

# A Case Lichen Planus Pigmentosus an Uncommon Entity with Distinctive Characteristics: A Case Report

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## ABSTRACT

Lichen Planus Pigmentosus (LPP) is a rare variant of lichen planus that presents as dark brown to grey hyperpigmented macules over sun-exposed areas such as the face, neck, and upper limbs. This case report aims to describe an uncommon presentation of LPP in a middle-aged woman and the therapeutic challenges during its management. A 46-year-old female developed pruritic erythematous rashes on the face and arms that gradually progressed to slate-grey hyperpigmented patches over three years. A skin biopsy confirmed LPP. Initial treatment with isotretinoin and topical steroids caused adverse effects and minimal improvement. The therapy was changed to deflazacort, topical corticosteroids, and emollients, resulting in marked lesion regression with residual pigmentation. Long-term care included sun protection, moisturization, and regular follow-up. This case highlights the importance of individualized therapy and demonstrates that corticosteroids can be an effective, well-tolerated option for managing steroid-responsive LPP unresponsive to retinoids.

**Keywords:** Hyperpigmentation, Immune system disorder, Lichen Planus Pigmentosus, Rash and Pruritis, Sun exposed areas.

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## INTRODUCTION

Lichen Planus Pigmentosus (LPP) is a rare dermatological variant of lichen planus characterized by hyperpigmented macules ranging from dark brown to grey-black that commonly appear on sun-exposed areas such as the face, neck, trunk, and flexural regions (Shah *et al.*, 2020; Cornman *et al.*, 2023; Al-Husain *et al.*, 2025). According to the World Health Organization, the disease is a premalignant condition and is also linked to immunodeficiency disorders (Villa *et al.*, 2021). It is an immune-mediated, chronic mucocutaneous inflammatory disorder occurring mainly in middle-aged adults between 30-60 years (Vičić *et al.*, 2023).

This condition is most commonly observed in Indian patients (Neema and Jha, 2017). It affects not only the skin and mucous membranes but also the hair and nails. Lichen planus (LP) exhibits several clinical variants (Cohen *et al.*, 2024). Inverse lichen planus is a less common form that affects intertriginous areas such as the axillae, inframammary folds, and groins. LPP is considered an

interface dermatitis caused by a type IV hypersensitivity reaction to an unknown antigen, leading to lichenoid inflammation, keratinocyte destruction, melanin incontinence, and superficial dermal pigmentation (Rutnin *et al.*, 2019).

LP is considered a T cell-mediated autoimmune disease in which cytotoxic CD8<sup>+</sup> T cells are recruited into the skin, resulting in interface dermatitis (Boch *et al.*, 2021). Although asymptomatic, the pigmentation can significantly affect the patient's quality of life. Treatments including topical and oral corticosteroids, calcineurin inhibitors, and topical retinoids show variable outcomes. In this report, we present a case of LPP with atypical presentation and discuss effective therapeutic management.

## CASE REPORT

A 46-year-old female patient initially presented in May 2020 with a history of pruritic erythematous rashes. During the first consultation, potential triggers such as sun exposure and dust were considered, and symptomatic treatment was initiated. Despite this, the lesions persisted without significant improvement and gradually progressed, developing a violaceous to hyperpigmented (purple-black) discoloration (Figures 1 and 2). The patient underwent a six-month treatment course, which provided partial relief, particularly during colder weather. However, symptoms worsened with prolonged sun exposure, especially in hot climates (April-May). As the condition deteriorated further, marked



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**Figure 1:** Facial Lesions. Baseline clinical image showing slate grey hyperpigmented macules and patches distributed over the forehead, cheeks, and perioral region in a 46-year-old patient with LPP.



**Figure 2:** Upper Limb Lesions. Hyperpigmented patches over the extensor aspect of the forearm, demonstrating ill defined, diffuse dark brown pigmentation consistent with lichen planus pigmentosus.

