

# A solitary pink lesion: dermoscopy and RCM features of lichen planus

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**ABSTRACT** We present an unusual onset of cutaneous lichen planus (LP) in a middle-aged patient. The initial presentation as solitary, indolent pink lesion required further investigations to rule out malignancy, especially amelanotic melanoma. Dermoscopy and reflectance confocal microscopy findings were found to be helpful in our case in addressing the correct diagnosis.

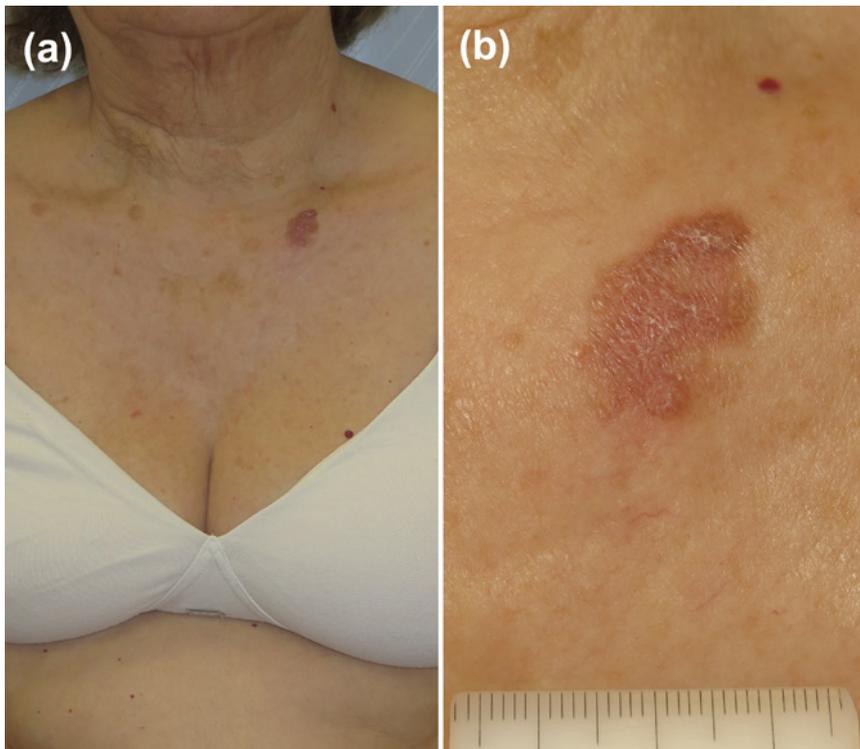
## Case Report

A 69-year-old woman was referred to the Skin Cancer Unit for a solitary pink lesion of the trunk of two months' duration (Figure 1). Because of the rapid growth of the lesion, the site involved and the age of the patient, a medical consult was requested to rule out malignancy. No relevant medical history was recorded. Dermoscopy and reflectance confocal microscopy (RCM) studies were performed and the lesion was finally biopsied.

Dermoscopic examination revealed the predominance of a homogeneous pink color on the background, with prominent shiny whitish structures, arranged in a reticulated pattern (Figure 2). At the periphery, areas of peppering were present.

RCM imaging acquired on Vivascope 1500 system (Caliber I.D., Andover, MA, USA) showed a regular honeycombed pattern without pagetoid cells at the spinous-granular layer. Only a few dendritic, inflammatory cells and some keratinocytes with highly refractile cell contours could be detected (Figure 3a). A prominent and widespread inflammatory infiltrate obscuring the dermo-epidermal junction was also present, without melanocytic features (Figure 3b). At the papillary dermis more inflammatory cells with a few melanophages could be observed (Figure 3c).

Histopathology from the excised lesion showed a prominent lichenoid dermal infiltrate with hyperkeratosis, hypergranulosis and dyskeratinocytes in the epidermis. All findings were in keeping with the final diagnosis of lichen planus (Figure 4).



**Figure 1.** Clinical picture of the patient. (a) Solitary and asymptomatic pink lesion of the chest of a 69-year-old woman. (b) Close-up of the clinical image. [Copyright: ©2017 Pezzini et al.]

The patient developed multiple similar cutaneous lesions one week later. Systemic steroid therapy led to complete healing.

## Discussion

Reports on alternative applications of dermoscopy in general dermatology are an increasing phenomenon, suggesting its usefulness beyond the oncologic field. This diagnostic tool has allowed the identifications of several skin diseases, both neoplastic and non-neoplastic [1-3]. Regarding inflammatory conditions in dermatology, specific dermoscopic patterns have been well defined for a non-invasive diagnosis [3]. These peculiar clues are somehow easy to identify when the history, distribution and morphology of lesions are evocative for a specific disease. However, things are less straightforward when we face unusual clinical scenarios [4]. Reflectance confocal microscopy, providing a non-invasive imaging at a histologic resolution, has repeatedly proved its reliability in the recognition of different skin diseases, assisting in the identification of difficult to diagnose cases. Solitary pink lesions are often a major challenge for dermatologists, amelanotic melanoma being the diagnosis not to miss.

