

Lichen Planus Actinicus

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GOAL

To understand the clinical and histological features of lichen planus actinicus

OBJECTIVES

Upon completion of this activity, dermatologists and general practitioners should be able to:

1. Describe the clinical features of lichen planus actinicus.
2. Discuss the morphological variants of lichen planus actinicus.
3. Explain the clinical differences between classic lichen planus and lichen planus actinicus.

CME Test on page 372.

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Drs. Meads, Ramos-Caro, and Hassanein and Ms. Kunishige report no conflict of interest. The authors report discussion of off-label use of acitretin and hydroxychloroquine. Dr. Fisher reports no conflict of interest.

Lichen planus actinicus is a photodistributed variant of lichen planus that most often occurs in individuals with dark complexions. Sunlight seems to be a triggering factor in most cases. Several clinical morphologic patterns have been described, and multiple therapies with variable results have

been used. The lesions in some patients may remit spontaneously with sun avoidance.

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Lichen planus is a papulosquamous inflammatory dermatitis that affects less than 1% of the population. Classic lichen planus typically presents as erythematous to violaceous flat-topped papules that are pruritic and polygonal. The lesions usually involve the flexural areas of the arms, legs, trunk, and lower back.¹ Multiple clinical variants of lichen planus have been described.¹ We report a case of lichen planus actinicus, a subtype of lichen planus that characteristically affects sun-exposed areas of the face, forearms, and dorsa of the hands in individuals with dark complexions living in subtropical climates.²⁻⁸

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Figure 1. Hyperpigmented macules and patches on the forehead.



Figure 2. Hyperpigmented macules on the dorsal hand.

Case Report

A 55-year-old Indian man presented with a 7-year history of asymptomatic hyperpigmentation on his face, neck, and forearms. The patient had tried treating the condition with hydroquinone preparations and topical steroids without improvement in the pigmentation. He had no other medical problems and was not taking any systemic medications.

On physical examination, there were hyperpigmented macules and patches on his forehead (Figure 1), nose, cheeks, and chin. He also had thin, flat-topped, hyperpigmented papules on the

dorsal surfaces of his forearms and hands (Figure 2). All areas of hyperpigmentation were in areas of sun exposure. He had no associated mucous membrane or nail involvement. Histologic examination demonstrated an atrophic epidermis with mild hyperkeratosis and orthokeratosis (Figure 3). Basilar vacuolization, a bandlike lymphocytic infiltrate, and marked pigmentary incontinence were present. A diagnosis of lichen planus actinicus was made.

The patient was treated with topical tacrolimus 0.1% ointment and oral acitretin 25 mg daily for 2 months. The acitretin was discontinued because of

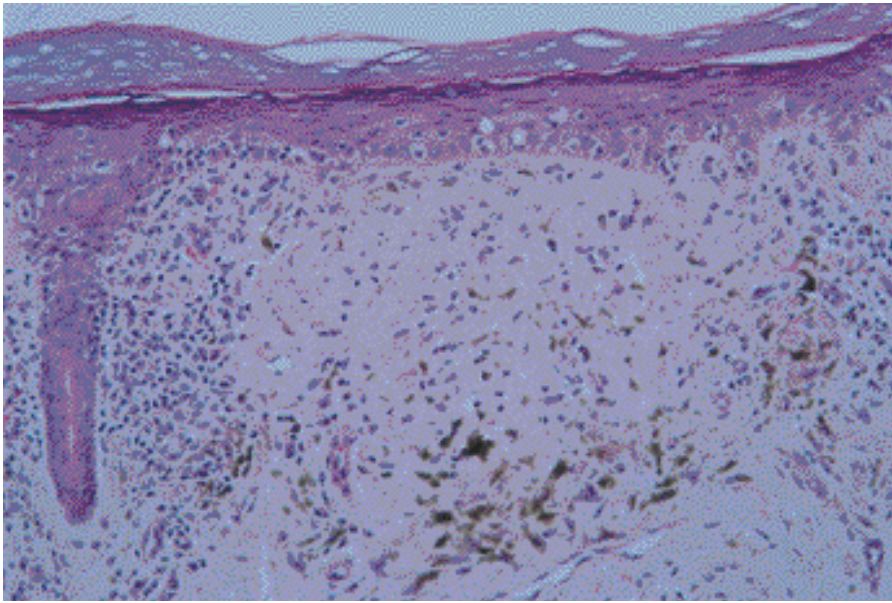


Figure 3. Atrophic epidermis and basilar vacuolization (H&E, original magnification $\times 40$).

