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# Hyperkeratotic and hypertrophic lichen nitidus

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## Abstract

Lichen nitidus typically presents as shiny pin-head sized papules on the trunk and extremities, often affecting children and young adults. In this prototypical form, it rarely presents a diagnostic challenge being characterized by distinctive clinical and histopathologic findings. We describe a rare variant of lichen nitidus, which we term “hyperkeratotic and hypertrophic lichen nitidus.”

*Keywords: lichen nitidus, hyperkeratosis, papulosquamous dermatoses, verruca vulgaris, lichenoid dermatosis*

## Introduction

Lichen nitidus is a lichenoid dermatosis characterized by typical pinpoint papules involving the extensor and acral surfaces of children and young adults. Occasionally, unusual variants have been described which bear little resemblance to typical disease. We describe a novel presentation of hyperkeratotic and hypertrophic lichen nitidus.

## Case Synopsis

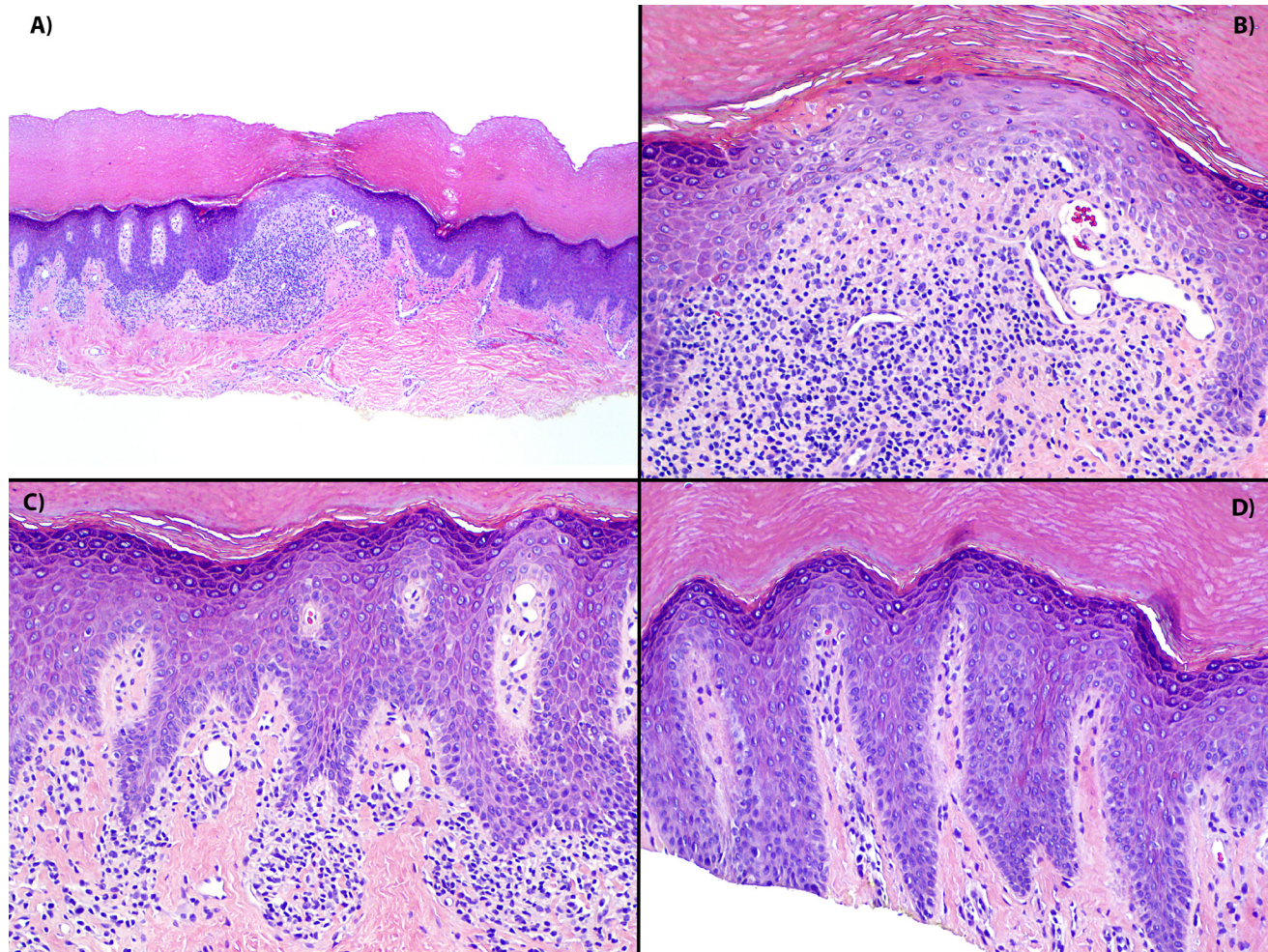
A healthy 35-year-old man presented for evaluation of asymptomatic plaques on his fingers, present for 10 years. Previous clinical diagnoses included viral warts and psoriasis, which had been treated with cryotherapy and intermittent topical steroids, respectively, with little improvement.

