

Atypical case of lichen planus recognized by dermoscopy

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ABSTRACT Lichen planus (LP) is an inflammatory disease that affects the skin—mainly the extremities and the trunk—the mucous membranes, the genitalia, the nails and the scalp. The diagnosis of LP is usually established clinically based on the typical morphology and distribution of the lesions in conjunction with the associated itch. We report a patient with LP manifesting highly psoriasiform lesions, that could only be correctly assessed after the application of dermoscopy, which revealed LP-specific findings.

Introduction

Lichen planus (LP) is a common inflammatory disease affecting the skin, the mucous membranes, the genitalia, the nails and the scalp [1]. Prevalence of lichen planus in the general population ranges from 0.1 to 4 % and it is more common in females, especially in the perimenopausal period [1,2]. Pathophysiology of LP involves an immune-mediated reaction, in which an antigen is processed to T-lymphocytes and they, subsequently, attack basal keratinocytes, leading to apoptosis of the cells [3]. Several factors have been suggested as possible antigens, including viruses, bacteria and drugs [3,4].

The typical clinical manifestations of LP are purple to violaceous polygonal papules with sharp borders, usually pruritic, most commonly developing on the extremities and

the trunk. Less frequently the disease affects the genital area, mucous membranes, palms and soles and nails [1,5]. Mucosal lesions are typified by the presence of reticular white lines, known as Wickham striae. The disorder has several clinical variations: annular, hypertrophic, atrophic, ulcerative, bullous, erythrodermic, inverse, linear, follicular, pemphigoides, pigmentosus, follicularis decalvans and actinic LP [3]. The diagnosis of LP is usually established clinically based on the characteristic morphology of the lesions and the coexisting intense pruritus. However, atypical presentations requiring histopathologic confirmation of the diagnosis do exist [1].

Dermoscopy allows the visualization of structures located in the epidermis, dermo-epidermal junction and papillary dermis that cannot be seen with the naked eye [6]. Initially, dermoscopy was almost exclusively used to evaluate skin



Figure 1. Lichen planus. Erythematous plaques covered by silvery-whitish scales. Both the clinical morphology and the distribution of the skin lesions are indicative of psoriasis. [Copyright: ©2016 Papageorgiou et al.]

tumors [7,8]. However, cumulative evidence suggests that dermoscopy is also meaningful for the evaluation of inflammatory and infectious skin disorders [7,9]. In the field of papulosquamous dermatoses, dermoscopy has been shown to enhance the differential diagnosis among psoriasis, dermatitis, LP and pityriasis rosea [7,10]. Particularly for LP, dermoscopy brought to light that white crossing lines do not characterize only mucosal lesions, but cover virtually every cutaneous papule of active LP [7]. In this report we present a characteristic example of a patient with misleading clinical manifestations of LP resembling psoriasis. Application of dermoscopy was the key point guiding to the accurate diagnosis [11].

Clinical presentation

A 61-year-old woman visited our department for evaluation of a three-month, mildly pruritic eruption on the soles and

the dorsal surfaces of the feet and hands. Clinical examination revealed hyperkeratotic plaques on the dorsal surface of the feet and hands and erythematous hyperkeratotic, partially erosive plaques on the soles. As shown in Figure 1, the overall clinical presentation was highly suggestive of psoriasis. Surprisingly, application of dermoscopy did not reveal the expected psoriatic pattern of regularly distributed dotted vessels and white scales (Figure 2). Instead, white crossing lines (the so-called Wickham striae) were dermoscopically evident, along with dotted and short linear vessels and yellow scales. Since the dermoscopic presence of Wickham striae is considered highly specific of LP, the dermoscopic findings prompted us to perform a biopsy for histopathologic assessment. Histopathology, as shown in Figure 3, revealed hyperkeratosis, dense hypergranulosis, vacuolar degeneration of basal cell keratinocytes, band-like lymphocytic infiltration in the upper dermis, as well as presence of colloid bodies, justifying the diagnosis of LP.

