RESEARCH PAPER

Multifaceted Clinical and Histopathological Spectrum of Lichenoid Pseudovesicular Papular Eruption on the Nose (LIPEN): A Report of Two Cases

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ABSTRACT

Lichenoid pseudovesicular papular eruption on the nose (LIPEN) is a rare photodistributed dermatosis, primarily characterized by erythematous, pseudovesicular papules on the central face. While its facial presentation is documented, concomitant extra-facial involvement remains an exceptionally rare phenomenon. This case report aims to describe the clinical and histopathological features of two patients with LIPEN exhibiting both classical facial and atypical extra-facial lesions, and to discuss the diagnostic and therapeutic implications of this broader presentation. Two adult female patients presented with chronic, photodistributed facial eruptions alongside asymptomatic, skin-colored papules on the extensor surfaces of their bilateral forearms. Detailed clinical examination, photographic documentation, and histopathological evaluation of lesions from both facial and extra-facial sites were performed. Both patients exhibited the hallmark erythematous pseudovesicular papules on the central face. Additionally, they presented with multiple, discrete, skin-coloured, dome-shaped papules symmetrically distributed on the forearms. Histopathological examination of biopsies from both sites revealed features consistent with a lichenoid interface dermatitis, including basal vacuolar degeneration, apoptotic keratinocytes, and a dense superficial dermal lymphohistiocytic infiltrate with pigment incontinence. Both patients responded favourably to a combination of systemic hydroxychloroquine and topical tacrolimus, with gradual flattening of existing lesions and cessation of new eruptions. These cases underscore that LIPEN can manifest beyond its classic facial predilection, presenting with clinically subtle yet histopathologically active extra-facial lesions. This expanded phenotype can lead to diagnostic uncertainty. A high index of suspicion, coupled with histopathological confirmation, is paramount for accurate diagnosis and effective management of LIPEN.

Keywords: Lichenoid tissue reaction, Photosensitivity disorders, Skin diseases vesiculobullous, Antimalarials, Dermatitis interface.

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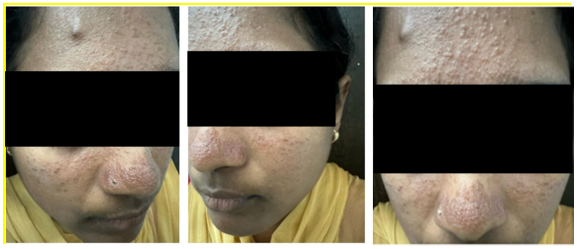
CASE REPORT

Case 1

A 36-year-old female presented with a 4-month history of recurrent, intensely pruritic, raised lesions localized to her nose, malar cheeks, and central forehead. She reported a clear temporal relationship, with significant worsening following even brief sun exposure. Concurrently, she had noticed the development of multiple asymptomatic, skin-coloured raised lesions on the extensor aspects of both forearms over the same period. There was no history of any new systemic medication intake, topical applications, or associated systemic symptoms like arthralgia or oral ulcers. Her personal and family history was unremarkable for autoimmune or chronic dermatological conditions.

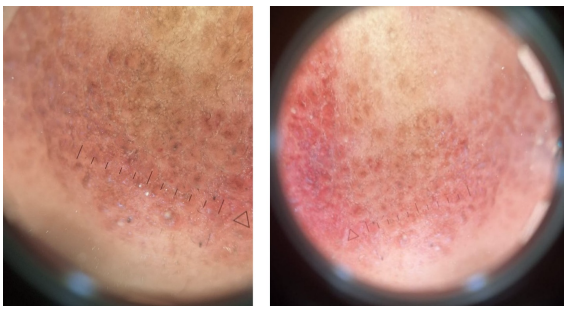
Clinical Examination: Examination of the face revealed multiple, discrete and confluent, erythematous, non-scaly, pseudovesicular papules

and micropapules symmetrically distributed over the nose, cheeks, and glabella. The pseudovesicular appearance was typified by a shiny, translucent quality with subtle surface elevation but without true fluid accumulation. Clinical examination [Table/Fig-1] highlighted a faint erythematous halo surrounding each papule. Examination of the upper limbs showed multiple, discrete, firm, skin-coloured to faintly pink, smooth, dome-shaped papules symmetrically arranged on the extensor surfaces of both forearms. These lesions were entirely asymptomatic and lacked scale or erythema. Fitzpatrick skin phototype IV. A provisional diagnosis of Lichenoid photo dermatosis was made with differential diagnosis of Actinic Lichen planus, Polymorphic light eruption.