Table 1.

Summary of Morphologic Variants of Lichen Planus Actinicus^{2,3,10,11}

Lesions	Specific Features
Annular hyperpigmented plaques	Most common type; located on dorsa of fingers and hands; center of plaque becomes darkly pigmented in late stages
Melasmalike patches	Gray, brown, or black patches on face and neck; size ranges from 5 mm to 5 cm
Dyschromic papules	Pinhead-sized, white, angular papules coalescing into patches; small horny plugs present in center of papule; predominately found on posterior neck and dorsa of hands
Classic lichenoid papules/plaques	Violaceous papules in sun-exposed skin; may occur simultaneously with above types

lack of improvement and unacceptable side effects (dryness of skin, peeling of hands, and scalp hair loss). He was then started on hydroxychloroquine 400 mg daily with improvement (decreased thickening and pigmentation) after one month of therapy.

Comment

Lichen planus actinicus is a photodistributed variant of lichen planus that most often occurs in dark-complexioned young adults of Middle Eastern descent.^{3,8-10} Other names for this disorder include: summertime actinic lichenoid eruption,^{2,6} lichen

planus atrophicus annularis,² lichen planus in subtropical countries,^{3,4} lichen planus subtropicus,⁵ lichen planus tropicus, and lichenoid melano-dermatitis.⁷ Although the etiology of this disease has not been determined, sunlight appears to be the triggering factor in most cases.²⁻¹¹ Lichen planus actinicus has been induced with artificial UV light sources. In one patient, repeated doses of UVB radiation induced lichen planus-like lesions, whereas UVA radiation did not invoke this cutaneous response.¹² Subtropical climates and nutritional deficiencies also may be contributing factors.²

Table 2.

Comparison of Lichen Planus Actinicus and Classic Lichen Planus²⁻⁴

Lichen Planus Actinicus	Classic Lichen Planus
Sun-exposed skin of face, extensor surfaces of upper extremities, and dorsa of hands	Flexural areas of wrists, arms, legs, trunk, and thighs; face and scalp are usually spared
No mucous membrane or nail involvement	Mucous membranes and/or nail involvement frequently present
Younger age of onset (average, 28 years) ³	Older age of onset (average, 47 years) ³
Dark-complexioned individuals from the Middle East	No racial predilection
Seasonal onset in spring and summer	No seasonal predilection
Köbner response absent	Köbner response present
Pruritus absent	Pruritus present

The lesions of lichen planus actinicus usually occur on the forehead, face, neck, and the extensor surfaces of the arms and hands. The lateral aspect of the forehead is the most common site of presentation.⁵ Several morphologic patterns have been reported including annular hyperpigmented plaques, melasmalike patches, dyschromic papules, and classic lichenoid papules/plaques (Table 1).^{2,3,10,11} The lesions often are exacerbated by sun exposure and may improve spontaneously in the winter months.^{3,4} Rarely, the nonexposed skin of the legs, trunk, genitals, and oral mucosa may be affected.^{3,4} Unlike classic lichen planus, lichen planus actinicus has an earlier age of onset, a longer course, a predilection for dark-complexioned females, and a seasonal occurrence.²⁻⁴ Additionally, pruritus, scaling, nail involvement, and the Köbner reaction frequently are absent (Table 2).²⁻⁴

Differential diagnosis of lichen planus actinicus includes discoid lupus erythematosus, granuloma annulare, melasma, secondary syphilis, fixed drug eruption, polymorphous light eruption, and erythema dyschromicum perstans.⁵ The clinician also must exclude the possibility of a drug-induced photosensitive lichenoid eruption by taking a complete medication history.

