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Case Report

Effect of Cyclosporine in a Patient with Eruptive Lichen Planus: A Case Report

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Abstract

An inflammatory skin condition called lichen planus, characterized by pruritic, purplish papules and plaques, has many clinical variants; one uncommon clinical variant is eruptive lichen planus. There are many available treatment modalities for lichen planus, but none are particularly promising. Therefore, we still need a drug that can provide long-term relief without any recurrence. In this report, we share our experience treating a 56-year-old female patient, diagnosed with acute eruptive lichen planus, with cyclosporine.

Keywords: Cyclosporine, Eruptive lichen planus, Long-term relief.

تأثير السيكلوسبورين في مريض مصاب بالحزاز المسطح البرفكي: تقرير حالة

الخلاصة

حالة جلدية التهابية تسمى الحزاز المسطح، تتميز بحطاطات ولويحات حاكة أرجوانية، لها العديد من المتغيرات السريرية. أحد المتغيرات السريرية غير الشائعة هو الحزاز المسطح البرفني. هناك العديد من طرق العلاج المتاحة للحزاز المسطح، ولكن لا يوجد أي منها واعد بشكل خاص. لذلك، ما زلنا بحاجة إلى دواء يمكن أن يوفر راحة طويلة الأمد دون أي تكرار. في هذه الحالة المرضية، نشارك تجربتنا في علاج مريضة تبلغ من العمر 56 عاما، تم تشخيص إصابتها بالحزاز المسطح الانتحاري الحاد، بالسيكلوسبورين.

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INTRODUCTION

An inflammatory skin condition known as lichen planus (LP) has specific clinical and histopathological presentations that affect between 0.5 and 1% of the population. Lichen planus (LP) usually shows up as the six P's: pruritic, polygonal, purple, planar, papules, and plaques, spread out evenly on both sides and preferably in a flexural pattern. Numerous variants exist based on varying morphology and distribution, such as oral, nail, linear, annular, atrophic, hypertrophic, inverse, eruptive, bullous, ulcerative, LP pigmentosus, lichen planopilaris, genital, actinic, lichen planus-lupus erythematosus overlap syndrome, and lichen planus pemphigoides. The rare occurrence and atypical presentation of many variants make their diagnosis challenging and difficult to manage [1]. There is no gender pre-disposition, and it affects all age groups, with 95% of cases occurring in adults. The most affected age group is between the third and sixth decades [1,2]. The skin and mucosal lesions also display a lattice-like network of white lines, known as Wickham striae. There are variations in the natural history of LP, and spontaneous clearance of the cutaneous lesions and recurrence have been observed in most of the patients with residual hyperpigmentation. It is an idiopathic disease, and pathogenesis is not fully understood, but it appears to be a T-cell-mediated autoimmune disease [3]. To confirm the diagnosis, a skin biopsy is valuable in atypical and severe cases, as the histopathological findings are mainly the same regardless of the distribution or variant. The classical findings consist of hyperkeratosis without parakeratosis, irregular thickening of the stratum granulosum, disruption of the stratum basale, alteration or loss of rete ridges resulting in a sawtooth appearance, and a dense band of lymphocytes infiltrating the dermis along the dermoepidermal junction (interface dermatitis). Colloid or Civatte bodies, which are apoptotic keratinocyte cells, are classically present near the basal layer and are characteristic findings of lichen planus.

Case presentation

A 56-year-old female presented to the department of dermatology with the chief complaints of severe itchy lesions spread on the upper limb, lower limb, and trunk in the last 6 weeks. Her sleep was disturbed, and symptomatic treatment was taken by the patient, but no relief was observed. The number of lesions increased gradually over time. The continuous itching was alleviated after applying an emollient for a brief period. The patient had no previous history of similar complaints, and the family history was also negative. There was no history of any drug intake prior to the onset of lesions, comorbidity, or any addictions. Upon cutaneous examination, we observed excoriated papules, plaques, and erythematous, planar-topped papules over bilateral, symmetrical upper and lower limbs (Figure 1).

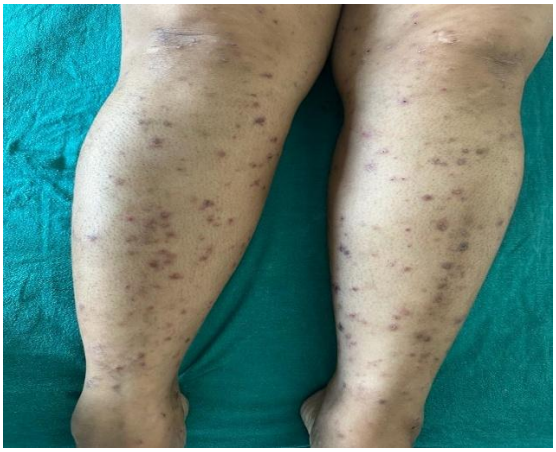

Figure 1: Multiple, excoriated papules, plaques and erythematous plane-topped papules over bilateral lower limbs.