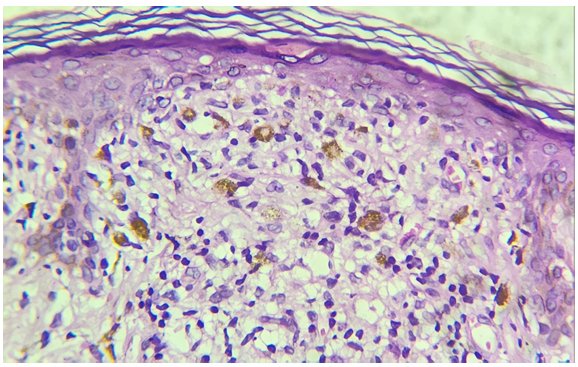
[Table/Fig-1]: Erythematous pseudovesicular papules observed over the central facial region in Case 1.

Dermoscopy Findings: Dermoscopic examination of the lesions revealed characteristic features including whitish pseudovesicular structures, lichenoid pigmentary granules, and mild vascular proliferation on an erythematous background, which are suggestive of a lichenoid interface dermatitis. These dermoscopic findings support the clinical diagnosis of lichenoid pseudovesicular papular eruption of the nose (LIPEN) and are illustrated in [Table/Fig-2]. The presence of pigmentary granules and subtle vascular changes further reflects the underlying inflammatory interface reaction pattern observed in this condition.

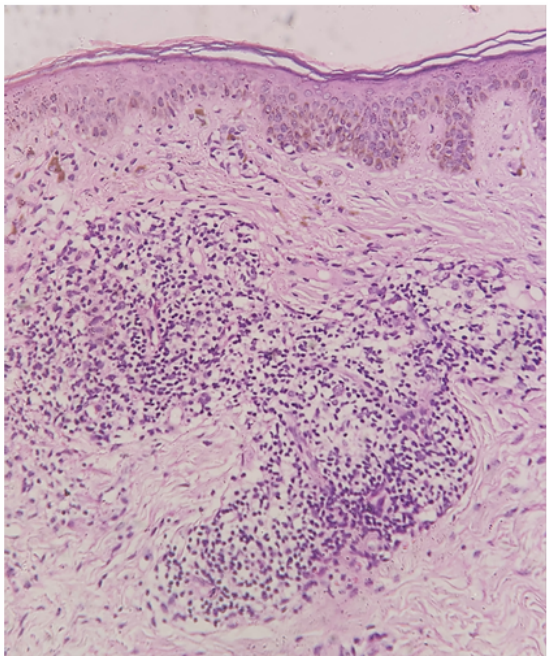


[Table/Fig-2]: Dermoscopic features showing whitish pseudovesicular structures, lichenoid pigmentary granules, and mild vascular proliferation on an erythematous background, suggestive of lichenoid interface dermatitis consistent with LIPEN

Histopathology: A 4-mm punch biopsy was obtained from a representative facial papule. Histopathological examination revealed a lichenoid interface dermatitis pattern. The epidermis showed focal basal vacuolar degeneration and scattered individually necrotic (apoptotic) keratinocytes in the lower layers [Table/Fig-3]. The papillary dermis was occupied by a dense, band-like infiltrate composed predominantly of lymphocytes and histiocytes. Prominent melanin pigment incontinence was evident within the dermal infiltrate [Table/Fig-4]. There was no evidence of granuloma formation or eosinophilic infiltration. These features were diagnostic of a lichenoid tissue reaction, consistent with LIPEN. A punch biopsy from forearm papule showed focal thinning of epidermis with mild mild orthokeratotic hyperplasia and a focal band like lymphohistiocyte infiltrate in the dermis obscuring the Dermo epidermal junction. Basal vacuolar degeneration noted with civatte bodies and pigment incontinence.



