Widespread lichen planus pigmentosus in a 32-year-old Filipino male treated with low dose isotretinoin and topical tacrolimus

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ABSTRACT

Introduction: Lichen Planus Pigmentosus (LPP) is a pigmentary disorder of unknown etiology, presenting with diffuse hyperpigmentation in sun-exposed areas.

Case report: We report a case of a 32-year-old healthy male with widespread lichen planus pigmentosus, treated with clobetasol dipropionate 0.05% ointment, tacrolimus 0.1% ointment, and lowdose isotretinoin (0.1 to 0.2 mkd) showing a decrease in the progression and hyperpigmentation of patches and plaques after six months.

Conclusion: Based on our case and recent studies, low-dose oral isotretinoin, in combination with topical tacrolimus and topical corticosteroids, may show promising outcomes in treating cases of widespread lichen planus pigmentosus.

Key words: LPP, pigmentary, dermoscopy, isotretinoin

INTRODUCTION

Lichen planus pigmentosus (LPP) is an acquired, idiopathic, dermal melanosis, usually presenting as brown to gray hyperpigmented macules and patches.[1, 2] Common sites of predilection include photo-exposed sites such as the face, neck, trunk and upper extremities.[1, 2] No standard treatments exist.[3] However, some studies have shown improvement with topical tacrolimus, topical corticosteroids, and low-dose oral isotretinoin.[3]

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CASE SUMMARY

A 32-year-old healthy male, presented initially with few, skin-colored macules on the trunk and extremities. Lesions increased in size and number over a duration of 3 months, forming multiple, irregularly-shaped, well-defined hyperpigmented patches and plaques with scales on the neck, trunk and extremities. Dermoscopy revealed black

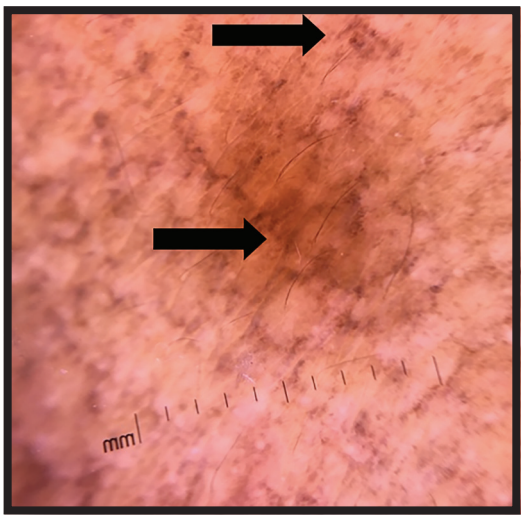

Figure 1. Dermoscopy showed black dots in arcs and circles (black arrows)

dots in arcs and circles consistent with lichen planus pigmentosus (Fig. 1). A skin punch biopsy revealed focal thinning of the epidermis with vacuolar alteration of the basal cell layer, large pigment-laden macrophages in the dermis, and a focally lichenoid inflammatory infiltrate of lymphocytes (Fig. 2). Histopathological diagnosis was lichen planus pigmentosus. Patient was then treated with clobetasol dipropionate 0.05% ointment, tacrolimus 0.1% ointment, and low-dose isotretinoin starting at 0.2 mg/kg/day for 1 month, then tapered to and maintained at 0.1 mg/kg/day for the next 5 months with significant lightening of lesions (Fig. 3a-b).

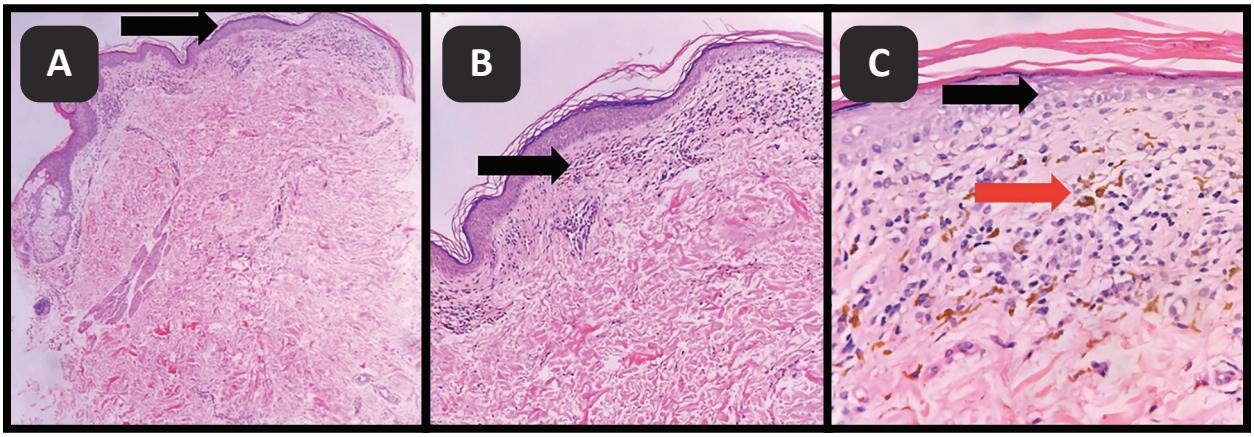

Figure 2. (a) focal thinning of the epidermis (black arrow, H & E x 40), (b) focal lichenoid inflammatory infiltrate of lymphocytes and pigment-laden macrophages (black arrow, H & E x 100), (c) vacuolar alteration of the basal cell layer (black arrow) and large pigment-laden macrophages (red arrow) in the papillary dermis (H & E x 400)

