Generalized Lichen Planus: A Case Report

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ABSTRACT:

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Generalized lichen planus commonly presented with violaceous papules and plaques on trunk and extremities. Before establishing the diagnosis, drug-induced lichenoid eruption must be excluded. Some cases have mucosal involvement. Palmoplantar involvement of lichen planus is uncommon and underdiagnosed. Common clinical findings are scaly erythematous or hyperkeratotic plaques with well-defined edges on the instep, edge of the feet, thenar and hypothenar eminences, and center of the palms. The fingertips are rarely involved. The differential diagnosis of palmoplantar lesions included psoriasis, tinea manuum and tinea pedis, eczematous contact dermatitis, and syphilis. We report a patient with cutaneous and mucosal lichenoid lesions, as well as palmoplantar lesions which was not associated with medication used. Histopathology from skin lesion was consistent with lichen planus without eosinophil infiltration. The diagnosis of lichen planus with palmoplantar involvement was established. However, differential diagnosis of palmoplantar psoriasis should be concerned. Therefore, it is important to recognize these clinical presentations of lichen planus to establish early diagnosis and treatment.

Key words: Lichen planus, palms, soles

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Case report

A 61-year-old Thai male presented with a one-month history of pruritic scaly plaques on palms and soles. The lesions progressively distributed to his arms, back, legs, hands, and feet. He also had whitish patches at both buccal mucosae. No lesion was found in genital area.

His underlying disease was diabetes mellitus type 2 which was diagnosed 20 years ago and was treated with aspirin, metformin, and glibenclamide for more than 10 years. He denied previous history of drug allergy and skin lesions. Within the past six months, he had no history of herbal medicine or new medication use, including substance contact. He denied a history of chemical or arsenic exposure. There was no other abnormal systemic symptom. Family history was unremarkable for similar skin conditions.

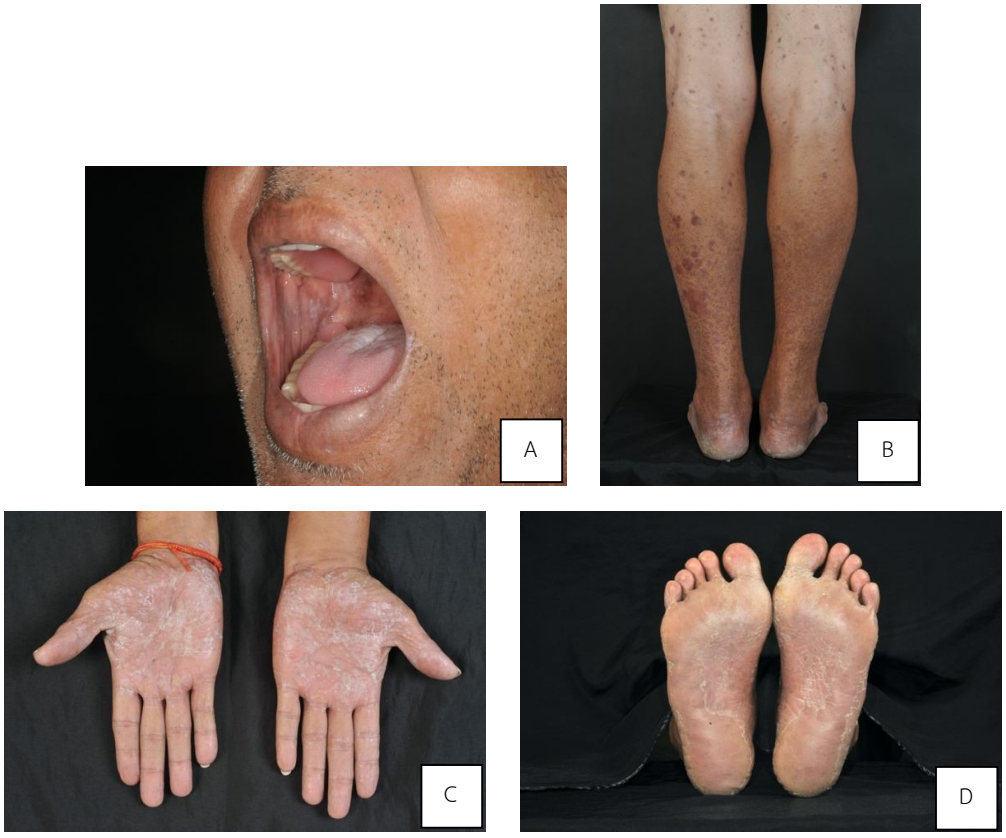

Figure 1 Clinical presentations of representative patient with cutaneous, mucosal and palmoplantar involvement of lichen planus. A) Ill-defined whitish reticulated patches on both buccal mucosae. B-D) Well-defined erythematous to violaceous papules and plaques with fine white reticulate scales distributed on both legs, palms, and soles.