[Table/Fig-3]: Histopathological section demonstrating basal vacuolar degeneration of the epidermis with prominent pigment incontinence in the dermis.



[Table/Fig-4]: Histopathological image demonstrating superficial dermal lymphocytic infiltration.

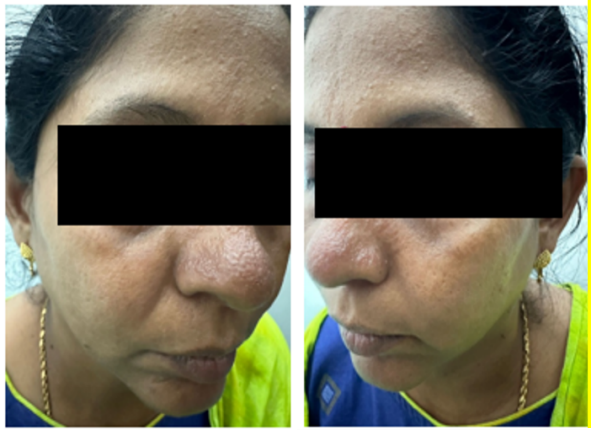
Treatment and Follow-up: Based on the clinical and histopathological correlation, a diagnosis of LIPEN with extra-facial involvement was made. The patient was initiated on hydroxychloroquine (HCQ) 200 mg orally once daily at bedtime. Baseline ophthalmological screening (Visual acuity, fundus exam, SD-OCT) was normal. Follow-up at 6 months showed no retinal toxicity. She was also prescribed topical tacrolimus 0.1% ointment for application on facial lesions twice daily. On an 8-month follow-up, she reported a marked reduction in facial pruritus and flattening of the facial papules. The forearm lesions remained stable but asymptomatic. Subsequently, due to the persistent nature of the forearm lesions, oral isotretinoin 10 mg/day at bedtime was added for one month, after which HCQ was tapered due to flattening of lesions and absence of new eruptions. The decision to taper was also guided by the intent to minimise long term drug exposure and reduce risk of retinal toxicity with it's prolonged use, while maintaining disease control with adjunctive therapy. At her most recent visit (12 months post-initiation), she exhibited significant flattening of all lesions, with no new eruptions reported, even with routine sun exposure while using photoprotection [Table/Fig-5].

[Table/Fig-5]: clinical image demonstrating flattening of papules, 12 months following the treatment.

Case 2

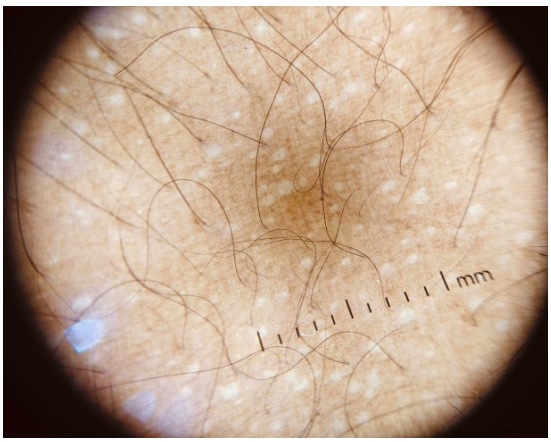
A 45-year-old female presented with a protracted 1-year history of small, red, pruritic papules confined to her nose and forehead. Similar to Case 1, the pruritus was profoundly aggravated by sunlight. She also reported the presence of numerous asymptomatic, skin-coloured "bumps" on her forearms, which had appeared around the same time as the facial rash. Her medical history was non-contributory, with no intake of photosensitizing drugs or history of atopy.