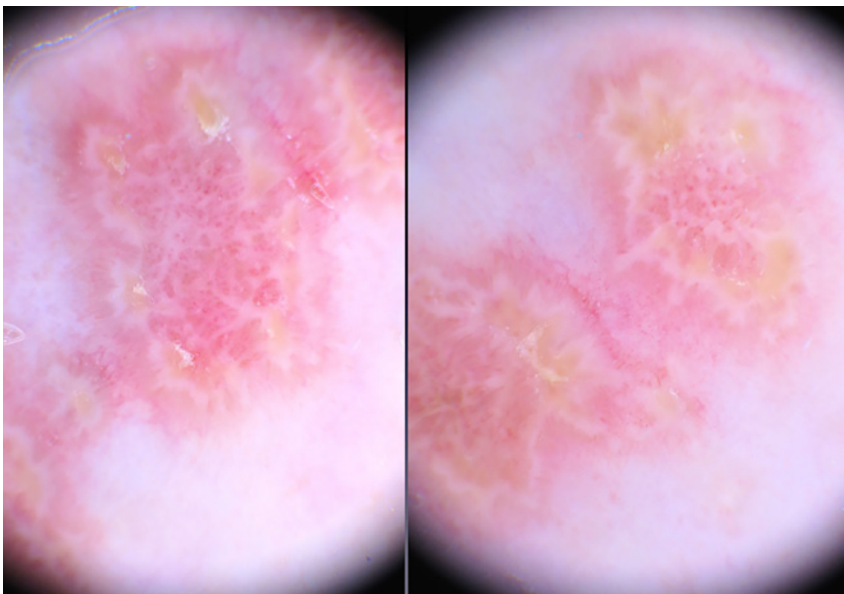


Figure 2. Lichen planus. Dermoscopy revealed dotted and short linear vessels and yellowish scales. However, the most prominent dermoscopic finding are the white crossing lines (Wickham striae). [Copyright: ©2016 Papageorgiou et al.]

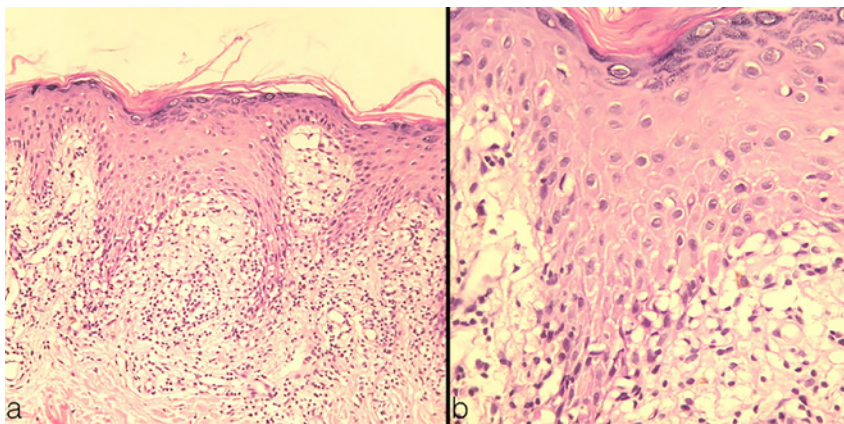


Figure 3. Lichen planus. Histopathology revealed hyperkeratosis, dense hypergranulosis, vacuolar degeneration of basal cell keratinocytes, band-like lymphocytic infiltration in the upper dermis, as well as presence of colloid bodies, justifying the diagnosis of lichen planus. [Copyright: ©2016 Papageorgiou et al.]

Discussion

In the current case, clinical manifestations on the dorsal hands and plantar surfaces were highly suggestive of psoriasis, with eczema and LP included in the differential diagnosis. However, application of dermoscopy significantly influenced our diagnostic thoughts. This was because the lesion deviated from the standard dermoscopic pattern of psoriatic lesions, which are composed of regularly distributed dotted vessels and white-colored scales [7,12,13]. Although the presence of irregularly

arranged dotted vessels and yellow scales were compatible with eczema [7,14,15], the prevailing dermoscopic features were the white crossing lines, corresponding to the so-called Wickham striae, which is known as a highly specific criterion of LP [7,10,11].

Clinical examination is undoubtedly the cornerstone of diagnosis in everyday dermatology practice, and in the majority of our patients, the macroscopic morphology is already enough to establish an accurate diagnosis. This is especially true for widespread inflammatory diseases, where the combination of clinical

history, morphology and distribution often points towards a specific diagnosis [14]. LP and psoriasis are two characteristic examples, representing entities routinely diagnosed straightforward. However, equivocal clinical manifestations do exist in everyday practice, posing diagnostic doubts and often prompting clinicians to perform diagnostic biopsies [12]. It has been demonstrated that coupling clinical examination with dermoscopy significantly improves the diagnostic performance of clinicians [7].

