

Porokeratosis Concurrent and Coexistent with Psoriasis Vulgaris

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Disseminated superficial actinic porokeratosis is a rare photodistributed disorder that has occasionally been reported in association with psoriasis. Treatment of psoriasis with phototherapy may trigger the onset of porokeratosis in some cases. In other cases, the coexistence of these disorders may be coincidental. Clinical inspection of lesions of coexisting porokeratosis and psoriasis reveals increased erythema, diffuse and thickening of cornoid lamellae, as well as increased scale. These subtle yet characteristic features allow for correct clinical diagnosis and are associated with corollary histologic findings. Psoriatic changes occurring in lesions of porokeratosis are likely explained by the isomorphic (Koebner) response. Physicians should be aware that these two disorders can co-exist in order to ensure correct diagnosis and proper treatment.

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INTRODUCTION

Psoriasis vulgaris affects about 3% of the adult US population.¹ Porokeratosis represents a clonal proliferation of keratinocytes that is usually progressive unless treated. Lesions may be associated with the development of squamous cell carcinoma. Superficial actinic porokeratosis is associated with actinic damage. Phototherapy given to treat psoriasis can be associated with resultant disseminated superficial actinic porokeratosis.² Both psoriasis and porokeratosis are known to have a genetic component. Recent research has identified specific genes associated with some of the autosomal dominant forms of porokeratosis.³ Porokeratosis also seems to be able to trigger an isomorphic response with psoriasis vulgaris. Immunomodulating medications have been associated with the onset of porokeratosis and discontinuation of immunosuppressive treatment has been associated with improvement.^{4,5,6} We report the illustrative case of a patient who demonstrated lesions with features of both psoriasis vulgaris and porokeratosis.

CLINICAL CASE

A 63-year-old man presented for evaluation of a widespread skin eruption. He had a history of psoriasis treated with narrow band ultraviolet B phototherapy (UVB) and oral acitretin. His topical regimen consisted of intermittent application of clobetasol propionate foam (0.05%) and triamcinolone 0.1% cream. He also applied a generic hand sanitizer containing isopropyl alcohol and felt that this worked better than the prescription corticosteroid products.

Physical examination revealed a widespread inflammatory eruption consisting of erythematous papules and plaques. Symmetric scaling plaques were noted on the elbows and extensor surfaces along with annular lesions (**Figure 1**). Many annular lesions were associated with surrounding erythema (**Figures 2** and **Figure 3**). Review of a biopsy from the left upper thigh (**Figures 4** and **Figure 5**) revealed dyskeratotic keratinocytes and cornoid lamellae as well as collections of neutrophils and early spongiform pustule formation. The histologic changes supported the clinical impression of disseminated superficial actinic porokeratosis associated with psoriasis. He was treated with a lotion consisting of 12% lactic acid neutralized with ammonium hydroxide (ammonium lactate) and a keratolytic emollient cream with 40% urea. His itching improved but the lesions persisted.

DISCUSSION

Psoriasis is common and may have many different presentations. Porokeratosis is relatively rare and can be mistaken for psoriasis.⁷ The Koebner phenomenon has been suspected of contributing to this interesting finding.⁸ Psoriasis has been reported to be occurring “on top of the porokeratosis lesions” as in our case.⁸ Careful review of his clinical lesions revealed increased erythema and blunting of the keratotic annulus characteristic of disseminated superficial actinic porokeratosis. Dermoscopy of psoriasis reveals dotted vessels distributed over a pink background in a regular fashion and associated with superficial white scale.⁹ Porokeratosis is associated with a more discrete white rim associated with dotted and irregular blood vessels.⁹ The more diffuse rim and more pronounced surrounding erythema in our case help differentiate the findings in our patient from a patient with typical disseminated superficial actinic porokeratosis. Psoriasis is associated with certain genetic abnormalities.¹⁰

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Porokeratosis and psoriasis share certain gene profiles . Study of K16, S-100, A8 and A9, and connexin26 gene upregulation demonstrates closer similarities between psoriasis and porokeratosis than squamous cell carcinoma.¹¹ These results suggest that similarities between porokeratosis and psoriasis could be of use in devising successful therapeutic strategies. ¹¹

Failure to identify superficial actinic porokeratosis occurring in conjunction with psoriasis may lead to additional phototherapy treatment that could worsen disease.¹² Recognizing the subtle clues for diagnosis can allow for appropriate treatment and a better understanding of both these interesting disorders.