Clinical Examination: Cutaneous examination of the face demonstrated multiple erythematous, pseudovesicular papules over the central face, identical in morphology to those described in Case 1. Examination of the bilateral upper limbs revealed a striking symmetry: multiple, discrete, skin-coloured, smooth, dome-shaped papules distributed on the extensor surfaces of the forearms and, to a lesser extent, the distal arms. The distribution followed a clear photodistributed pattern, sparing the sun-protected flexural surfaces [Table/Fig-6]. Fitzpatrick phototype IV. A provisional diagnosis of Lichenoid photo dermatosis was made with differential diagnosis of Actinic Lichen planus, Polymorphic light eruption



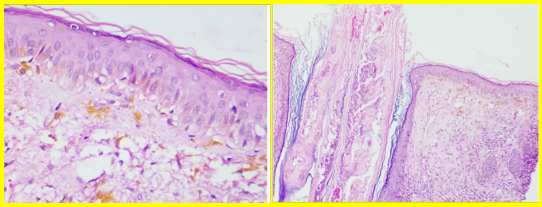
[Table/Fig-6]: Erythematous pseudovesicular papules on the central face and discrete skin-coloured papules on the extensor surface of bilateral forearms.

Dermoscopy Findings: The dermoscopic pattern was characterized by the dominance of whitish pseudovesicular globules on a brownish background, accompanied by minimal vascular prominence and an absence of features suggestive of malignancy or granulomatous disease [Table/Fig-7]. This constellation of findings is highly correlated with lichenoid interface dermatitis with dermal edema and supports the clinical diagnosis of lichenoid pseudovesicular papular eruption of the nose (LIPEN).



[Table/Fig-7]: Dermoscopic features of LIPEN showing whitish pseudovesicular globules on a brownish background with minimal vascular prominence.

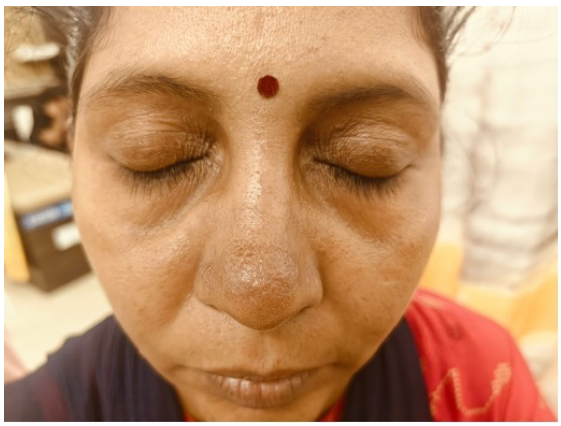
Histopathology: A biopsy from a papule on nose was performed. Histopathology showed minimal basal layer vacuolization. The superficial dermis contained a moderately dense perivascular lymphoplasma cells infiltrate and pigment incontinence. A biopsy from papule on right forearm showed hyperorthokeratosis and papillary dermis shows moderate perivascular lymphoplasma cells. The findings were again consistent with a lichenoid dermatitis, histologically analogous to the facial lesions of LIPEN [Table/Fig-8].



[Table/Fig-8]: Histopathological images showing pigment incontinence, basal vacuolar degeneration, dermal lymphoplasma infiltrate

Treatment and Follow-up: The patient was treated with HCQ 200 mg orally at bedtime and topical tacrolimus 0.03% ointment for the face. The lower tacrolimus concentration was chosen to improve tolerability for prolonged facial use, given relatively milder inflammation and longer disease duration. Over 7 months of therapy, she reported excellent control of facial pruritus and noticeable flattening of both facial and forearm lesions. No new lesions developed during the treatment period. She continues on maintenance therapy with strict photoprotection advice [Table/Fig-9].

