Upadacitinib in Lichen Planus: A Multi-variant Case Series Highlighting Broad Efficacy Across Six Patients

Authors: *Yash Jani,[1] Milaan Shah,[2] Genevieve Patrick,[2] McKenzie E. Maloney,[2] David Kent[2]

1. Medical College of Georgia, Augusta, USA
2. Department of Dermatology, Medical College of Georgia, Augusta, USA

*Correspondence to yjani@augusta.edu

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BACKGROUND AND AIMS

Lichen planus is a chronic inflammatory disorder characterized by cytotoxic T cell-mediated interface dermatitis targeting the dermoepidermal junction.[1] The disease demonstrates significant clinical heterogeneity, including cutaneous, mucosal, hypertrophic, and scarring variants such as lichen planopilaris, and remains challenging to manage due to frequent relapse and limited durability of conventional therapies. Systemic corticosteroids, retinoids, and immunosuppressive agents provide incomplete disease control and are associated with substantial adverse effects.[1]

Emerging evidence implicates cytokine-driven inflammation mediated through the JAK-STAT pathway as a central driver of disease activity. Interferon γ and other proinflammatory cytokines promote keratinocyte injury and sustained immune activation through this signaling cascade.[2] Targeting upstream immune signaling, therefore, represents a rational therapeutic approach.

MATERIALS AND METHODS

This case series evaluates the clinical response to upadacitinib, a selective JAK1 inhibitor, in six patients with refractory lichen planus across multiple subtypes. All patients had failed prior therapies, including topical and systemic corticosteroids, cyclosporine, and other immunosuppressive agents. The cohort included patients with oral lichen planus, hypertrophic disease, annular variants, and scarring alopecia consistent with lichen planopilaris (Table 1).[1]

RESULTS

Treatment with upadacitinib resulted in consistent clinical improvement across all patients and disease subtypes. Patients with oral involvement demonstrated a reduction in pain and pruritus with improvement in mucosal lesions. Cutaneous variants showed decreased erythema, scale, and plaque thickness, with several cases achieving near-complete clearance or marked stabilization. Improvement was observed across a range of dosing strategies, including standard daily dosing and modified regimens, suggesting flexibility in real-world use.[1]

The observed responses support the role of JAK-STAT signaling as a key pathogenic mechanism in lichen planus. By inhibiting JAK1, upadacitinib reduces cytokine-mediated T cell activation and keratinocyte injury, thereby interrupting the self-perpetuating inflammatory loop characteristic of this disease.[2]

These findings highlight the potential of targeted immunomodulation in patients with refractory lichen planus who have failed conventional therapies. The consistent

response across diverse clinical phenotypes, including mucosal and scarring disease, suggests the broad applicability of this approach.

CONCLUSION

In conclusion, upadacitinib demonstrates promising efficacy in the treatment of refractory lichen planus across multiple variants. Further studies with larger cohorts and longer follow-up are needed to establish long-term safety and durability of response and to define its role in treatment algorithms.[1]

Table 1: Case presentation summary of patients with lichen planus.

Case	Type of lichen planus	Previous treatments	Current dose of upadacitinib	Response to treatment
Case 1	OLP	Urea 40% cream, triamcinolone acetonide 0.1% dental paste	15 mg daily	Significant improvement with reduced pain and pruritus
Case 2	OLP with atopic dermatitis	Topical steroids, antifungal medications, mouthwash, cyclosporine 100 mg twice daily	30 mg daily (increased from 15 mg)	Reduction in body surface area affected by dermatitis from over 30% to 20%, significant improvement in oral lesions
Case 3	Lichen planus with post-inflammatory hyperpigmentation	Triamcinolone cream, cyclosporine 100 mg daily	15 mg daily (samples provided)	Improvement in symptoms, noted post-inflammatory hyperpigmentation
Case 4	Hypertrophic lichen planus	Betamethasone dipropionate 0.05% topical ointment, cyclosporine 100 mg daily, acitretin	Initially 15 mg daily, transitioned to a modified regimen (M/W/F)	Significant improvement, clear status of both lichen planus and atopic dermatitis
Case 5	Annular lichen planus (pediatric patient)	Triamcinolone cream, mupirocin 2%, permethrin cream 5%	Half a 15 mg pill daily (off-label)	Ongoing improvement
Case 6	OLP (adult patient)	Multiple rounds of steroids, cyclosporine 100–200 mg daily	15 mg three times a week	Gradual improvement with new treatment regimen, significant stabilization

M/W/F: Monday/Wednesday/Friday; OLP: oral lichen planus

References

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