Figure 1. Typical psoriasis is evident in the thick plaques with silvery scale over the knees. Smaller annular erythematous scaling lesions are noted on the thighs and legs.



Figure 2. Many erythematous lesions on the left lower leg reveal a well-defined scaling border.



Figure 3. Close up of the right ankle reveals that the cornoid lamella of many lesions is discontinuous, there is more erythema than typically encountered in the setting of disseminated superficial actinic porokeratosis, and flakes of scale are irregular in size rather than coalescing in a focused narrow hyperkeratotic rim.

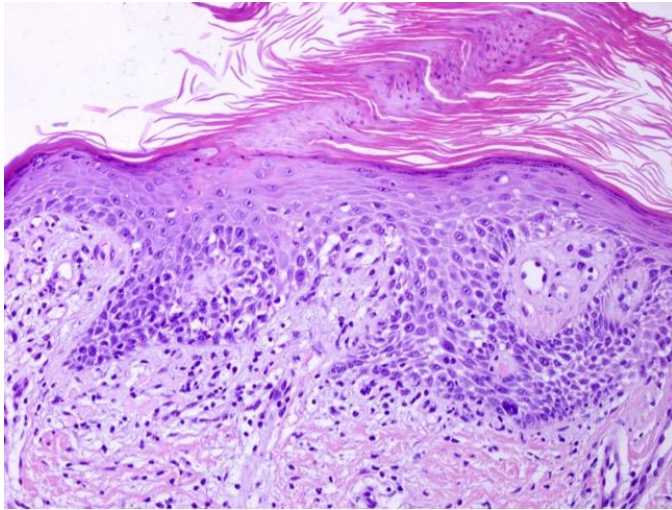


Figure 4. Biopsy reveals a typical cornoid lamella angled in towards the center of the clinical lesion. (Hematoxylin and eosin stained sections; original magnification 200x)..

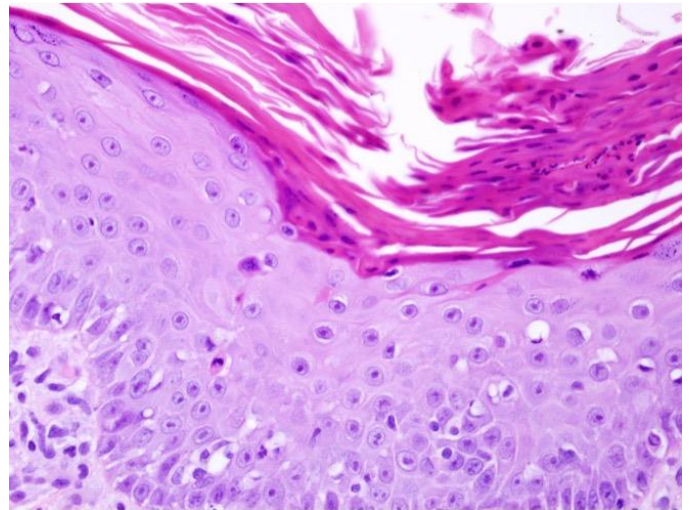


Figure 5. Not only are dyskeratotic keratinocytes noted, small collections of neutrophils are evident in areas overlying dyskeratotic keratinocytes. The granular cell layer is lost in this area, showing features of both psoriasis and porokeratosis. (Hematoxylin and eosin stained sections; original magnification 400x).

CONFLICT OF INTEREST

The authors have no conflict of interest to disclose.

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