QUIZ SECTION

Purplish-brown Patches and Ecchymoses on the Dorsal Hands: A Quiz

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A24-year-old man presented with a 3-year history of mildly pruritic, brownish patches on both hands. The eruption gradually evolved into brown patches, extending from the dorsum of the left hand to the dorsum of the right hand and flexural wrist. Physical examination revealed well-demarcated, atrophic, scale-free, noninfiltrated plaques ranging from brown to purplish-red on the dorsal surfaces of both hands (Fig. 1a), along with ecchymosis on the right wrist (Fig. 1b). He had no significant past medical or family history and denied exposure to toxins or prior trauma.

Histopathological examination from the left dorsal hand revealed epidermal hyperplasia with acanthosis and basal vacuolar alteration. A mononuclear cell infiltrate was observed perivascularly in the superficial dermis and along the dermo-epidermal junction, with focal epidermal clustering. Dilated capillaries and extravasated erythrocytes were observed in the papillary dermis (Fig. 2a, b). Immunohistochemical staining showed positivity for CD4 and CD8, partial expression of CD7 and negativity for CD20, CD30 and EBER (Fig. 2c, d).

What is your diagnosis?

1.Lichen planus.
2.Pigmented purpura dermatosis-like mycosis fungoides.
3.Woringer-Kolopp disease (localized pagetoid reticulosis).
4.Lichen aureus.

See next page for answer.

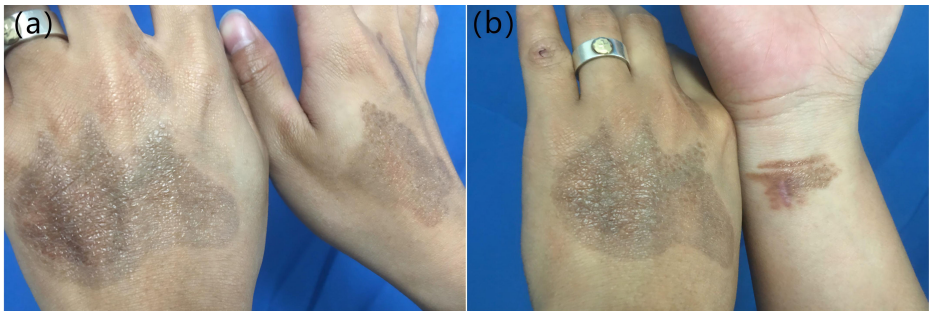

Fig. 1. Clinical presentation: (A) well-demarcated, atrophic, scale-free, noninfiltrated plaques, brown to purplish-red, on the dorsal surfaces of both hands; (B) ecchymosis on the right wrist.

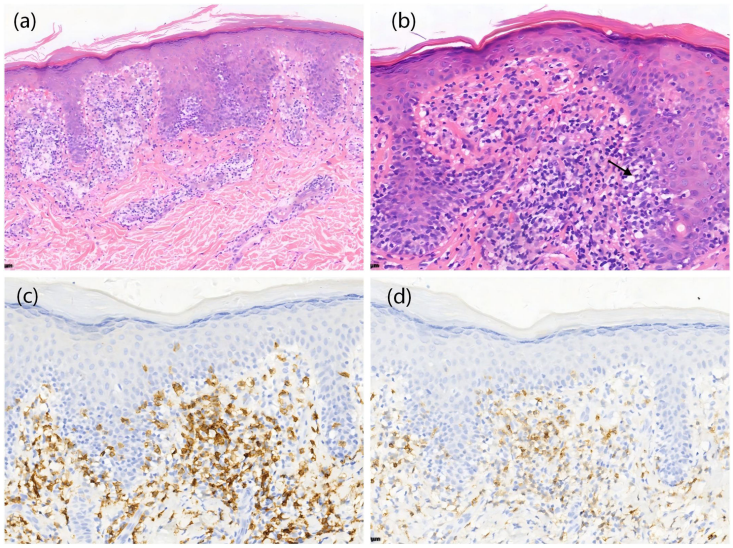

Fig. 2. Histopathological image demonstrates band-like infiltrates of dense atypical lymphoid cells in the epidermis and upper dermis, extravasation of erythrocytes in the papillary dermis (a:H&E×100). Pautrier microabscesses (black arrows) (b:H&E×200). Immunohistochemical staining revealed the majority of atypical lymphocytes expressing CD8 (c:CD8×200) and partial loss of CD7 expression in atypical lymphocytes (d:CD7×200).

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ANSWERS TO QUIZ

Purplish-brown Patches and Ecchymoses on the Dorsal Hands: A Commentary

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***Diagnosis*: Pigmented purpura dermatosis-like mycosis fungoides (PPD-like MF).**

PPD-like MF represents a rare clinical variant of Mycosis Fungoides (MF), characterized by persistent purpuric and pigmented skin lesions, typically affects non-light-exposed areas like the trunk and lower extremities, or presents as diffuse lesions (1). Isolated PPD-like MF confined to the hands is rare.

The clinical manifestations in this patient closely resemble those of lichen aureus, which is considered a localized variant of pigmented purpuric dermatosis (PPD). To confirm the diagnosis, an additional biopsy from the right wrist showed findings similar to the left dorsal hand. Two-site biopsies demonstrated epidermotropism of atypical lymphocytes, a CD8-predominant infiltrate with partial CD7 loss and Pautrier microabscesses – features uncommon in lichen aureus or lichen planus (2, 3). Given these findings, the differential diagnosis included other lymphoproliferative disorders, particularly Woringer–Kolopp disease (4). The lesion's presentation as a solitary acral plaque was consistent with this entity; nevertheless, the absence of pagetoid spread, despite prominent epidermotropism of atypical lymphocytes, therefore, Woringer–Kolopp disease was excluded.

We ultimately established a diagnosis of Pigmented Purpura Dermatosis-like Mycosis Fungoides (PPD-like MF). Although T-cell receptor (TCR) gene rearrangement was not performed, the clinicopathological correlation was decisive in making the diagnosis. The early stage of PPD-like MF is often misdiagnosed as PPD. Diagnostic clues summarized by Sun et al. (5) – a widespread distribution of petechial or purpuric lesions persisting for more than one year; concomitant patches of classic MF at other sites; pruritus and poor response to conventional PPD therapies. Histopathological examination is crucial for confirming the diagnosis and further supporting this diagnosis.

In contrast to the typical CD4-predominant subtype of MF, our case showed a CD8-predominant immunophenotype. This pattern is more commonly reported in hypopigmented MF and has been linked to stronger anti-tumour immune responses and a more favourable prognosis (6). Whether it exerts similar effects in PPD-like MF remains uncertain and warrants further investigation in larger case series.

The treatment strategy for PPD-like MF aligns with classic MF. Our patient received phototherapy in conjunction with topical glucocorticoid ointment. After one year of follow-up, we observed only partial improvement in the skin lesions.

In summary, we present a case of PPD-like MF with atypical petechial lesions on the hands and a distinctive CD8-predominant T-cell phenotype. We emphasize the importance of clinical and pathological correlations and case reports to facilitate the diagnosis of similar cases. Notably, this case highlights the value of repeated biopsies and long-term follow-up, particularly in MF with unusual clinical and histopathological features.

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