Lichen planus is a relatively common inflammatory disorder of the skin, often affecting middle-aged patients. In its typical form, pruritic widespread papules develop over weeks. The oral mucosa may be also involved, showing the diagnostic hallmark of the disease, the Wickham striae [5]. The

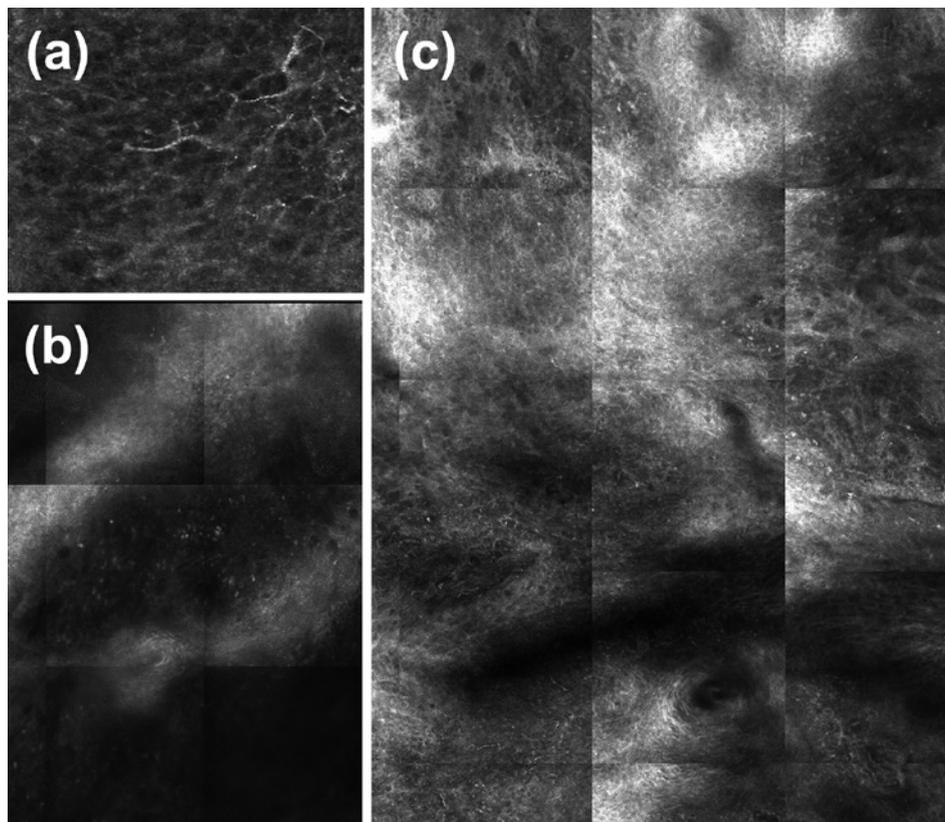
current case showed rather atypical initial clinical features of LP, simulating a possible malignancy, such as basal cell carcinoma, squamous cell carcinoma or melanoma, at clinical examination. However, the observation on dermoscopy of shiny white structures in a reticular arrangement suggested the diagnostic hypothesis of lichen planus. These structures represent the well-known and characterized dermoscopic counterpart of Wickham striae, which are dermoscopically visible in “non-mucosal” skin and specific for LP [6]. RCM in pinkish lesions has already been applied to discriminate between different skin tumors [7]. Its application in our case proved to be complementary to dermoscopy, revealing “in vivo” the lichenoid infiltrate of LP obscuring the dermo-epidermal junction [8,9], with strong histologic correlation. Even if this confocal feature is not exclusive of LP, and is possibly observed in other

interface dermatitides or in lichen planus-like keratosis [9], the final integration of clinical-dermoscopic and confocal investigations led to the correct diagnostic hypothesis.

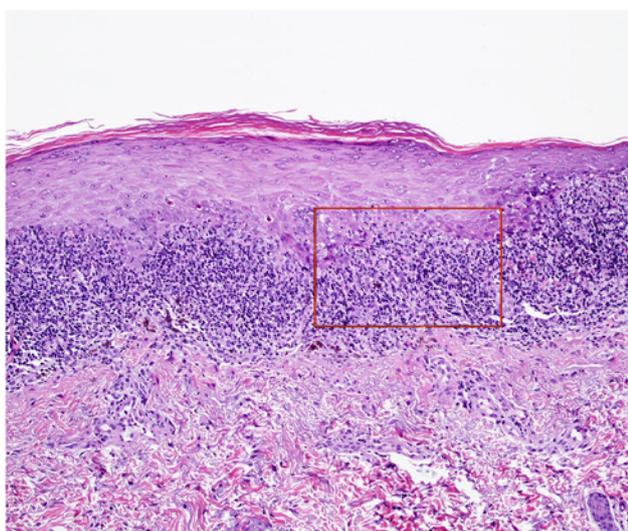
As shown in our case, difficult lesions in everyday clinical practice benefit from a synergistic diagnostic approach. Dermoscopic and RCM investigations may support our diagnostic hypothesis, improving its accuracy especially when faced with atypical presentations of common inflammatory skin conditions.



**Figure 2.** Dermoscopy. Homogeneous pink color on the background, with prominent shiny whitish structures, arranged in a reticulated pattern. At the periphery areas of peppering are present. [Copyright: ©2017 Pezzini et al.]



**Figure 3.** RCM imaging. (a) RCM single image taken at the spinous granular layer. A regular honey-combed pattern is visible with a few dendritic inflammatory cells. (b) RCM mosaic image taken at the level of the dermo-epidermal junction with the widespread inflammatory infiltrate obscuring the junction. (c) RCM mosaic at the level of the papillary dermis, in an area of dense inflammatory infiltrate. [Copyright: ©2017 Pezzini et al.]



**Figure 4.** Histological examination. Hyperkeratosis and hypergranulosis of the epidermis with scattered dyskeratinocytes are present. In the dermis a dense lichenoid infiltrate obscures the dermo-epidermal junction framed by the red square, H&E stain). [Copyright: ©2017 Pezzini et al.]

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