Lesions primarily appeared on the trunk (Figure 2). The first clinical diagnosis was prurigo simplex, keeping in mind the short duration and no other significant history. Further evaluation of lesions with a dermoscope shows a network of fine reticular white lines.

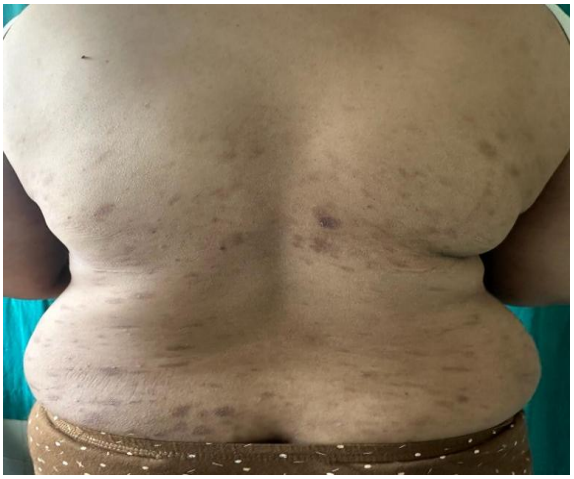

Figure 2: Multiple post-inflammatory hyperpigmented patches and few erythematous plaques over the back.

Wickham's striae were seen, which is suggestive of lichen planus (Figure 3), but there was no oral, nail, or genital involvement. The diagnosis revised was lichen planus, and to confirm with the gold standard investigation, histopathology, the cutaneous biopsy was sent.

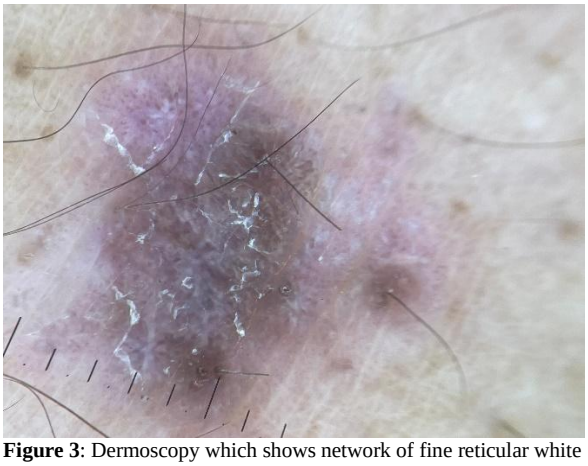

Figure 3: Dermoscopy which shows network of fine reticular white lines known as Wickham's striae is seen.

The histopathology diagnosis revealed eruptive lichen planus (Figure 4). Final diagnosis on clinical, dermoscopy, and histopathology correlation of eruptive lichen planus was made.

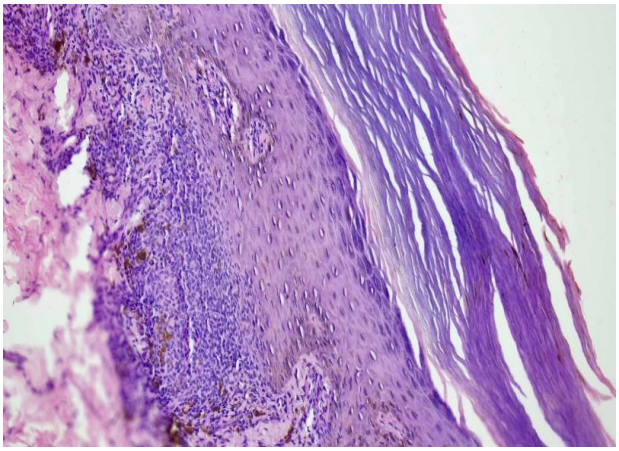

Figure 4: HPE shows hyperkeratosis without parakeratosis, irregular thickening of the stratum granulosum, loss of rete ridges resulting in a sawtooth appearance and a band-like lymphocytic infiltrate along the dermo-epidermal junction (interface dermatitis).

