Eruptive nevi after burn injury

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Introduction
An “outbreak of pigmented moles” was first described by Hutchinson in 1868, in a 22-year-old healthy woman. Although there is no current clear definition of eruptive melanocytic nevi (EMN), it generally describes the abrupt development of multiple melanocytic nevi over weeks to months in association with an underlying trigger [1].

Case Report
A 2-year-old child with Fitzpatrick skin type II was referred by her general practitioner because of abrupt development of pigmentation on her left palm. The child had accidentally burned her hand on a hotplate a half year prior to the consultation. The accident was presumably a mixture of first- and superficial second-degree burns.

Initially the patient developed small reddish macular papules on the left palm, which over the next couple of months became pigmented (Figure 1). Prior to the accident, a congenital nevus on the palm near the proximal interphalangeal third and fourth digits had been observed. The patient had otherwise only a few nevi on the body.

Dermatoscopy revealed an abundant number of 1-4 mm melanocytic nevi with light and dark brown colors, symmetrically arranged globules and dots at the periphery, and with a parallel furrow pattern (Figure 2).

The patient’s nevi are being monitored for further development.

Discussion
There are no clear predisposing factors for the development of EMN, though a variety of associations have been proposed. There has been an association in cases of Stevens-Johnson syndrome/toxic epidermal necrolysis, erythema multiforme, bullous pemphigoid, eczema herpeticum, and exposure to sulfur mustard gas. There has also been an association with...
conditions leading to compromised immunity, such as bio-
logic and non-biologic immunosuppressants, biologic and
non-biologic chemotherapeutics, malignancy, and AIDS.
EMN has also been linked to Addison's disease, cutaneous
mastocytosis, melanocyte stimulators, insulin, PUVA, and
Koebner phenomenon [1-8]. The relevant differential diag-
noses include postinflammatory melanosis and idiopathic
eruptive macular pigmentation, which typically presents as
non-confluent macules on the face, neck, proximal extremi-
ties, and trunk without preceding inflammatory lesions or
drug exposure [9]. The dermoscopic presence of globules and
dots make these diagnoses less likely.

Nevus spilus typically has a larger background patch with
more pigmented macules within the borders and a stable
appearance. There was no pigmented background patch in
our case, and the pigmented pattern had an eruptive appear-
ance. It is not known whether the close proximity to a con-
genital nevus, as in this case, plays a role in the development
of EMN. This has not been described in the literature, to the
best of our knowledge, and we do not believe that there is a
causative connection. Congenital nevi have a steady growth
during early childhood [10]. The abrupt presence of melano-
cytic nevi with an underlying trigger makes the diagnosis of
EMN likely.

Some authors believe that the common denominator is
precipitated in genetically predisposed individuals. EMN has
been linked to mutation in the BRAF V600E gene, which
contributes to the development of malignant melanoma [2,7].
Association between EMN and malignant melanoma has not
been described. Familiarity is important to differentiate EMN
from neoplasms.

EMN has a strong predilection for the palmoplantar skin,
although it has been described in other distributions [2]. This
is different from sporadic melanocytic nevi that appear less
frequently at acral sites. A hypothesis to support this could
be that eccrine glands have a higher amount of melanocortin-
S-receptors that bind melanocyte-stimulating hormone,
which could contribute to the proliferation of melanocytic

The small number of cases suggests that it is a relatively
uncommon phenomenon, however, EMN might be underre-
ported due to the absence of close dermatologic monitoring,
insufficient recognition by practitioners, and the presumed
benign course of the condition. This case is unique because
this is the first described case of acral eruptive nevi associated
with a burn wound.

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