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LETTER TO THE EDITOR

WILEY

Unusual presentation of porokeratotic lichen planus: Histology, dermoscopy and confocal microscopy imaging of a rare condition

Dear Editors,

Porokeratotic lichen planus (pLP), also known as porokeratotic variant of lichen planus (LP), represents a dermatological condition that occasionally leads to diagnostic challenges due to the absence of characteristic features traditionally associated with LP, such as the clinical "six P's" (purple, pruritic, polygonal, planar, papules, and plaques), as well as the Wickham's striae. The literature data about this specific condition are quite limited to date, with available case reports detailing pLP as a hyperpigmented papular or plaque dermatosis characterized by an annular configuration. It is notable for its asymptomatic nature and mainly localization on the lower extremities, while frequently it shows a tendency to generalize to the rest of the body, including mucous membranes and palmo-plantar surfaces.[1,2] Although the advanced stage of pLP often bears resemblance to other dermatological entities, early-stage pLP presents diagnostic complexities due to the paucity of lesions and their potential nonspecific morphological attributes. Thus, we present the case of a 71-year-old male patient who comes to our attention for a suspected epithelioma, that is, for the appearance of an asymptomatic palpable lesion on the left lower limb approximately half a year ago. At dermatological examination, a pink-white flat papule partly obscured by scales and crust, was located on the lateral aspect of the left thigh. The videodermatoscopy revealed a pink-orange lesion, centered by a small rounded white structureless area, and flanked by red-brown and blue ovoid features, in the absence of a discernible vascularization (Figure 1). Subsequently, a confocal microscopy assessment was conducted, revealing the loss of the honeycombing architecture of the epidermis, diffuse hyperreflective hyperkeratosis with a well-defined oval area demarcated up to the stratum spinosum layer, focal spongiosis, necrotic keratocytes, round-to-polygonal refractive inflammatory cells obscuring the dermo epidermal junction (DEJ) (Figure 2). To confirm the diagnosis, we performed an excisional biopsy. Histological examination showed a dense lichenoid mixed infiltrate in the papillary dermis, vacuolar alteration at the DEJ, focal parakeratosis with cornoid lamella, spongiosis and some necrotic cells in the epidermis (Figure 3). Combining all the evidence a diagnosis of pLP was made. The differential diagnosis of pLP includes the *annular and lichenoid dermatosis*, from ALDY (Annular Lichenoid Dermatitis of Youth) to annular lichen planus and porokeratosis.[3] In 1941, Morgan and Dennie documented a presumed intraepithelial epithelioma ultimately diagnosed as "an unusual case of lichen planus".[4] To the best of our knowledge this is the first report in literature that describe instead an unconventional presentation of pLP. The absence of the cornoid lamella, also called *porokeratotic horn*, a feature not pathognomonic of porokeratosis but markedly specific allows to exclude this diagnosis. However, superficial histologic sections could result in a false negative. Therefore, the confocal microscopy should be routinely performed to diagnose pLP in the absence of clinical and dermoscopic features suggestive for cutaneous discoid lupus erythematosus,[5] starting from the combination of the refractive inflammatory infiltrate and the lamella. Further studies are needed to define the specific dermoscopic and confocal aspects of the atypical form of pLP.

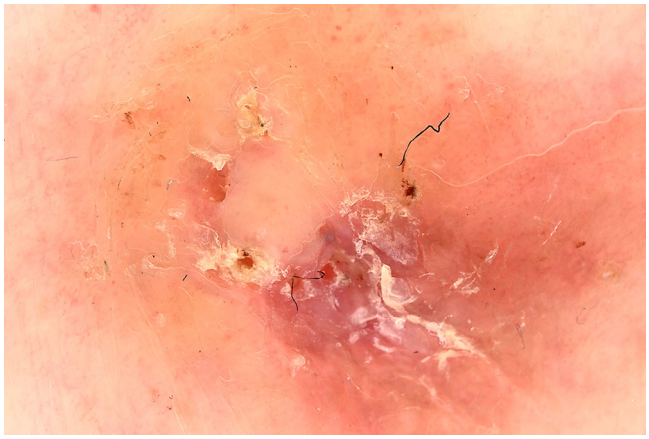

FIGURE 1 Videodermatoscopy (VDS): pink-orange lesion with a centered small rounded white structureless area flanked by red-brown and blue ovoid features.