All the recommended investigations were routine, specifically targeting HCV and hepatitis. Following all routine investigations, the patient received treatment with oral cyclosporine (3 mg/kg/day), antihistamine, and topical emollient. The patient was monitored for blood pressure daily and serum creatinine fortnightly. The dose of cyclosporine was tapered (1 mg/kg/day) monthly for four months (Figure 5). The dosage reduction was done on not having new lesions and persistent symptomatic improvement. The patient underwent a six-month follow-up after four months,

during which no lesions recurred. For the follow-up period, the patient was only on topical emollient and not on any oral medication.

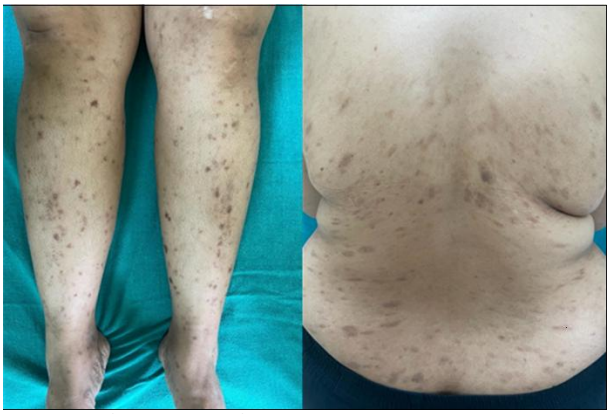

Figure 5: After 4 months of oral cyclosporine therapy.

DISCUSSION

Although cutaneous lichen planus is a self-limiting disease, patients experiencing severe pruritus require immediate attention. When pruritus disrupts sleep, it leads to an increase in stress, which is also a risk factor for lichen planus. The first line of treatment for localized lichen planus is topical drugs. Commonly prescribed drugs include topical corticosteroids and calcineurin inhibitors, while intralesional or intramuscular injections administer other drugs like triamcinolone acetonide. Systemic corticosteroids are the preferred immunomodulatory drugs for generalized lichen planus, as monotherapy with topical corticosteroids is less practical [4,5]. Milder cases can be managed with rest and topical corticosteroids, while severe generalized cases mostly require systemic corticosteroids. The aggressive lesions with pruritus may need additional therapy ranging from psoralen plus ultraviolet A (PUVA) to retinoids or cyclosporine [5]. According to the literature, cutaneous lichen planus has been effectively managed with oral cyclosporine drugs. A report documented the successful treatment of two patients with severe cutaneous lichen planus using systemic cyclosporine at a dose of 6 mg/kg per day, resulting in no recurrence for up to 10 months. The report emphasizes that a decrease in the T-cell infiltrate in the skin led to clinical improvement, and after 1 week of oral cyclosporine therapy, the abnormal expression of keratinocyte intercellular adhesion molecule-1 (ICAM-1) became untraceable, leading to later clinical and histologic changes. Another study documented the complete clearance of lesions in six patients with generalized cutaneous lichen planus. Fifty percent of patients relapsed after discontinuation of the use of oral cyclosporine, a mean of 23 days later [6-8]. The cyclosporine's effects on the immune system are currently unknown. Cytokine expression in living animals showed that T-cell activity slowly returned after stopping cyclosporine. After 4 days of recovery, the animals were fully recovered. Therefore, the patients' immunocompetence immediately returned after stopping the drug [8,9]. Cyclosporine (CsA), a calcineurin inhibitor that specifically targets T cells, has been investigated in many studies for treating LP, with encouraging outcomes. Many studies have shown that topical CsA treatment may be more successful in oral and cutaneous LP due to the considerably increased absorption via mucosal membranes. In LP, cyclosporin therapy lasts an average of six to thirty months. In one case study, patients reported a significant decrease in pruritus and the cessation of new lesions within two weeks of treatment. The lesions started to flatten after three or four weeks [9,10]. Despite common adverse effects such as nephrotoxicity and hypertension, cyclosporine has a good safety profile and is commonly prescribed for various cutaneous dermatoses. People typically base the decision to start cyclosporine on a case-to-case analysis, considering the risk-benefit ratio. Dermatologists currently favor the cyclosporine drug due to its early therapeutic response and less myelosuppression compared to other immunosuppressants [11].

Conclusion

The experience of treating the patient with eruptive lichen planus suggests that cyclosporine is an effective systemic drug with a long remission period. Further cohort and randomized controlled trial (RCT) studies are necessary to investigate the efficacy of cyclosporine in lichen planus cases.

Conflict of interests

No conflict of interest was declared by the authors.

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Data sharing statement

Supplementary data can be shared with the corresponding author upon reasonable request.

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