The histologic features of lichen planus actinicus are consistent with findings in classic lichen planus.²⁻⁵ Hyperkeratosis of the stratum corneum,

hypergranulosis, basal cell vacuolization, and Civatte bodies usually are present.¹⁰ The epidermis may demonstrate either sawtoothed hyperplasia or atrophy. Numerous melanophages, marked pigmentary incontinence, and a bandlike lymphocytic inflammatory infiltrate also are observed in the papillary dermis.^{2-4,7,10} Although clinically similar to cutaneous lupus and polymorphous light eruption, lichen planus actinicus can be distinguished histologically from these photodermatoses. Lichen planus actinicus lacks follicular plugging, thickening of the basement membrane, and the periadnexal inflammatory infiltrate seen in cutaneous lupus erythematosus.² Papillary dermal edema, which is present in polymorphous light eruption, is not observed.² The lupus erythematosus–lichen planus overlap syndrome and lichen planus actinicus may be similar histologically, but they can be easily distinguished clinically. Unlike lichen planus actinicus, the lupus erythematosus–lichen planus overlap syndrome features ulcerated, atrophic, violaceous plaques with telangiectasias on the palms and soles.^{1,2}

Variable treatment responses have been reported with bismuth, grenz rays, arsenic compounds, and topical corticosteroids under occlusion.^{4,6} Hydroxychloroquine, intralesional corticosteroids, and topical sunscreens have been used with success.^{5,8} Acitretin, used in combination with topical steroids

and sun avoidance, also has resulted in complete resolution of lesions without recurrence.¹³ Although psoralen-UVA, isotretinoin, systemic corticosteroids, cyclosporine, and dapsone have been used to treat classic lichen planus, there are currently no reports of their use in lichen planus actinicus.¹⁴ Some cases may remit spontaneously with sun avoidance and use of sunblock.⁶

REFERENCES

1. Boyd A, Neldner K. Lichen planus. *J Am Acad Dermatol*. 1991;25:593-619.
2. Isaacson D, Turner ML, Elgart ML. Summertime actinic lichenoid eruption (lichen planus actinicus). *J Am Acad Dermatol*. 1981;4:404-411.
3. Katzenellenbogen I. Lichen planus actinicus (lichen planus in subtropical countries). *Dermatologica*. 1962;124:10-20.
4. Dostrovsky A, Sagher F. Lichen planus in subtropical countries. *AMA Arch Derm Syphilol*. 1942;59:308-328.
5. Dilaimy M. Lichen planus subtropicus. *Arch Dermatol*. 1976;112:1251-1253.
6. Bedi TR. Summertime actinic lichenoid eruption. *Dermatologica*. 1978;157:115-125.
7. Verhagen AR, Kolen JW. Lichenoid melanodermitis. a clinicopathological study of fifty-one Kenyan patients with so-called tropical lichen planus. *Brit J Dermatol*. 1979;101:651-658.
8. Zanca A, Zanca A. Lichen planus actinicus. *Int J Dermatol*. 1978;17:506-508.
9. Baker H, Almeyda J. Lichen planus actinicus. *Brit J Dermatol*. 1970;82:426-427.
10. Salman SM, Kibbi AG, Zaynoun S. Actinic lichen planus. *J Am Acad Dermatol*. 1989;20:226-231.
11. Salman SM, Khallouf R, Zaynoun S. Actinic lichen planus mimicking melasma. *J Am Acad Dermatol*. 1988;18:275-278.
12. van der Schroeff JG, Schothorst AA, Kanaar P. Induction of actinic lichen planus with artificial UV sources. *Arch Dermatol*. 1983;119:498-500.
13. Jansen T, Gambichler T, von Kobyletzki L, et al. Lichen planus actinicus treated with acitretin and topical corticosteroids. *J Eur Acad Dermatol Venereol*. 2002;16:174-175.
14. Cribier B, Frances C, Chosidow O. Treatment of lichen planus. an evidence-based medicine analysis of efficacy. *Arch Dermatol*. 1998;134:1521-1528.

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