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Journal
Dermatology Online Journal, 28(4)

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Publication Date
2022

DOI
10.5070/D328458527

Successful treatment of exanthematous lichen planus in a young adult with low dose oral corticosteroid and isotretinoin

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Abstract

Lichen planus is an inflammatory disease affecting the skin and mucosal membranes often with a chronic course lasting months to years with episodes of relapses. Classically it presents as flat topped, purple, polygonal, pruritic papules on the volar aspect of wrists and forearms, ankles, lower legs, and lumbo-sacral spine. We report a young woman with an exanthematous/eruptive variant of lichen planus who had a sudden outbreak of multiple papules and plaques all over the body with relative sparing of head and neck region. Eruptive lichen planus is rarely reported in adults and effective treatments are not well documented. We prescribed a short course of oral corticosteroid to which the patient did not respond. This was followed by oral isotretinoin and there was dramatic improvement in her symptoms and cutaneous lesions. A short course of oral corticosteroid followed with oral isotretinoin may be considered as a valuable management plan for exanthematous lichen planus. This combination may avoid serious adverse effects of both drugs when prescribed in high doses.

Keywords: disseminated, eruptive, exanthematous, lichen planus, oral isotretinoin, oral steroid, treatment

Introduction

Lichen planus (LP) is a chronic inflammatory cutaneous disorder present in all races, age groups, and genders. However, it has been reported more in females and in adults as compared to children. Prevalence of the disease has been reported as 0.2-5% in the general population [1,2].

Lichen planus presents in different forms. Classically it is characterized by flat topped, purple, polygonal, pruritic papules on the volar aspect of wrists and forearms, ankles, lower legs, and lower trunk. Its variants include annular, hypertrophic, erosive, lichen planopilaris, guttate, linear, disseminated, and mucosal. One of its uncommon variants is the exanthematous variant, also known as disseminated or eruptive LP. It has been more often reported in children and presents as sudden eruption of multiple, widespread lesions all over the body [3].

A wide range of therapeutic modalities are available for this chronic condition which is often a source of persistent distress and unease for the patient. These include glucocorticoids, phototherapy, retinoids, azathioprine, methotrexate, cyclosporine, thalidomide, phenytoin, griseofulvin, and biologics like alefacept and efalizumab [4]. The clinical variant, extent, site and severity of symptoms guides the treatment plan of LP. We report a young woman with the exanthematous variant of lichen planus who responded well to a short course of oral isotretinoin preceded by oral corticosteroids.

Case Synopsis

A 20-year-old woman, presented to the dermatology department with a 3-week history of sudden

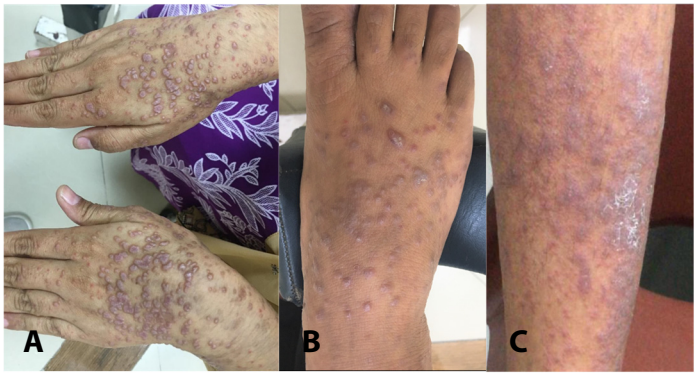

Figure 1. *Multiple discrete and confluent violaceous, flat-topped papules on **A)** the dorsal aspect of hands and **B)** feet. **C)** Larger violaceous, scaling plaques and papules on lower limb.*

eruption of severely itchy, raised lesions all over the body except the head and neck region. There was no history of fever or any other systemic complaints. Additionally, she had no history of infection or intake of any drug, herbal product, or supplement prior to the cutaneous eruption. There was no history of recent vaccination.

