An unusual case of pigmented plaques on the sole

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Abstract

Palmoplantar lichen planus is a rare variant of lichen planus with diverse clinical presentations, making the diagnosis challenging. We present an unusual case of a young patient who presented with asymptomatic non-pruritic flat-topped pigmented plaques on his left sole and no other lesions elsewhere. Histology was consistent with lichen planus. We emphasize a high index of suspicion owing to varied clinical presentation and the necessity of a biopsy for diagnosis

Keywords: palmoplantar lichen planus, lichen planus

Introduction

Lichen planus (LP) is a common papulosquamous condition which usually presents with characteristic papules and mucosal involvement. However, involvement of the palms or soles is an uncommon presentation or possibly under-diagnosed [1]. A skin biopsy is therefore usually necessary to confirm the diagnosis. We present a young patient who presented with asymptomatic pigmented plaques on his left sole.

Case Synopsis

A 22-year-old man presented with a two-month history of non-pruritic pigmented plaques on his left sole. The plaques were increasing in size despite application of 0.025% betamethasone valerate/3% clioquinol cream, which was prescribed by a prior doctor. There was no history of any trauma to that area. The patient was also seeing our clinic for acne vulgaris but he was otherwise well with no significant past medical history. On examination, there was a 7cm pigmented non-scaly plaque over the instep of his left sole with two smaller but similar plaques adjacent to the main plaque, **Figure 1**.

Dermoscopy was non-specific; No pigment network could be appreciated. The rest of the skin was unremarkable. He had no oral mucosal lesions and his nails appeared normal.

Other entities in the clinical differential diagnosis to consider would be papulosquamous dermatoses such as eczema, psoriasis, palmoplantar keratoderma, secondary syphilis, lichen nitidus, arsenical keratosis, and porokeratosis. We also wanted to exclude deep fungal or mycobacterial infections, which are endemic in our area. In the case of our patient, owing to the lesion's pigmented appearance and location, acral lentiginous melanoma was also a consideration. Histology showed hyperkeratosis, hypergranulosis, and saw-toothed rete ridges, **Figure 2**.

Basal vacuolar alteration and cytoid bodies were seen at the dermoepidermal junction. A lichenoid infiltrate of mainly lymphocytes, admixed with melanophages were present, abutting the basement membrane. This was consistent with a diagnosis of lichen planus.

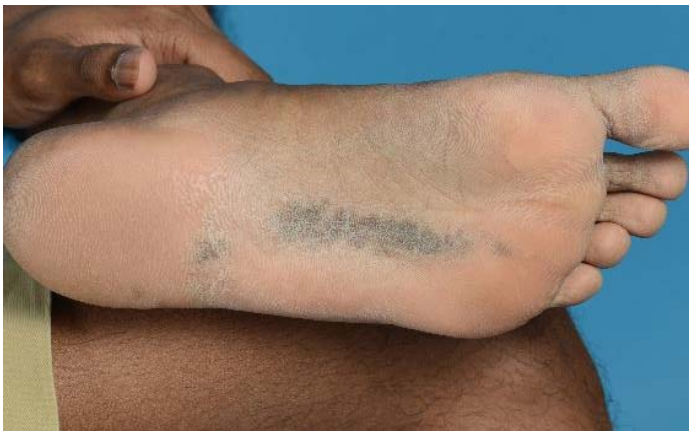

Figure 1. *Pigmented non-scaly plaque over the instep of the left sole, measuring 7cm.*

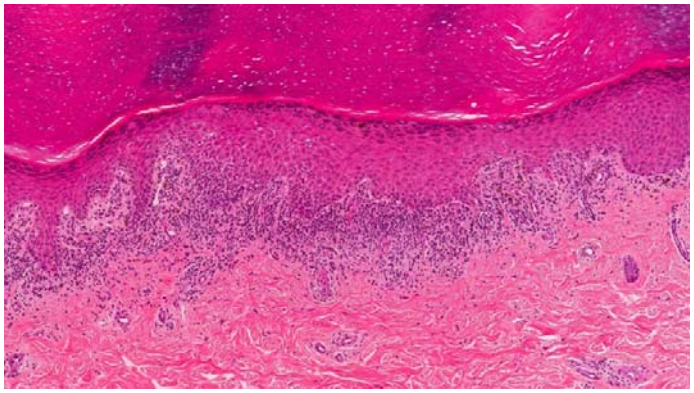

Figure 2. *Histology revealed typical features of lichen planus, including hypergranulosis, saw-toothed rete ridges, basal vacuolar alteration, and cytoid bodies at the dermoepidermal junction. H&E, 20×.*

Bacterial, mycobacterial, and fungal cultures were negative. He tested negative for hepatitis B and C virus.

