying Disease or Medications

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ABSTRACT Eruptive melanocytic nevi are an unusual phenomenon characterized by sudden onset of multiple melanocytic nevi on previously unaffected skin. The majority of case reports have linked this condition with blistering skin disease or immunosuppression. There are only three reports of eruptive nevi developing on the palms and /or soles in healthy individuals. Herein we present the clinical and dermoscopic features of two cases of eruptive acral nevi that developed in healthy individuals in the absence of any recognizable underlying disease and review the current literature of eruptive nevi.

KEY WORDS: eruptive nevi, acral melanoma, dermoscopy

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INTRODUCTION

Eruptive melanocytic nevi (EMN) represent a rare phenomenon characterized by sudden onset of multiple melanocytic nevi on previously unaffected skin. The etiology of these lesions is largely unknown, although their appearance is associated with a number of primary skin conditions, mainly severely blistered skin (1-6). It has also been observed in renal or bone marrow transplant patients or in cases of AIDS (7), primary adrenocortical insufficiency (8), trauma (9), cutaneous mastocytosis (10),

Langerhans cell histiocytosis (11), melanoma, and psoralen plus ultraviolet A therapy (12). Recently, a number of cases of EMN in patients under treatment with biologics and immunosuppressive drugs have been reported (1,13-15).

Herein we present the clinical and dermoscopic features of two cases of eruptive acral nevi that developed in healthy individuals in the absence of any recognizable underlying disease or association with a medication.

CASE 1

A 45-year-old man sought consultation because of the recent onset of asymptomatic slightly pigmented lesions on his palms. The first lesion had appeared about 5 months earlier with subsequent development of a further 2 similar lesions on the right and left palm (Figure 1). The patient was otherwise healthy and had no history of recent drug intake or persistent medication.

Dermoscopic examination of the lesions revealed absence of characteristic features associated with acral melanocytic tumors such as parallel furrow patterns or other variants. Instead, the lesions presented a repetitive pattern of a whitish-skin colored background and subtle, discrete, light-brown globules and dots resembling a spoked wheel or concentric-like structures, which are sometimes seen in basal cell carcinomas. Since these equivocal features did not allow for a definitive diagnosis, biopsy was performed. Histopathology revealed a symmetric intradermal melanocytic proliferation composed of round and polygonal melanocytes (nevus cells) which were nested or grouped in band-like formations without epidermal (junctional) involvement and with maturation in deeper portions of the lesion. A final diagnosis of an intradermal nevus was established. In order to rule out an underlying cause of the eruptive occurrence of acral nevi in our patient, we performed routine laboratory analysis, radiography of the chest, and sonography of the abdomen and lymph nodes, which were all unremarkable and within normal ranges.

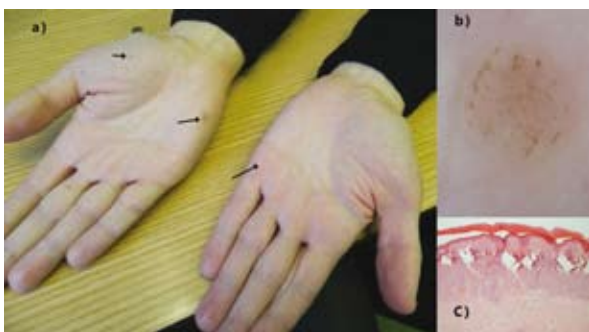


Figure 1. (a) Clinical image of delicate, slightly elevated lesions on the palms with subtle pigmentation on the surface. (b) Dermoscopic image of the lesion revealed whitish-pink background and subtle structures resembling concentric-like features. (c) Histopathologic examination revealed a symmetrical intradermal well-delineated melanocytic lesion composed of round and polygonal melanocytes (nevus cells) which were nested or grouped in band-like formations without epidermal (junctional) propagation and with clear histological maturation in deeper portions of the lesion corresponding to diagnosis of intradermal nevi.