On examination, she had extensive erythematous-to-violaceous planar papules, discrete and confluent, all over the body including trunk and limbs with relative sparing of palms and soles, as shown (**Figure 1**). There was sparing of the scalp, face, and neck. The mucosae and nails were normal. The patient weighed 50kg and her general physical and systemic examinations were unremarkable.

Based on clinical history and examination a diagnosis of eruptive/exanthematous lichen planus was made and skin biopsy for histopathology was done. It revealed mildly hyperkeratotic epithelium, numerous Civatte bodies, and diffuse basal vacuolation with underlying interface dermatitis. The dermis showed a predominantly lymphocytic band-like infiltrate, with occasional eosinophils. There was perivascular and periadnexal infiltrate, (**Figure 2**).

Her complete blood count and serum liver and renal function tests were within normal limits. Fasting lipid profile revealed serum triglyceride marginally raised, 1.7mmol/l (normal 0.4-1.6mmol/l). Serology for hepatitis B and C viruses was negative.

The patient and her family members were extremely distressed with the sudden, extensive cutaneous eruption. They were counselled about the non-infectious nature of the disease and different therapeutic options available. Narrow band UVB (NB-UVB) was declined due to logistic problems of appointments twice or thrice a week for the next few months. Being a young woman of childbearing potential, acitretin was not considered and she was advised to try a short course of low-dose oral corticosteroid, 20mg prednisolone/day, loratadine 10mg once daily, and potent topical corticosteroid for two weeks. The patient had minimal improvement in her skin condition.

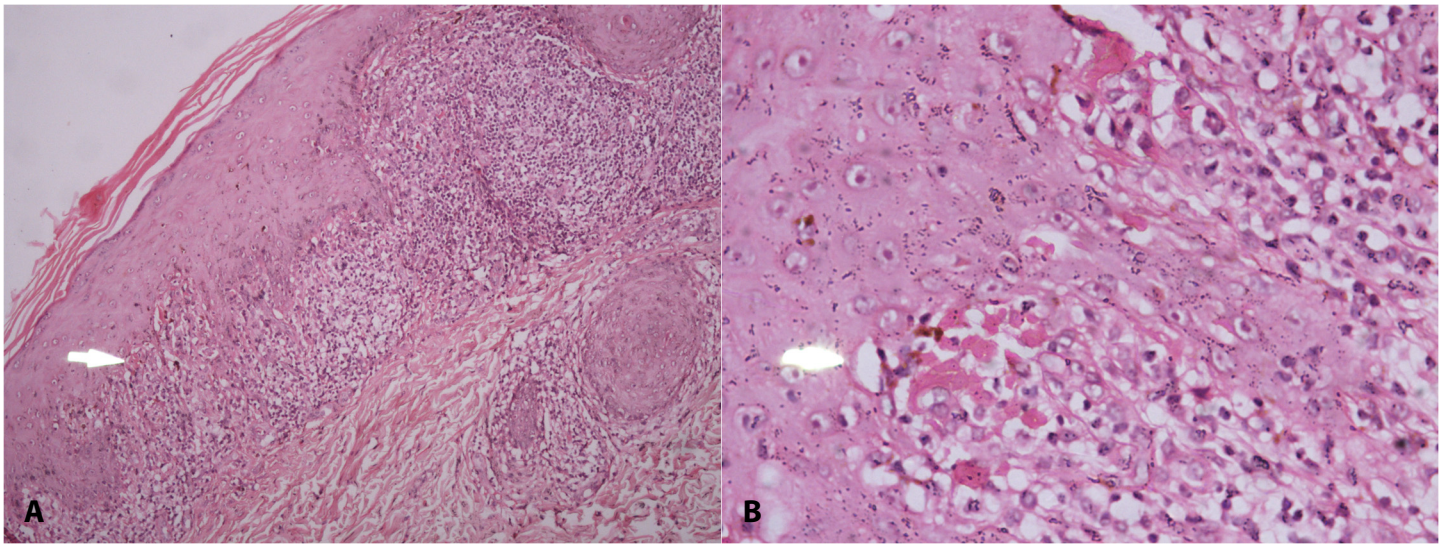

Figure 2. ***A)** Arrow indicating Civatte body (eosinophilic, homogenous hyaline body representing necrotic keratinocytes) in the subepidermal papillary region. The dermis shows a predominantly lymphocytic band-like infiltrate with occasional eosinophils. There is also perivascular and periadnexal infiltrate. H&E, 10×. **B)** Higher magnification of diffuse basal vacuolation with interface dermatitis. H&E, 40×.*