However, in order to maximize the benefit from dermoscopy in differentiation of inflammatory dermatoses, clinicians have to virtually use their dermatoscope on every lesion. In daily routine, dermoscopy often confirms and strengthens our clinical suspicion. Furthermore, as shown in the current case, it may change our diagnostic thoughts, saving us from misdiagnosis and potential inappropriate management.

References

1. Usatine RP, Tinitigan M. Diagnosis and treatment of lichen planus. *Am Fam Physician* 2011;84(1):53-60. PMID: 21766756
2. Zakrzewska JM, Chan ES, Thornhill MH. A systematic review of placebo-controlled randomized clinical trials of treatments used in oral lichen planus. *Br J Dermatol* 2005;153(2):336-41. PMID: 16086745. DOI: 10.1111/j.1365-2133.2005.06493.x.
3. Wagner G, Rose C, Sachse MM. Clinical variants of lichen planus. *J Dtsch Dermatol Ges* 2013;11(4):309-19. PMID: 23320493. DOI: 10.1111/ddg.12031.
4. Lehman JS, Tollefson MM, Gibson LE. Lichen planus. *Int J Dermatol* 2009;48(7):682-94. PMID: 19570072. DOI: 10.1111/j.1365-4632.2009.04062.x.
5. Katta R. Lichen planus. *Am Fam Physician* 2000;61(11):3319-24. PMID: 10865927
6. Russo T, Piccolo V, Lallas A, Argenziano G. Recent advances in dermoscopy. *F1000Res* 2016;5. PMID: 26949523. DOI: 10.12688/f1000research.7597.1
7. Lallas A, Kyrgidis A, Tzello TG, et al. Accuracy of dermoscopic criteria for the diagnosis of psoriasis, dermatitis, lichen

- planus and pityriasis rosea. *Br J Dermatol* 2012;166(6):1198-1205. PMID: 22296226. DOI: 10.1111/j.1365-2133.2012.10868.x.
8. Argenziano G, Soyer HP, Chimenti S, et al. Dermoscopy of pigmented skin lesions: results of a consensus meeting via the Internet. *J Am Acad Dermatol* 2003;48(5):679-93. PMID: 12734496. DOI: 10.1067/mjd.2003.281.
 9. Zalaudek I, Argenziano G, Di Stefani A, et al. Dermoscopy in general dermatology. *Dermatology* 2006;212(1):7-18. PMID: 16319467. DOI: 10.1159/000089015.
 10. Vázquez-López F, Manjón-Haces JA, Maldonado-Seral C, Raya-Aguado C, Pérez-Oliva N, Marghoob AA. Dermoscopic features of plaque psoriasis and lichen planus: new observations. *Dermatology* 2003;207(2):151-6. PMID: 12920364. DOI: 10.1159/000071785.
 11. Friedman P, Sabban EC, Marcucci C, Peralta R, Cabo H. Dermoscopic findings in different clinical variants of lichen planus. Is dermoscopy useful? *Dermatol Pract Concept* 2015;5(4):51-5. PMID: 26693092. DOI: 10.5826/dpc.0504a13.
 12. Lallas A, Apalla Z, Tzello T, Lefaki I. Photoletter to the editor: Dermoscopy in clinically atypical psoriasis. *J Dermatol Case Rep* 2012;6(2):61-62. PMID: 22826724. DOI: 10.3315/jdcr.2012.1102.
 13. Lallas A, Apalla Z, Karteridou A, Lefaki I. Photoletter to the editor: Dermoscopy for discriminating between pityriasis rubra pilaris and psoriasis. *J Dermatol Case Rep* 2013;7(1):20-2. PMID: 23580911. DOI: 10.3315/jdcr.2013.1131.
 14. Lallas A, Argenziano G, Apalla Z, et al. Dermoscopic patterns of common facial inflammatory skin diseases. *J Eur Acad Dermatol Venereol* 2014;28(5):609-614. PMID: 23489377. DOI: 10.1111/jdv.12146.
 15. Lallas A, Apalla Z, Lefaki I, et al. Dermoscopy of early stage mycosis fungoides. *J Eur Acad Dermatol Venereol* 2013;27(5):617-21. PMID: 22404051. DOI: 10.1111/j.1468-3083.2012.04499.x.