CASE 2

An otherwise healthy 40-year-old woman visited our clinic due to the sudden onset of a pigmented macule on her right sole, which she had first noticed approximately 3 months earlier. Dermatological examination revealed pigmented macules ranging from 3 mm to 13 mm, with a semicircular lesion located on the fourth finger of the right foot (Figure 2). Dermoscopy of the acral lesions showed parallel furrow- and lattice-like patterns, thus confirming clinical diagnosis of eruptive acral nevi. A punch biopsy was performed to support the clinical diagnosis. Histopathology revealed pagetoid spreading of melanocytes in localized, well-circumscribed nests throughout the epidermis, with dermal maturation confirming the diagnosis of an acral compound nevus. Laboratory tests and imaging (radiography of the chest and ultrasound examination of the abdomen and lymph nodes) revealed no pathological findings.

DISCUSSION

The eruptive development of multiple nevi has been linked to a number of underlying causes including different internal diseases, cutaneous skin disorders, medications, and immunosuppression (5,16-19).



Figure 2. (a) Clinical image of pigmented macules from 3 mm to 13 mm in diameter, with a semicircular pigmented lesion on the fourth finger of the right foot. (b) Dermoscopic evaluation of the lesion revealed a benign parallel furrow pattern. (c) Dermoscopic evaluation of the lesion revealed a lattice-like pattern corresponding to diagnosis of acral nevus. (d) Histopathologic examination revealed pagetoid spreading of melanocytes in localized, well-circumscribed nests throughout the epidermis, with dermal maturation confirming the diagnosis of acral nevi.

ENMs do not show a predilection for a specific age, sex, and race. The majority of eruptive nevi develop on the trunk, while sudden development on the glabrous skin of the palms and soles has been reported only seldomly. As of this writing, only 3 cases of EMN on the palms and soles have been reported. The first case is that of an 8-year-old boy who developed multiple nevi on the soles after receiving chemotherapy for acute lymphatic leukemia (17), while Binder *et al.* (16) reported the case of a 22-year-old woman with acral EMN associated with Crohn disease. The 3rd case described a 25-year-old woman with Crohn disease in treatment with prednisone and azathioprine (5). In all 3 cases, the development of EMN was associated with an underlying co-morbidity and with the intake of immunosuppressive medications.

In contrast to the 3 published cases, our 2 patients with localized EMN on the palms or soles did not suffer from any associated disease nor did they take any type of medication at the time of diagnosis and in the two years of follow-up. Additionally, in contrast to the previously reported cases which referred mainly to young adults, our patients were adults in the fifth decade of life in both cases, when the development of nevi is rather unusual. Therefore, in order to exclude association with an underlying co-morbidity or intake of medications, detailed history and clinical examination of patients with sudden onset of EMN is recommended.

There are several hypotheses explaining the underlying pathomechanism in the development of EMN. For bullous diseases, changes in local growth factors such as stem-cell activating factors may contribute to the sudden proliferation of melanocytes (1,5). Similar changes involving local growth factors have been also implicated in the development of drug-associated EMN. Others emphasize the role for melanocyte-stimulating hormones in the development of EMN (1).

Furthermore, there are some lines of evidence that certain individuals are genetically predisposed to subclinical nest formation of melanocytes in the skin, which proliferate due to immunosuppression and give rise to the sudden formation of nevi at previously unaffected skin sites (1,3,18-20).

CONCLUSION

Despite these hypotheses, which are mainly based on EMN in the context of either localized or system immune-suppression, the mechanism leading to the development of acral EMN in healthy individuals remains to be further elucidated. However, there are some lines of evidence indicating that the eccrine

ducts function as a stem cell niche. It may therefore be speculated that an activation via increased expression of melanocortin 5 receptor, which is one of the receptors known to bind melanocyte-stimulating hormone, may play a role in their development (1-5).

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