[Table/Fig-9]: clinical image demonstrating flattening of papules, 7 months following the treatment



DISCUSSION

Lichenoid pseudovesicular papular eruption on the nose (LIPEN) is an uncommon, distinctive dermatosis first described in detail by Singh et al. in 2019, characterized by monomorphic, skin-coloured to erythematous, pseudovesicular papules predominantly affecting sun-exposed areas of the central face, particularly the nose, cheeks, and forehead [1]. The pseudovesicular morphology results from intense dermal oedema beneath an

otherwise intact epidermis, often mimicking vesiculobullous disorders and posing a diagnostic challenge [1,2]. Its aetiopathogenesis remains incompletely elucidated, though unequivocal exacerbation by ultraviolet (UV) radiation suggests a pivotal role for photoexposure, placing LIPEN within the spectrum of lichenoid interface photodermatoses [1,3]. Differentiation from entities such as actinic lichen planus, polymorphic light eruption, and lichenoid drug eruptions is therefore essential [1,4,5]. While LIPEN is considered primarily a facial dermatosis, extra-facial presentations are not widely recognized, potentially leading to underdiagnosis or misclassification [1].

This case report elucidates two pivotal, underreported aspects of LIPEN: its potential for extra-facial cutaneous involvement and the histological uniformity between symptomatic facial and asymptomatic extra-facial lesions. Both patients presented with the classic facial phenotype photodistributed, pruritic, erythematous pseudovesicular papules as originally detailed by Singh et al. [1]. However, the concomitant presence of asymptomatic, skin-coloured, dome-shaped papules on the sun-exposed forearms expands the recognized clinical spectrum.

The histopathology from both facial and extra-facial sites was remarkably consistent, revealing the hallmark features of a lichenoid interface dermatitis. The triad of basal vacuolar degeneration, apoptotic keratinocytes, and a superficial dermal lymphohistiocytic infiltrate with pigment incontinence is characteristic of lichenoid interface dermatitis [6]. This histological congruence confirms that the clinically disparate lesions symptomatic facial papules and asymptomatic forearm papules represent a singular pathological process. The absence of eosinophils helped exclude a lichenoid drug eruption, while the lack of saw-toothing of rete ridges and wedge-shaped hypergranulosis argued against classic lichen planus [4, 7].

The pathogenesis of LIPEN is intrinsically linked to UV radiation. UV exposure is known to induce keratinocyte apoptosis, alter surface antigenicity, and promote a localized T-cell-driven cytotoxic response, leading to the lichenoid pattern seen histologically [3, 8]. These cases reinforce this photodependent aetiology, with both facial and forearm lesions occurring in photodistributed patterns. The clinical difference—erythematous and pruritic on the face versus skin-coloured and asymptomatic on the limbs—may reflect variations in UV dose, anatomical skin differences (e.g., follicular density, epidermal thickness), or local immune response modulation. This phenotypic variability underscores the condition's potential to mimic other disorders. LIPEN must be distinguished from micropapular PLE, which can present with pinpoint papules but typically lacks the persistent, pseudovesicular quality and the dense lichenoid infiltrate on histology [5, 9]. Actinic LP shares histological overlap but often presents as annular or hyperpigmented plaques rather than monomorphic pseudovesicular papules [4].

The management of LIPEN is primarily aimed at controlling the photo-aggravated immune response. Hydroxychloroquine, a well-known immunomodulator with efficacy in various photodermatoses, was the cornerstone of systemic therapy in both the cases, yielding favourable outcomes [10]. Its mechanism in LIPEN likely involves suppression of Toll-like receptor signalling and cytokine production, dampening the UV-induced inflammatory cascade. Topical calcineurin inhibitors like tacrolimus provide a steroid-sparing option for local control, likely by inhibiting T-cell activation [10,11]. The addition of low-dose isotretinoin in one patient was based on its known anti-inflammatory and immunomodulatory effects. Retinoids have been shown to regulate keratinocyte differentiation, reduce epidermal hyperproliferation, and exert inhibitory effects on inflammatory cytokines and T-cell-mediated immune responses. Although evidence for isotretinoin use in LIPEN is lacking, its utility has been described in other lichenoid and photoaggravated dermatoses, including actinic lichen planus and polymorphic light eruption, where it helps reduce lesion persistence and recurrence. In the present case, isotretinoin was introduced for persistent extra-facial lesions, with subsequent clinical improvement, suggesting a possible adjunctive role in recalcitrant disease. However, further studies are required to establish its efficacy in LIPEN.