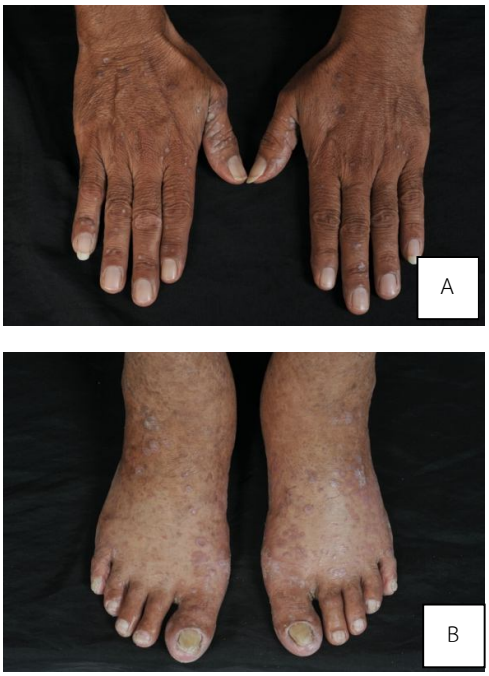

Figure 2 Nail findings in the representative patient. A) Normal finger nails. B) Subungual hyperkeratosis of both big toe nails.

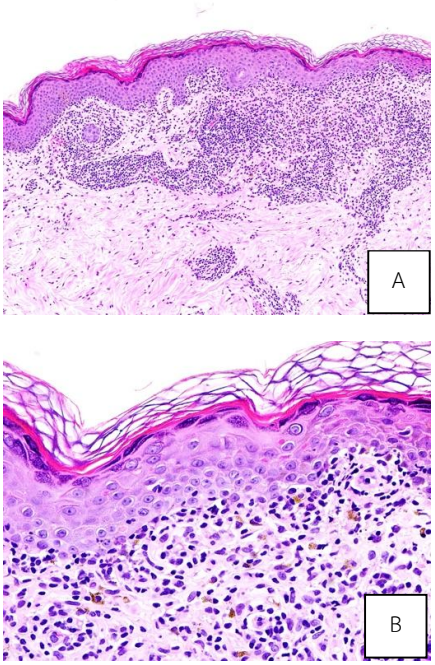

Figure 3 Histological examination from a violaceous lesion at right arm. A) Irregular acanthosis with focal compact orthokeratosis with band-like lymphocytic infiltration along dermoepidermal junction. B) Basal vacuolization with scattered necrotic keratinocytes, melanin incontinence in papillary dermis. Eosinophilic infiltration was not identified.

Physical examination revealed well-defined erythematous to violaceous papules and plaques with fine white reticulate scales distributed on arms, back, legs, palms, soles, and dorsal aspect of hands and feet. Ill-defined whitish reticulated patches were noted on both buccal mucosae (Figure 1). Nail examination was normal except for both big toenails. This finding revealed subungual hyperkeratosis (Figure 2) which subsequently had positive result for fungal culture. Other physical examination was unremarkable.

KOH preparations from the lesions on palm and sole were negative for fungal organism. Complete blood counts were normal without eosinophilia. Venereal disease research laboratory test (VDRL) and treponema pallidum hemagglutination (TPHA) were non-reactive. Punch skin biopsy was performed on the right arm lesion. The histological examination revealed irregular acanthosis with focal compact

orthokeratosis, basal vacuolization with scattered necrotic keratinocytes, melanin incontinence in papillary dermis and band-like lymphocytic infiltration along dermoepidermal junction. Eosinophilic infiltration was not identified (Figure 3). Direct immunofluorescence showed IgM 2+ (few) at colloid body and C3 1+ (focal) granular pattern at dermoepidermal junction. According to clinical findings, histopathological and direct immunofluorescence studies, the diagnosis of generalized lichen planus with palmoplantar involvement was established.

During follow-up periods, the patient was treated with topical potent corticosteroids. The lesions at hands, feet, and other sites gradually resolved within two years with residual post-inflammatory hyperpigmentation. No recurrence of disease was observed. The patient was treated with pulse terbinafine therapy for four months for tinea unguium. The lesions gradually resolved.

Discussion

Lichen planus is a common inflammatory skin condition that may affect skin, hair, nails or mucosae with wide-ranging morphological patterns[1,2]. Classic features of lichen planus are pruritic polygonal violaceous papules and plaques with fine white reticulate scales on flexural aspects of arms and legs. Several morphological patterns have been proposed such as hypertrophic, atrophic, vesiculobullous, follicular, erosive, and ulcerative forms. Special variations based on the site of involvement include lichen planus of the scalp, mucosal lichen planus, inverse lichen planus, lichen planus of the nails, and palmoplantar lichen planus.