Physical examination revealed hyperkeratotic, verrucous papules and plaques overlying the

interphalangeal joints of the fingers on both hands (**Figure 1A**). Biopsy demonstrated marked orthokeratosis, hypergranulosis, and lichen simplex chronicus-like irregular epidermal hyperplasia. A multifocal lichenoid lymphohistiocytic infiltrate expanding one or two dermal papillae with overlying parakeratosis, associated focal hypogranulosis, and occasional individually necrotic keratinocytes were noted (**Figure 2**). These findings were diagnostic of lichen nitidus. Unusually, the histopathologic and clinically correlated epidermal changes were somewhat exuberant for this disease (even after accounting for acral site-related hyperplasia) leading to the designation: “hyperkeratotic and hypertrophic lichen nitidus.” After reviewing these unexpected biopsy findings, a careful search revealed rare adjacent, subtle, discrete, skin colored papules most pronounced on interarticular skin, in-keeping with the classic form of the disease, (**Figure 1B**).



**Figure 1.** A) Hyperkeratotic, verrucous-appearing plaques overlying the interphalangeal joints. B) Close examination reveals subtle small, shiny papules on the interarticular skin, representing more typical lesions of lichen nitidus.



**Figure 2.** A) Pronounced orthokeratosis, hypergranulosis, lichen simplex chronicus-like epidermal hyperplasia and a lymphohistiocytic infiltrate expanding the dermal papillae. B) Note a well-developed lesion exhibiting a parakeratotic cap with subjacent hypogranulosis and claw-like rete ridges surrounding a dense, lichenoid lymphohistiocytic infiltrate C) compared with early/evolving lesions demonstrating subtle rete-ridge expansion. D) The epidermal hyperplasia extends beyond areas of active inflammation. H&E: A) 40%, B)-D) 100%.

The patient was started on metronidazole 500 mg bid for 6 weeks with mild improvement and was subsequently treated with clobetasol 0.05% ointment under occlusion with significant improvement.

### Case Discussion

Lichen nitidus is a dermatosis classically occurring in children and young adults. It presents with small, discrete, asymptomatic, skin colored papules with predilection for the limbs, trunk, genitalia, and dorsal hands. Accentuation over interphalangeal joints is common [1]. Unusual presentations include nail and mucosal involvement, follicular spinous papules, purpuric papules, Blaschko-linearity, perforating and actinic variants [2-9]. Typical histopathologic findings include a dense lymphohistiocytic lichenoid infiltrate delimited to one or two dermal papillae with occasional multinucleated giant cells and

colloid bodies. Claw-like hyperplastic rete-ridges surround the infiltrate and the overlying epidermis may be atrophic, exhibiting a cap of parakeratosis and hypogranulosis [10].

Our patient presented with hyperkeratotic, verrucous lesions resembling a papulosquamous disease or verruca vulgaris but with classic histopathologic findings of lichen nitidus, with the exception of extensive hyperkeratosis, hypergranulosis, and pronounced epidermal hyperplasia. Examination of the adjacent skin revealed subtle but typical disease. We suggest that possibly the atypical hyperkeratotic/hypertrophic appearance may be related to localization on a trauma-prone site.

Indeed, lichen nitidus is a koebnerizing dermatosis and the histologic hyperkeratosis, epidermal

acanthosis, and hypergranulosis in our patient resemble changes seen in frictional hyperkeratosis or lichen simplex chronicus. The hyperplasia extended beyond rete-ridges involved by the lichenoid infiltrate, suggesting that inflammation alone did not account for the acanthosis. Perhaps this clinical presentation represents an uncommonly reported variant of lichen nitidus akin to the hypertrophic variant of lichen planus, which exhibits similar hyperkeratosis and epidermal hyperplasia. In that disease, intense pruritus and resultant scratching are thought to contribute to the hyperplasia. Although our patient's lesions were asymptomatic, unconscious traumatization may serve as a similar inducer of the observed hyperplasia.

## Conclusion

In summary, we report a case of hyperkeratotic and hypertrophic lichen nitidus, an uncommon presentation. Careful search of the adjacent skin may reveal more typical disease, and if present, may suggest the diagnosis. Whether this morphologic variant of lichen nitidus is a de-novo phenomenon or has a trauma-related component is unclear. Clinicians and pathologists should be aware of this entity.

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