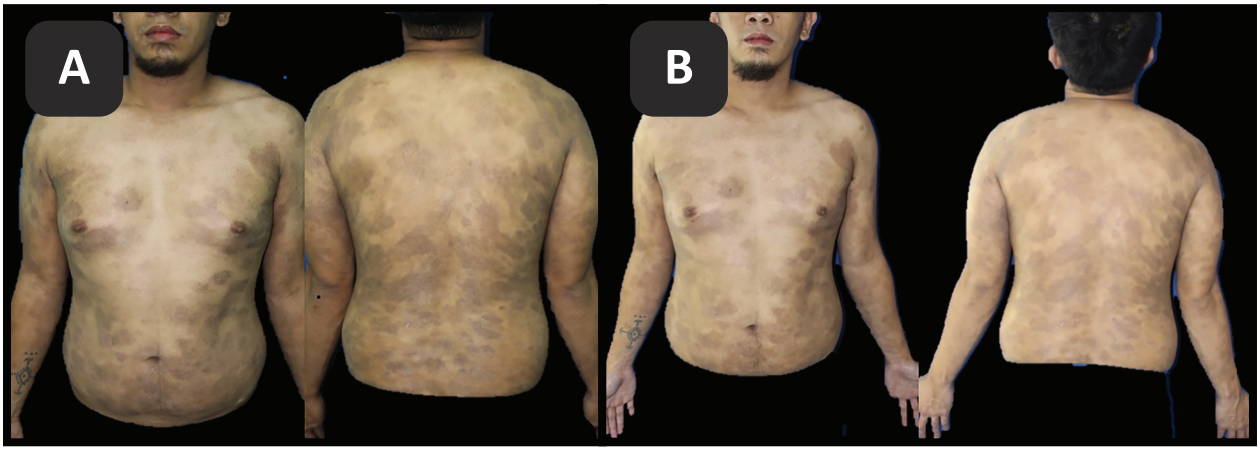

Figure 3. (a) Skin examination showed multiple, irregularly-shaped, well-defined gray patches and plaques on the anterior and posterior trunk prior to treatment (b) Follow-up photos show a decrease in the progression and hyperpigmentation of the patches and plaques on the anterior and posterior trunk after six months of treatment with tacrolimus 0.1% ointment, clobetasol 0.05% ointment and low dose oral isotretinoin

DISCUSSION

Lichen planus pigmentosus (LPP) is a variant of lichen planus most commonly seen in middle-aged individuals with pigmented skin. It has a chronic and persistent course.[1,2] Its exact etiology is still unknown.[1] However, it is speculated that UV exposure, topically applied mustard oil which contains a potential photosensitizer, amla oil, cooking ingredients and hair care formulas are possible causes.[2] Diagnosis would require histological evidence of epidermal atrophy, basal layer vacuolation with a perivascular infiltrate and melanophages in the superficial dermis, similar to our patient's biopsy findings. Photoprotection, topical

tacrolimus, topical and systemic corticosteroids, topical vitamin A, laser treatments and low-dose oral isotretinoin are the usual management options.[1] There was noted improvement with the use of topical tacrolimus in conjunction with oral isotretinoin. A group of twenty-seven patients, aged 20-62 years was treated with low-dose isotretinoin for 4-6 weeks. Outcomes were promising, showing moderate improvement in 15 patients (55.7%), good improvement in 7 patients (21.8%), and mild in 2 patients (6.2%).[3]

Lichen planus pigmentosus is commonly confused with erythema dyschromicum perstans (EDP) or idiopathic eruptive macular pigmentation.[1] Erythema dyschromicum perstans (EDP) is characterized by acquired large hyperpigmented macules (>5 cm). Its etiology is unknown, and commonly involves the trunk.[4] It is commonly found in photoprotected sites. It usually manifests in patients with intermediate skin types (e.g. Hispanic, Asian populations).[1] It differs from ashy dermatosis in that its active stage has an erythematous border. Melanophages in the dermis cause the ashy gray pigmentation. Interface dermatitis may be present but is not a feature necessary to diagnose these conditions. Idiopathic eruptive macular pigmentation is characterized by asymptomatic, nonconfluent small brown macules (0.5-2 cm) involving the neck, proximal extremities and trunk. Etiology, like EDP, is also unknown. There is no preceding inflammation nor history of drug exposure. It usually presents on the face, trunk, and proximal extremities. Histology is characterized by hyperpigmentation of the basal layer of the epidermis and prominent dermal melanophages without visible basal layer damage or lichenoid inflammatory infiltrate. It resolves in a few months to years, and would predominantly involve adolescents and young adults.[4]

Our patient's presentation is unique in such that there was sparing of the head and neck, and that lesions were widespread. This atypical presentation highlights our limited understanding of the classification or variants of LPP to date.

CONCLUSION

Low-dose oral isotretinoin, in combination with topical tacrolimus and topical corticosteroids, may show promising outcomes (i.e. decrease in the progression and lightening of some lesions) in treating cases of widespread lichen planus pigmentosus.

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