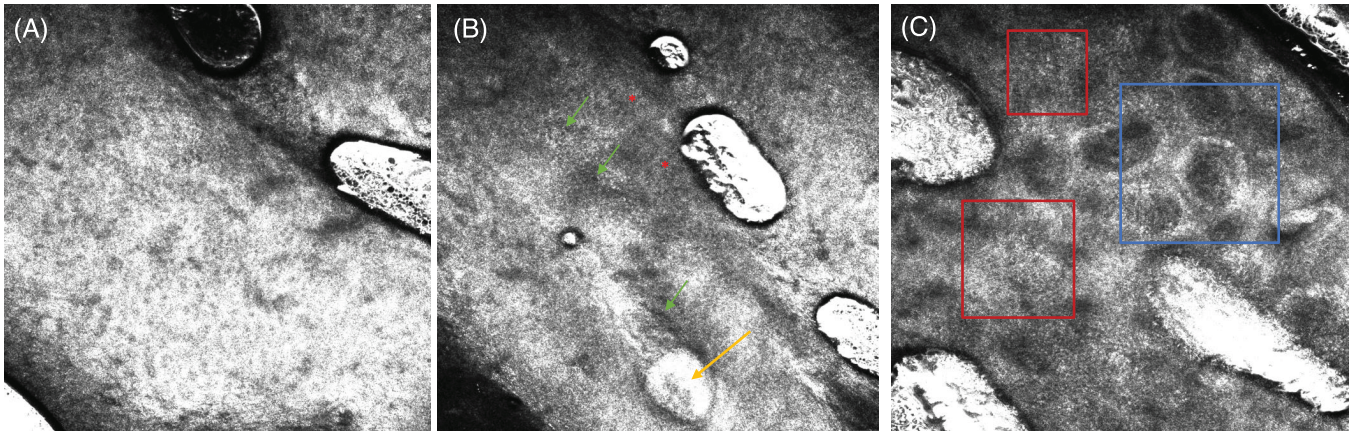

FIGURE 2 Reflectance Confocal Microscopy (RCM) showing. (A) Hyperreflective diffuse hyperkeratosis, irregular honeycombed architecture of the epidermis; (B) at the level of the stratum spinosum layer, terminal portion of the *Cornoid lamella* (yellow arrow), focal spongiosis (green arrows), presence of necrotic keratocytes (red asterisk); (C) rims of bright basal cells defining *edged* papillae at lesion' margins (blue box), inflammatory infiltrate of refractive round-to-polygonal cells blurring the DEJ (red boxes).

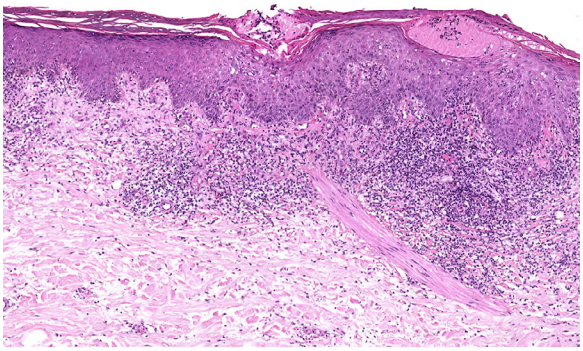

FIGURE 3 Hematoxylin and eosin (H&E) 20×: Dense lichenoid mixed infiltrate in the papillary dermis, vacuolar alteration at the dermo-epidermal junction, focal parakeratosis with *Cornoid lamella*, spongiosis and some necrotic cells in the epidermis.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

PATIENT CONSENT STATEMENT

The patient was informed about the use of his clinical information according to the Declaration of Helsinki principles and photos for a publication intent. The informed consent was appropriately obtained during the medical examination.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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REFERENCES

1. Dhanta A, Kansal NK, Durgapal P, Divyalakshmi C. Porokeratotic lichen planus. *JDDG*. 2019;17:1063-1065.
2. Li J, Liu X, Du Q, Wang X, Wang P. Porokeratotic lichen planus of the lower extremities. *Aust J Dermatol*. 2023;64(2):297-299. doi:10.1111/ajd.14017
3. McNally MA, Farooq S, Brown AE, et al. Annular lichenoid diseases. *Clin Dermatol*. 2022;40:466-479.
4. Morgan DB, Dennie CC, City K. An unusual case of lichen planus. *Arch Derm Syphilol*. 1941;43(1):155-158. http://archderm.jamanetwork.com/
5. Guida S, Longhitano S, Ardigò M, et al. Dermoscopy, confocal microscopy and optical coherence tomography features of main inflammatory and autoimmune skin diseases: a systematic review. *Austr J Dermatol*. 2022;63:15-26. doi:10.1111/ajd.13695