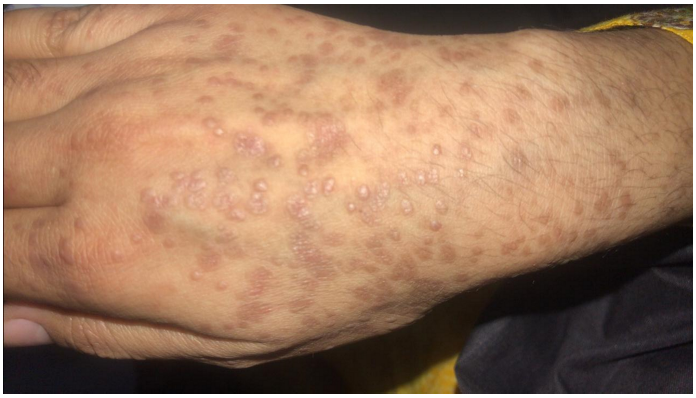

Figure 3. *Marked improvement in lesions after 10 days of isotretinoin treatment, with most lesions completely flattened.*

Oral corticosteroids were stopped and she was prescribed oral isotretinoin 20mg daily, with follow-up on the tenth day with serum lipid profile and liver function tests. On the 10th day of oral isotretinoin our patient showed a dramatic improvement in her signs and symptoms. Most of the lesions had regressed significantly (**Figure 3**) and pruritus had decreased.

However, the patient's serum triglyceride level had risen to 2.9mmol/l (normal 0.4-1.6mmol/l). Her liver function tests were within normal limits. There were no systemic complaints. Her lesions resolved completely after one month's treatment with residual post inflammatory hyperpigmentation (**Figures 4**). Oral isotretinoin was given on alternate days for another month to prevent relapse. There were no new cutaneous eruptions during treatment and mucosae and nails remained unaffected. Her lipid levels and liver function tests returned to within normal limits at the time of cessation of treatment. Patient has been advised to use physical sunscreen containing zinc oxide to aid in gradual lightening of post-inflammatory hyperpigmentation. There was no recurrence of the lesions three months post treatment.

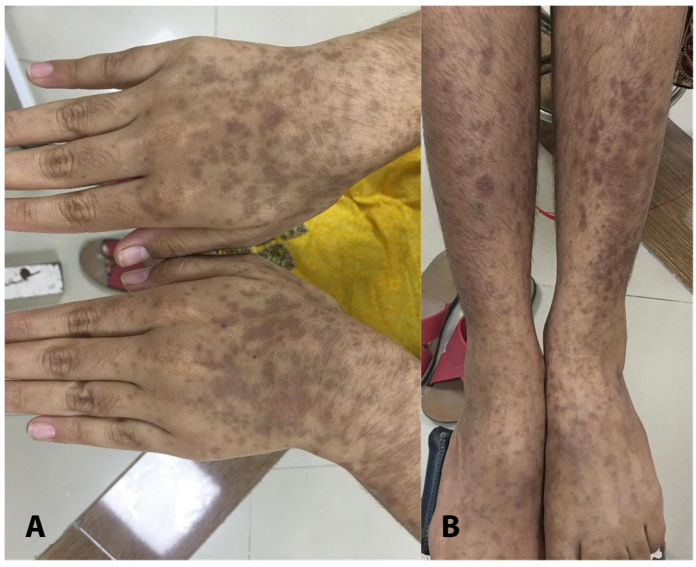

Figure 4. *Residual post inflammatory hyperpigmentation on **A)** the hands, **B)** feet and legs after one-month treatment with isotretinoin.*