Photodistributed lichenoid eruptions affecting extensor limb surfaces have been documented in related conditions. Singh et al. reported a case of actinic lichen planus with symmetrical involvement of the extensor sun-exposed areas of bilateral upper limbs in a Fitzpatrick type IV patient, where histopathology confirmed a lichenoid reaction pattern with basal layer vacuolar degeneration and pigmentary incontinence [11]. Frequently affected

sites in actinic lichen planus include the face, the extensor surface of the distal forearms, and the dorsal surface of the hands, with lesions commonly asymptomatic [12]. Chen et al. described a micropapular variant of polymorphous light eruption in which patients presented with numerous monomorphous pinhead-sized micropapules on the extensor forearm following intense sun exposure, a presentation that closely resembles the extra-facial lesions observed in the present cases [13]. Ramam et al. further described a photosensitive spongiotic/lichenoid eruption of micropapules and plaques in Indian patients, noting that the tiny skin-coloured papules on photo-exposed areas of the upper limbs often spared the face, and that biopsies showed either a lichenoid or spongiotic pattern [14]. These reports collectively support the notion that lichenoid interface reactions triggered by UV radiation may extend beyond the face in susceptible individuals, and that LIPEN should be considered in the differential diagnosis of any photodistributed lichenoid papular eruption at extra-facial sites.

The striking clinical disparity between the pruritic, erythematous facial papules and the asymptomatic, skin-coloured forearm papules in both cases warrants further consideration. The facial skin, particularly the nose and central face, is endowed with a higher density of sensory nerve fibres and mast cells, which may amplify the itch response to UV-induced inflammatory mediators [15]. In contrast, the extensor forearm skin, though equally sun-exposed, has a comparatively thicker epidermis and differing cutaneous immune microenvironment, potentially modulating the intensity of the inflammatory response and thereby reducing pruritus [15]. Additionally, chronic cumulative UV exposure to the face may sustain a more robust and persistent inflammatory cascade compared to the relatively intermittent exposure pattern of the forearms, further contributing to symptomatic disparity. This phenomenon of site-dependent symptom variability has been observed in other photodistributed lichenoid dermatoses, including actinic lichen planus, where forearm lesions are frequently reported as asymptomatic despite histologically active disease [11, 12].

CONCLUSION(S)

In conclusion, LIPEN represents a distinct and likely under-recognized lichenoid photodermatosis that may extend beyond the facial region. Dermatologists should be mindful that, in addition to the typical presentation of pruritic facial papules, patients may also exhibit subtle, asymptomatic, skin-coloured papules at extra-facial sites. Histopathological examination remains the gold standard for confirming the diagnosis and for distinguishing LIPEN from other clinically similar conditions, particularly when lesions occur at atypical locations. The consistent photodistribution of lesions strongly suggests that ultraviolet radiation plays a crucial role in initiating the lichenoid tissue reaction across different anatomical areas. Furthermore, the therapeutic combination of systemic hydroxychloroquine with topical tacrolimus appears to provide effective disease control. With regard to long-term prognosis, LIPEN appears to follow a chronic but non-scarring course, with disease activity closely tied to UV exposure. Strict and sustained photoprotection remains the cornerstone of relapse prevention, and patients should be counselled regarding the likelihood of recurrence upon discontinuation of photoprotective measures. The duration of hydroxychloroquine therapy in LIPEN has not been formally established; however, based on its use in analogous photodermatoses such as actinic lichen planus, a minimum treatment period of 6 to 12 months is generally recommended before considering dose tapering. Discontinuation of hydroxychloroquine should be gradual and guided by clinical response, with ophthalmological monitoring maintained as per established guidelines to minimize the risk of retinal toxicity. Recurrence following treatment cessation is possible, particularly in patients with ongoing or unavoidable sun exposure, and re-institution of therapy may be necessary in such cases. Therefore, maintaining a high index of clinical suspicion for LIPEN in patients presenting with photodistributed papular eruptions especially when extra-facial involvement is noted along with timely skin biopsy, can significantly improve diagnostic accuracy and facilitate appropriate management.

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