

Coexistence of Psoriasis and Leprosy: A Rare Case Report of Long-standing Dermatological Conditions

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Abstract

Psoriasis and leprosy are two distinct chronic dermatological conditions with unique clinical features and pathogenesis. The coexistence of these two conditions in a single patient is extremely rare and poses diagnostic and therapeutic challenges. We present a case report of a patient who suffered from psoriasis for 20 years and subsequently developed leprosy, as confirmed by histopathological examination. This case highlights the importance of considering concurrent dermatological conditions in patients with long-standing psoriasis and emphasizes the need for a multidisciplinary approach to diagnosis and management.

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Introduction

Psoriasis is a chronic immune-mediated inflammatory skin disease characterized by well-demarcated erythematous plaques covered with silvery scales.¹ On the other hand, leprosy is a chronic infectious disease caused by *Mycobacterium leprae*, primarily affecting the skin and peripheral nerves.² The occurrence of both psoriasis and leprosy in the same individual is exceedingly rare, and only a few cases have been reported in the literature.³ Here, we present a unique case of the coexistence of psoriasis and leprosy in a patient with a long-standing history of psoriasis.

Case Presentation

A 53-year-old male presented to dermatology department of BIRDEM with a 20-years history of psoriasis. The patient had been previously treated with topical corticosteroids, emollient, and systemic immunosuppressive agents with partial symptomatic relief. However, he recently noticed the appearance of new skin lesions that were clinically different from his usual psoriatic erythematous scaly plaques. The lesions exhibited hypopigmented macules and patches in the left arm, left forearm and both legs with thickened nerves and sensory loss in the affected areas. A thorough dermatological examination revealed erythematous scaly plaques consistent with psoriasis, as well as hypopigmented patches with characteristic features of leprosy.

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Histopathological analysis of skin biopsies from both psoriatic and hypopigmented lesions confirmed the presence of psoriasis and leprosy, respectively. The psoriatic biopsy exhibited hyperkeratosis, Munro microabscesses, hypogranulosis, thinning of suprapapillary plates, elongated rete ridges, and inflammatory infiltrate predominantly composed of lymphocytes. A skin biopsy from the hypopigmented patches of right forearm reveals non-caseating granulomas and infiltration of chronic inflammatory cells mostly confined to the skin adnexal structures and nerve bundles, indicating Mid-borderline Leprosy. Fite-Faraco stain showed presence of more than 10 *M. leprae* bacilli per HPF (40x) in foamy histiocytes.



Figure 1. Multiple hypopigmented patches on right forearm. Suture marks the biopsy site

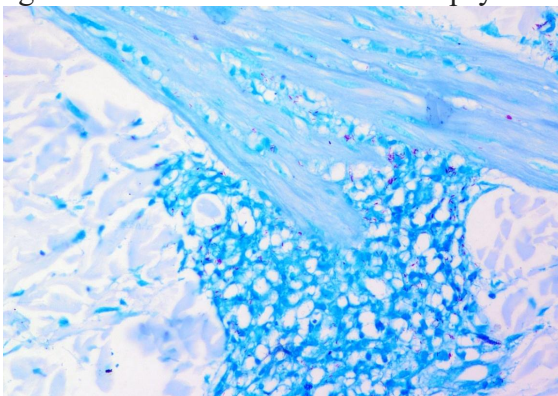


Figure 2. Fite-Faraco stain showing *Mycobacterium leprae* bacilli in red [at HPF (40x)]

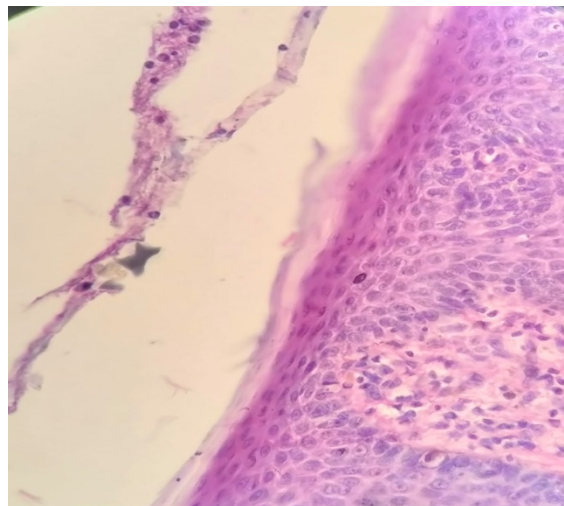


Figure 3. Histopathology from psoriatic plaque shows Munro microabscesses, hypogranulosis and thinning of suprapapillary plate.

Discussion

The coexistence of psoriasis and leprosy in our patient presents a diagnostic dilemma due to the distinct clinical and histopathological features of these two conditions. The prolonged duration of psoriasis before the development of leprosy further adds to the complexity of the case. It is crucial to differentiate between these two diseases, as treatment strategies and prognosis greatly differ. While psoriasis is primarily managed with topical and systemic immunosuppressive agents, leprosy requires a multidrug therapy regimen based on the WHO guidelines.^{4,5}

Conclusion

This case highlights the importance of considering multiple dermatological conditions in patients with chronic skin diseases and emphasizes the need for a comprehensive evaluation, including clinical, histopathological, and microbiological examinations. The successful diagnosis and management of such cases require a multidisciplinary approach involving dermatologists, infectious disease specialists,

and pathologists. Further research is warranted to elucidate the possible links between psoriasis and leprosy and to guide the optimal management of patients with these rare coexisting conditions.

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