Case Discussion

Lichen planus is a chronic immune mediated disease for which corticosteroids have long been advocated as the main therapy. Corticosteroids are given in oral, topical and intra-lesional forms. For localized lesions high potency and ultra-high potency topical corticosteroids are considered as the first line treatment due to their anti-inflammatory effects [5]. For more extensive and/or extremely symptomatic lesions or those responding unsatisfactorily to topical medicaments oral corticosteroids may be considered with doses varying from 30-80mg daily for 4-6 weeks followed by tapering [6]. Liu et al. [2] managed their patient with eruptive LP with topical strong-potency corticosteroids and oral corticosteroids. They gave oral prednisolone 20mg for a week, followed by 10mg daily for a year, which is of considerably longer duration than given in our reported case. Their patient experienced recurrent episodes of LP lasting 3-4 weeks, justifying prolonged use of oral corticosteroid. To counter the side effects of such prolonged use pulse therapy has also been advocated in medical literature [7].

Phototherapy, including psoralen and ultraviolet A and narrow and broad band ultraviolet B, is another therapeutic modality showing promising results in LP by exerting immune modulating effects and causing apoptosis [8, 9]. However, our patient was not willing to come to the hospital frequently for phototherapy. During the current COVID-19 pandemic, we understood and accepted her hesitancy for frequent hospital visits.

Retinoids have established in their roles as an alternative to corticosteroid therapy. There were initially case reports and followed by studies indicating successful outcomes [10-12]. Amongst

oral retinoids, acitretin/etretinate has been more often used in the treatment of different types of lichen planus with variable success. Acitretin is a strong teratogen that may remain in the body for at least two years after the last dose. Therefore, women of childbearing age are not candidates for the therapy. Woo successfully treated two cases of LP with severe oral and cutaneous lesions, using oral isotretinoin 0.5mg/kg bodyweight [11]. Similarly, Spano and Donovan [12] found oral retinoids a useful adjunctive therapy in a few patients with lichen planopilaris. Of their 21 patients on oral retinoids given treatment up to 18 months, 5 responded satisfactorily to treatment (three on acitretin and two on isotretinoin). They noticed clinical improvement after 2-4 months of treatment. Minimal response compounded by serious side effects has been reported by other researchers [13]. However, Ott et al. [14] found low dose oral tretinoin given to patients for up to 19 months beneficial in treating LP patients who had not responded to other therapies. Similarly, studies have found good response of oral isotretinoin for lichen planopilaris and lichen planus pigmentosus associated with frontal fibrosing alopecia with treatment ranging from months to up to a year [15,16].

Eruptive lichen planus is rarely reported in adults; its etiology and effective treatment are not well-documented in English language literature [17]. We have reported dramatic improvement in our patient with oral corticosteroids followed by low-dose oral isotretinoin, although oral corticosteroid in our patient was of questionable benefit. After two weeks' treatment with prednisolone the intensity of the lesions and the associated pruritus were negligibly reduced. However, our patient showed a dramatic response later to low dose oral isotretinoin with only ten days' therapy which makes us wonder if the two drugs had a synergistic effect. Giving both medications in low doses and for short duration of time greatly limits the chances of serious adverse effects. Further research is warranted on this approach; yet we found it thought-provoking to share our clinical experience with fellow clinicians and researchers.

Conclusion

Eruptive LP is a relatively uncommon variant of LP which can significantly impact the patient's quality of life. Although our patient exhibited minimal response with a short course of oral corticosteroid, following it with oral isotretinoin yielded a dramatic improvement in the cutaneous disorder. There has been no relapse of the condition in the three months follow up period. We consider short courses of oral corticosteroid and isotretinoin used in succession and in low doses as a safe and feasible therapeutic option in effective management of this chronic, troublesome condition.

Potential conflicts of interest

The authors declare no conflicts of interest

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