He was treated with potent topical clobetasol propionate ointment. On subsequent review, there was slow improvement with topicals but no new lesions were noted over the sole. He also did not have additional cutaneous features of classical LP. In view of the clinical distribution, a form of linear LP could also be considered, although it is more common in young children.

Case Discussion

Palmoplantar LP is a rare variant of LP with diverse clinical presentations, making the diagnosis challenging. The face, scalp, palms, and soles are usually spared in classic LP. This variant differs from classical LP in that it is more common in men, not associated with oral Wickham striae. In addition, the papules are clinically not shiny [2]. The largest case series of 36 patients by Sánchez-Pérez et al. reported palmoplantar involvement in up to 26% of all their classic LP cases, with a majority of the patients (26 out of 36) initially presenting with skin lesions outside the palmoplantar region [1]. Another case series of 18 patients demonstrated a majority of patients (15 out of 18) with both classical and palmoplantar lesions [3]. Palmoplantar LP occurs more frequently on the soles as compared to the palms. The internal plantar arch is the most common site of occurrence over the soles, whereas the thenar eminence, hypothenar eminence, and central palm are equally common over the palms [1]. The majority of the lesions occur bilaterally. Several morphological presentations over the acral areas may be seen, of which the most common is a hypertrophic plaque. Other presentations may include erythematous patches, erosive lesions, keratotic plaques with pits, and acrosyringeal involvement. Some forms may appear diffusely scaly, psoriasiform, vesicular, linear, or macular [3,4]. Our patient did not report any itch though this has been reported to be the most common symptom, followed by pain and fissuring [2]. There is currently a paucity of data regarding any association with hepatitis C hepatopathy.

Histopathological features of palmoplantar LP are similar to classical LP (hyperkeratosis with parakeratosis, focal increase in granular cell layer, vacuolar degeneration of the basal cell layer, and a band-like lymphocytic infiltrated at the dermal epidermal junction), [1,5]. This was consistent in our patient.

In terms of treatment and prognosis, spontaneous resolution after 6-18 months has been documented in the literature. Otherwise, the usage of oral and/or topical corticosteroids may be helpful in expediting clinical resolution. Sánchez-Pérez et al. reported recurrence rates of 29% in their patients, with a mean duration of 5 months [1].

The clinical presentation in this case was particularly interesting as our patient had no itch. In addition, he had no other manifestations of classical LP or skin lesions elsewhere outside the palmoplantar region. A biopsy was performed for further evaluation of various clinical mimics. There has been a case reported in a female patient with lichen planus pigmentosus over the fingers of her right hand mimicking acral lentiginous melanoma [6]. We emphasize a high index of suspicion owing to varied clinical presentation and the necessity of a biopsy for diagnosis.

Conclusion

The clinical presentation in this case was particularly interesting as our patient was asymptomatic. In

addition, he had no other manifestations of classical LP or skin lesions elsewhere outside of the palmoplantar region.

Potential conflicts of interest

The authors declare no conflicts of interests.

References

1. Sánchez-pérez J, Rios buceta L, Fraga J, et al. Lichen planus with lesions on the palms and/or soles: prevalence and clinicopathological study of 36 patients. *Br J Dermatol*. 2000;142:310-4. [PMID: 10730766].
2. Landis M, Bohyer C, Bahrami S, et al. Palmoplantar lichen planus: A rare presentation of a common disease. *J Dermatol Case Rep*. 2008;2:8–10. [PMID: 21886703].
3. Gutte R, Khopkar U. Predominant palmoplantar lichen planus: a diagnostic challenge. *Indian J Dermatol*. 2014;59:343–347. [PMID: 25071250].
4. Mugoni MG, Montesu MA, Cottoni F. Lichen planus on palms and soles. *J Eur Acad Dermatol Venereol*. 1994;3:535-40. [DOI: 10.1111/j.1468-3083.1994.tb00414.x].
5. Kim MJ, Choi M, Na SY, et al. Two cases of palmoplantar lichen planus with various clinical features. *J Dermatol*. 2010;37:985-9. [PMID: 21039788].
6. Bickle K, Smithberger E, Lien MH, et al. Unilateral lichen planus pigmentosus mimicking acral lentiginous melanoma. *J Drugs Dermatol*. 2010;9:841-3. [PMID: 20677541].