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# PIGMENTATION IN LICHEN RUBER PLANUS: DERMOSCOPIC AND MICROSCOPIC INTERPLAY

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**INTRODUCTION** *Lichen ruber planus* (LRP) is a subacute or chronically progressive papulosquamous disorder which might be accompanied by epidermal and dermal pigment lesions. Dynamics and spectra of pigmented lesions which sometimes tend to change along with regression of inflammatory process are poorly understood.

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**THE AIM** The authors aimed to correlate dermoscopic and microscopic findings in patients with long-term LRP condition and pigmentation.

**MATERIALS AND METHODS** A prospective study was performed at the Clinical Centre for Skin and Sexually Transmitted Diseases, Riga, Latvia between September 2012 and April 2013. Ethics approval was obtained from the Ethics Committee of Riga Stradiņš University. There are no conflicts of interest to disclose.

Inclusion criteria were determined by a clinical diagnosis of LRP and no therapy used at least for 28 days. The nonpolarized digital dermoscope and light microscope were used for pigmented structure investigation in active lesions. Surface microscopy analysis was repeated after two weeks of therapy.

**RESULTS** The surface of LRP lesions showed clinically pathognomic hyperpigmentation. A pepper-like, grey pigmentation was the most significant dermoscopic finding, whereas, a dotted brownish pigmentation was a common finding in a sustained process. Furthermore, we found a significant increase of dotted pigmentation after two weeks of therapy in patients with long-term LRP condition. Clinically, in most of the cases epidermal pigmentation remained or even slightly increased along with decrease of inflammatory process. Microscopically, LRP was characterized by basal layer vacuolization, acanthosis, hypergranulosis and lymphocytic infiltrate localized at the dermal-epidermal interface. In old plaques decrease of infiltrate and colloid bodies density was accompanied by increase of melanophages.



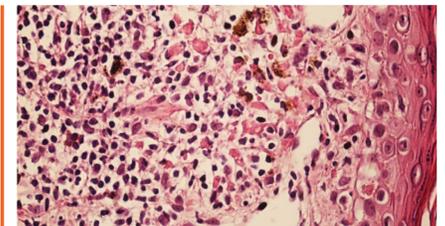
Thin pink to violaceous, shiny, pruritic polygonal papules on the arms and legs of a 70-year-old female.



**Dermoscopic image of Lichen ruber planus, magnification x 50.** Active papule on the upper leg shows reticular Wickham striae. There are two types of hyperpigmentation appearing dispersed on the surface: pepper-like grey and brownish dotted.



**Dermoscopic image of Lichen ruber planus, magnification x 30.** Active papule on the upper arm shows arboriform Wickham striae with radial capillaries. Periphery reveals diffuse brownish areas.



**Microscopic image, H&E x 400.** A band-like lymphohistiocytic infiltrate, abundant colloid bodies and melanophages.



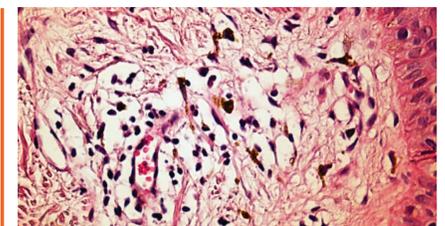
Brownish macular elements in areas of active papules appeared after 6 months in a 59-year-old female.



**Dermoscopic image of Lichen ruber planus, magnification x 50.** Active papule on the upper leg shows rounded Wickham striae with linear vessels appearing at the edge. Pigmented structures are poorly visualized.



**Dermoscopic image of Lichen ruber planus, magnification x 15.** Hiperpigmentation appearing on the abdominal skin after 6 months of active Lichen ruber planus.



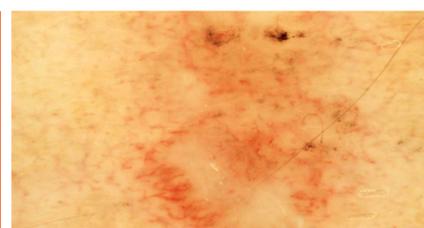
**Microscopic image, H&E x 400.** A few inflammatory cells and melanophages.



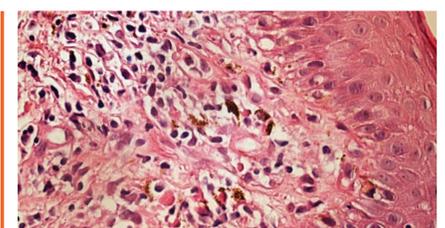
Flat-stopped, polygonal, sharply defined papules of violaceous color appearing at the forearm.



Papules disseminated on the back of a 63-year-old female, surface is shiny.



**Dermoscopic image of Lichen ruber planus, magnification x 30.** The surface shows clinically pathognomic hyperpigmentation – grey- brown and brown dots and globules with pepper-like grey-brown areas.



**Microscopic image, H&E x 400.** Dermal clusters of pigmented cells.

**CONCLUSIONS** Dermoscopic evaluation of pepper-like, grey and diffuse vs. spotted darker pigmentation might be useful in assessing prognosis in LRP. Darker pigmentation is frequently observed in LRP patients in Latvia. We can assume that this might be related to the patient's skin type and a long inflammatory affection period prior consultation of a specialist. Jointly implemented dermoscopic and microscopic analysis may be helpful in diagnostic assessment and prediction of the course of LRP.