**LABORATORY REPORT**

**SKIN BIOPSY**

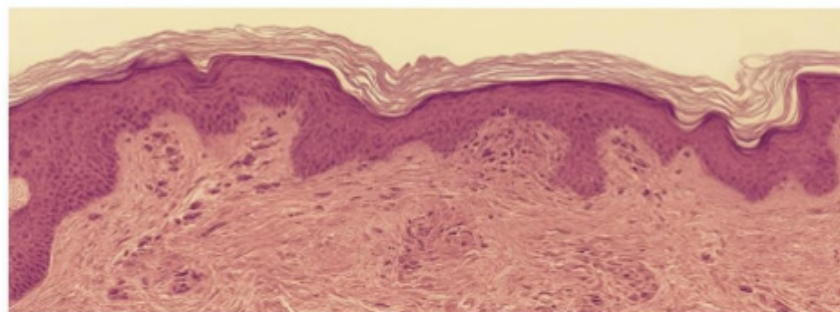
Name	██████████	HPR	██████████
Age	46y	Doctor	██████████
Gender	Female	Date	02.07.24

**Clinical Summary** Pigmented pruritic macules face with lichenoid papules & macules forearm and hand. Clinical differentials are Actinic, LP SLE

**Macroscopy** Skin measuring 0.4x0.4cm. 2AE.

**Microscopy** Hyperkeratotic skin showing focal mild interface inflammation and upper dermis displaying mild perivascular lymphoid inflammation & marked pigment incontinence

**Diagnosis** *Consistent with Lichen planus pigmentosus*



**Figure 3:** Histopathological Confirmation. Histopathology image from skin biopsy showing features of mild hyperkeratosis, basal cell vacuolization, pigment incontinence, and a perivascular lymphocytic infiltrate, consistent with the diagnosis of lichen planus pigmentosus.

hyperpigmentation and increased lesion severity prompted a skin biopsy (Figure 3), leading to a confirmed diagnosis of Lichen Planus Pigmentosus (LPP).

Treatment was then adjusted, starting with isotretinoin (Tretiva 20 mg) alongside topical steroids (Tbis 0.01%, Betnesol Fort) and supportive therapies (Livogen, pantoprazole). Unfortunately, isotretinoin caused severe adverse effects, including hair loss, oral ulcers, and debilitating fatigue, leading to its discontinuation. A revised treatment plan was introduced, incorporating deflazacort (initially 12 mg, later tapered to 6 mg), potent topical steroids (Obril First Cream, Flucort-C), and adjunctive measures (Moistvel emollient, Vitamin F2, Veloshine), along with strict sun protection. This regimen proved highly effective, resulting in significant regression of lesions to residual hyperpigmentation without new eruptions. The response highlighted the crucial role of systemic corticosteroids and topical immunomodulators in managing the condition. Long-term management focused on sun avoidance, consistent moisturization, and regular follow-ups to monitor for recurrence, reinforcing the importance of personalized therapy in steroid-responsive LPP.

## DISCUSSION

A prior case reported successful treatment of LPP with isotretinoin (Shah *et al.*, 2020). However, in our case, isotretinoin caused adverse reactions and limited benefit. The difference in response may reflect variations in chronicity, inflammatory subtype, or patient tolerance. Corticosteroid-based therapy proved more effective here, consistent with findings that systemic corticosteroids and topical immunomodulators yield superior outcomes in steroid-responsive cases (Ghosh and Coondoo, 2016; Mathews *et al.*, 2016).

LPP and ashy dermatosis share histopathological overlap but differ in clinical presentation, making biopsy essential for confirmation (Rutnin *et al.*, 2019). Early diagnosis, sun protection, and corticosteroid tapering play key roles in achieving remission and preventing post-inflammatory pigmentation.

## CONCLUSION

LPP is a rare dermatologic variant of LP, manifesting as dark brown to grey macules with Hyperpigmentation, typically in sun exposed areas, here we discussed about a 46 years old female patient was affected with LPP. patient was confirmed with LPP by skin biopsy test. systemic corticosteroids and topical immunomodulators is used in disease control. Long-term management like sun avoidance, moisturization, and periodic follow-ups to monitor recurrence, was done.

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## ABBREVIATIONS

**LPP:** Lichen Planus Pigmentosus; **LP:** Lichen Planus; **SLE:** Systemic Lupus Erythematosus; **WHO:** World Health Organization.

## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

## PATIENT CONSENT

Written informed consent was obtained from the patient for the publication of this case report, including any accompanying images. All identifiable personal details have been removed or modified to safeguard the patient's privacy and maintain confidentiality.

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