A typical dermoscopic pattern of PLEVA

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Key Clincial Message

PLEVA is a benign inflammatory disorder.Dermoscopy is a non invasive diagnostic modality.Thus, the new dermoscopic pattern mentioned in our literature can aid in diagnosis of disease, unlike the skin biosy which is an invasive modality and shows non specific features in PLEVA.

What is already known about this topic?

PLEVA is characterized by erythematous papules, vesicles, pustules, ulcers and mica-like scale that heals with varicella like scars.Dermoscopic features mentioned in literature are white-colored structureless areas, a central crust, red globules, blue-gray areas, and scalings.

What does this study add?

Our case report presents slightly different dermoscopic features of PLEVA. We observed a typical target pattern of central crust, middle vascular zone and peripheral whitish scales which has not been reported in literature so far. This new dermoscopic pattern as described in our case can aid in the diagnosis of PLEVA.

Introduction

Pityriasis lichenoides et varioliformis acuta (PLEVA), is a rare cutaneous inflammatory condition affecting the children and young adults,characterized by erythematous papules, vesicles , pustules, ulcers and mica-like scale that heals with varicella like scars. It mainly involves the trunk and proximal extremities with slight male predominance. [1]

The etiology includes inflammatory reaction triggered by bacterial,viral or protozoal infection, immunizations, immune response secondary to T-cell dyscrasia and immune complex-mediated hypersensitivity.[3]

Histopathology of skin lesion is non specific. Diagnosis is mainly clinical,aided by dermoscopy. [1] Dermoscopic patterns in PLEVA include white-colored structureless areas, a central crust, red globules, blue-gray areas, and scalings.[2] Hereby, we present a case of PLEVA with newer dermoscopic findings.

Case Presentation

A 41 years old male presented with multiple, asymptomatic,erythematous,crusted papaules and hyperpigmented macules over bilateral upper and lower extremities, anterior and posterior trunk, sparing face,palms and soles for 1 month duration (figure 1a).Routine investigations were done and reports were within normal limits.

Methods

Dermoscopy of few lesions showed central crustings, reddish areas with dotted and linear vessels surrounded by peripheral white scales (figure 2a) while the majority of lesions had a target pattern of central crust, intermediate vascular ring surrounded by white scales on pinkish background (figure 2b).Some lesions also revealed central necrotic areas around the hair follicles with peripheral crustings and scalings (figure 2c).

Histopathological examination of the lesion from left forearm demonstrated focal parakeratosis,spongiosis,vacuolar degeneration in basal layer with lymphocytic and neutrophilic infiltrations,epidermal exocytosis and extravasation of RBCs (figure 1b, 1c).

Results

On the basis of clinical,dermoscopic and histopathology reports,diagnosis of PLEVA was made. Patient was counselled and prescribed doxycycline for 3 weeks with significant improvement noted in 3 weeks follow up (figure 1d).

Discussion

PLEVA is an acute polymorphic eruption of erythematous macules quickly evolving into papules with a fine micaceous scale eventually progressing to vesicles, pustules, hemorrhagic and necrotic crusts lasting from weeks to months. Lesions heal with varioliform scars, postinflammatory hyper and hypopigmentation. [3]

The histopathology of PLEVA is characterized by spongiosis, parakeratosis, acanthosis, intraepidermal vesicles, necrosis, wedge-shaped dermal lymphohistiocytic inflammatory infiltrate and erythrocyte extravasations [1] as observed in our case.

Dermoscopy and histopathological correlation was described by Ankad and Beergouder in which an amorphous brownish structure corresponds to basophilic material in the epidermis and wedge-shaped lymphocytic infiltration in the dermis. Red dots and hemorrhages represent extravasations of red blood cells in the papillary dermis and dilatation of blood vessels. Whitish-structureless and crusted areas are due to hyperkeratosis, acanthosis, and epidermal erosion.[2]

Dermoscopic features as mentioned in literature consists of three concentrical zones of central browish clod, intermediate ring of white scale and peripheral vascular ring. [2] However,in our case in majority of lesions we observed a typical target pattern of central crust, middle vascular zone and peripheral whitish scales which has not been reported in literature so far.

The differential diagnosis for PLEVA includes lymphomatoid papulosis, arthropod bite reactions, varicella, Gianotti-Crosti syndrome, erythema multiforme, pityriasis rosea, guttate psoriasis and secondary syphilis.[3] Various treatment modalities include doxycycline,eythromycin, acyclovir, dapsone, methotrexate, psoralen plus ultraviolet A, infliximab and etanercept .Systemic corticosteroids have role in severe cases of PLEVA .[4]

Conclusion

PLEVA mimicks many other cutaneous dermatosis and histopathology is not pathognomic.Thus, new dermoscopic pattern as described in our case can aid in the diagnosis of PLEVA.

Abbreviations

PLEVA: Pityriasis licenoides et varioliformis acute

Authors Contribution Statement

Prof. Dr. Mahesh Mathur: Conceptualization; Formal analysis; Resources; Supervision; Validation; Visualization; Writing-original draft

Dr. Sumit Paudel: Conceptualization; Formal analysis; Resources; Supervision; Validation; Visualization; Writing-original draft.

Dr. Nabita Bhattarai: Conceptualization; Formal analysis; Resources; Supervision; Validation; Visualization; Writing-original draft.

Dr. Supriya Paudel: Formal analysis; Resources; Supervision; Visualization; Writing-original draft; Writing- review and editing

Dr. Sambidha Karki: Data curation; Investigation; Resources; Visualization; Writing - review and editing.

Dr. Sandhya Regmi: Data curation; Investigation; Resources; Visualization; Writing- review and editing.

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Figures

Figure 1 (a) PLEVA: Mulitple erythematous macules,papules,crusted lesions with mica like scales distributed over trunk and extremities.(b) Haematoxylin and eosin staining (40x):Parakeratosis,spongiosis and vacuolar

degeneration in basal layer of epidermis.(c) Extravasation of RBCs in dermis.(d) Multiple hyperpigmented macules and papules following 3 weeks of treatment with doxycycline.

Figure 2 (a) Dermoscopy PLEVA:Central crustings, reddish areas with polymorphic vessels surrounded by peripheral white scales.(b) Typical target pattern of central crust, intermediate vascular ring surrounded by white scales on pinkish background.(c) Central necrotic areas around the hair follicles with peripheral crustings and scalings.

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