Lichen planus affecting palmoplantar region is uncommon with the prevalence of 3.5-26%. The palmoplantar region is the initial site of involvement, for approximately 25% of the patients. Clinical findings include scaly erythematous plaques with or without hyperkeratosis[1-3]. Different morphological patterns of palmoplantar lesions of lichen planus are described as erythematous scaly plaques, punctate keratoses, diffuse keratoderma, erosive or ulcerated lesions, vesicular lesions, umbilicated papules, and diffuse hyperpigmentation. The commonly involved sites are the instep, edge of the feet, thenar and hypothenar eminences, and center of the palms. The fingertips are rarely involved. When compared with classic lichen planus lesions, palmoplantar lesions do not usually have Wickham's striae. This might be due to thick stratum lucidum of palms and soles. Histopathological examination of palmoplantar lichen planus commonly shows characteristic findings of lichen planus such as compact orthokeratosis, wedge-shaped hypergranulosis, saw-tooth appearance of irregular acanthosis, necrotic keratinocytes, basal vacuolar degeneration, and dense band-like lymphocytic

infiltration along the papillary dermis. Differentiation of idiopathic lichen planus from lichenoid drug eruption is important for making appropriate management. The key histological features of lichenoid drug eruption include the presence of parakeratosis and the presence of eosinophils in the section[4]. Clinicopathological correlation is utilized in some cases with unusual histological features[5]. Various treatments of palmoplantar lichen planus have been proposed, including topical and systemic corticosteroid, acitretin, enoxaparin, topical tacrolimus, topical and systemic cyclosporine, and surgery[6]. Cutaneous lichen planus often resolves after one to two years of treatment, however palmoplantar lesions may improve after two years.

In our case, the patient initially presented with well-defined erythematous to violaceous papules and plaques with fine white reticulate scales on both palms and soles. After that, the lesions spread to other areas of the body. Histological examination from the right arm was compatible with lichen planus. The diagnosis of generalized lichen planus with palmoplantar involvement was established.

However, histological examination from our patient's palmoplantar lesion was not performed. Thus, the differential diagnosis of palmoplantar lesions in this patient included psoriasis, tinea manuum and tinea pedis, eczematous contact dermatitis, and syphilis. Palmoplantar psoriasis is a localized form of psoriasis characterized by well-demarcated, erythematous, scaly plaques located on palms and soles. It consists of several different morphological patterns, including purely hyperkeratotic, purely pustular, or mixed types. The hyperkeratotic variants is the most common form, accounting for approximately 50% of the patients with palmoplantar psoriasis[7]. Most of the patients with palmoplantar psoriasis has psoriatic lesion on other sites of the body. Additional features of palmoplantar psoriasis include nail involvement, fissures, and pustular lesions. As our case, it is difficult to distinguish palmoplantar psoriasis from palmoplantar lichen planus because both palmoplantar psoriasis and palmoplantar lichen planus may present with well-demarcated, erythematous, scaly plaques. Additional findings might be helpful. Wickham's striae on buccal mucosae, and lichenoid lesions on other sites of the body are suggestive of palmoplantar lichen planus, whereas psoriatic nail features such as pitting, oil spots, and onycholysis, and psoriatic lesion on extensor area make them likely to be palmoplantar psoriasis. However, since the clinical features of palmoplantar lichen planus are not always suggestive of the diagnosis, biopsy is extremely useful[1].

Dermatophytosis such as tinea manuum and tinea pedis, especially Moccasin type, is characterized by diffuse or patchy erythematous

scaly lesion commonly affecting the palms and/or soles in asymmetric or unilateral pattern rather than symmetrical fashion as our case. Furthermore, KOH preparation is also essential for the differential diagnosis in this setting.

Papulosquamous lesions of secondary syphilis are characterized by symmetrical well-defined erythematous to copper-colored papules or macules. They can be found on palms and soles in nearly 75% of the patients with secondary syphilis. There are few case reports of secondary syphilis presenting as lichen planus-like eruptions. Additional cutaneous findings of secondary syphilis, together with serology tests such as VDRL and TPHA, are crucial for making the diagnosis.

Apart from a history of chemical or substance contact exposure, the morphology of palmoplantar lesion may be helpful to make a diagnosis of eczematous contact dermatitis. There are several morphological patterns depending on a stage and severity of the disease. These range from edema, erythema with or without vesicle formation in an acute stage to scaly lichenified plaques mimicking lichen planus in a chronic stage. Therefore, clinicopathological correlation is essential to differentiate these two entities.

In conclusion, this report demonstrated a patient who presented with generalized violaceous papules and plaques. Skin biopsy from the right arm lesion was compatible with lichen planus. Palmoplantar involvement was suspected even though there was no histological examination. Lichen planus and psoriasis should be aware of. After being treated with topical potent corticosteroids, the palmoplantar and other lesions of lichen planus gradually resolved within two years without recurrence.

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