Pigmented actinic lichen planus (PALP) mimicking lentigo maligna melanoma: Usefulness of in vivo reflectance confocal microscopy in diagnosis and follow-up

Marina Venturini, MD, ausilia Maria Manganoni, MD, Arianna Zanca, MD, Stefania Bassissi, MD, Laura Pavoni, MD, Salvador Gonzales, PhD, AnnaMaria Cesinaro, MD, and Piergiacomo Calzavara-Pinton, MD
Brescia and Modena, Italy, and New York, New York

Key words: actinic lichen planus; dermoscopy; pigmented lesion; reflectance confocal microscopy.

CASE REPORT

A 40-year-old white man was referred to our clinic for an asymptomatic pigmented patch on his right cheek for 2 months that did not have seasonal variation. Clinically, the lesion was a slightly and irregularly pigmented patch of about 6 × 3 cm (Fig 1). The patient had no history of trauma or sunburn; no drugs were taken in the previous months.

Dermoscopic examination (Fig 1) found diffuse peppering, some hair follicles with central black dots (also known as isobar sign) and some hyperpigmented follicular openings; all these features suggested a diagnosis of lentigo maligna melanoma.

A reflectance confocal microscopy (RCM) evaluation found spongiotic epidermis with exocytosis at the granulosum/spinosum layer and a mixed cell population composed of numerous pleomorphic cells (with enlarged refractile cytoplasm and evident dark nucleus) corresponding to melanocytes. These melanocytes were associated with plump, bright round to polygonal non-nucleated cells corresponding to melanophages and lymphocytes located at dermoepidermal junction level (lichenoid disposition). Small bright stellate cells corresponding to inflammatory cell infiltration were observed with adnexal disposition. Horizontal blood vessels, aberrant extracellular matrix with thickening of collagen bundles, and mixed inflammatory infiltrate with lymphocytes and melanophages were seen in papillary dermis (Fig 2). No pagetoid cells were detected.

A punch biopsy was performed for histopathologic confirmation and found focal and slightly elongated ridges. At the dermoepidermal junction, melanocytes either isolated or aggregated in small nests were observed along with a focal lichenoid inflammatory cell infiltrate with colloid bodies corresponding to Civatte bodies. At the dermal level, chronic actinic damage (solar elastosis) and melanophages were also found. A prominent inflammatory infiltrate was seen composed by mixture of lymphocytes and histiocytes placed in periadnexal and perifollicular areas (Fig 2). Immunohistochemistry staining found a strong Melan-A positivity (MART-1) corresponding to melanocyte antigen recognized by autologous cytotoxic
The pigmented form (PALP), also called melasma-like type, is characterized by gray to brown or black patches located on sun-exposed areas, such as face and neck, ranging in size between 0.5 to 5 cm. Unlike classic lichen planus, Koebner phenomenon and mucosal or nail involvement are not common in the actinic variant. Pruritus is minimal or absent.

The dermoscopic feature of PALP is a diffuse peppering pigment pattern arising on a brown background that is seen in the early phase of PALP fading in color without other identifiable features (absence of Wickham striae pattern and vascular patterns); hyperpigmented follicular openings and isobar sign may be present.

Histopathologic examination is similar to that of the classic lichen planus: hyperkeratosis, hypergranulosis, a bandlike lymphocytic infiltrate, and Civatte bodies are usually present. Furthermore, PALP presents a variable degree of solar elastosis and has a tendency to thinning of the epidermis at the center of the lesion with striking pigment incontinence in the upper dermis and melanophages. Epidermal atrophy may be prominent.

Differential diagnoses include discoid lupus erythematosus, annular granuloma, melasma, secondary syphilis, fixed drug eruption, polymorphus light eruption, and erythema discromicum perstans.

Treatment strategies first call for use of sunscreen and avoiding sun exposure. Topical or intraleisonal glucocorticoids and hydroxychloroquine have been used. Some cases improved with acitretin in combination with topical steroids or cyclosporine for the refractory cases.

To our knowledge, this is the first report in literature of a PALP described with in vivo RCM. RCM has allowed the definition of the benign nature
of these lesions, characterized by a mixed cellular population (inflammatory, melanocytic cells, and melanophages) in the absence of atypical and pagetoid cells.

Even though histologic examination remains the gold standard in the diagnosis and differential diagnosis of pigmented and nonpigmented skin lesions, in our patient, the strong immunohistochemistry MART-1 positivity together with a dermoscopic pattern mimicking lentigo maligna melanoma could have led to a misdiagnosis of melanoma.

MART-1 is a melanocyte marker, most commonly used in addition to S-100 protein and HMB-45 stain, in the immunohistochemical identification of malignant melanoma.13-15

As reported in literature, some cases of pigmented lesion on sun-damage skin may be accompanied by inflammatory reaction associated with pseudomelanocytic nests at the dermoeidermal junction that simulate small complexes of melanocytes, with strong MART-1 positivity, thereby resulting in a wrong diagnosis of melanoma.15

Maize et al16 suggested that pseudomelanocytic nests correspond to keratinocytes and other nonmelanocytic cells. Despite this, DeMartini et al17 reported in 2005 that no Melan-A/MART-1–positive pseudonests
were found in their 132 cases of lichen planus, and the authors emphasize that a strictly clinical and pathologic correlation is needed because the nonspecific pseudonests staining by Melan-A/MART-1 is an uncommon occurrence in lesions with lichenoid inflammation. Therefore, only the integration between clinical history and imaging (dermoscopy and RCM) can help better understand the histologic findings in case of Melan-A/MART-1 positivity. In our report, RCM was useful in distinguishing this as a benign lesion, avoiding invasive and unnecessary skin biopsies and preserving a good cosmetic outcome.

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Fig 3. Clinical improvement of the lesions 3 (A) and 6 (B) months after starting topical corticosteroids and sunscreen. C, Dermoscopic improvement after 6 months of topical corticosteroids: disappearing of peppering, irregular pigmentation, and isobar sign. D, RCM evaluation after 3 months of steroid therapy. Mosaic (3.5 × 3.5 mm) shows a clear improvement of inflammatory infiltrate.
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