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Post Laser-Amelanotic Pattern of Lentigo Maligna: Pitfalls in Diagnosis and Treatment of Pigmented Facial Lesions of Unknown Nature

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Diagnostic of pigmented lesions on photo-exposed areas may be difficult and the treatment options should be carefully discussed. We hereby report a case that emphasizes these issues and the hazards of inadequate treatment of facial pigmented lesions of dubious nature.

A 65-year-old caucasian woman was referred for evaluation of a 2 centimeter heterogeneous macule of the left cheek (Figure 1). This lesion had initially presented two years before referral as a reticulated, erythematous and moderately pigmented lesion. No initial histological examination was carried out and the lesion was treated with KTP2 vascular laser for cosmetic reasons, leaving a hypochromic and slightly erythematous macule that slowly enlarged over time. Recently, two pigmented spots had occurred on the superior edge (arrows) of this hypochromic area, resulting in further evaluation of the nature of the lesion. Clinical examination was otherwise unremarkable and there were no enlarged lymph nodes.

Dermoscopical examination displayed a scarring achromic pattern with few vessels in the central area along with two peripheral areas with light brown fingerprint-like structures with a definite network pattern, corresponding to the two recently appeared pigmented spots. Because of these clinical and dermatoscopic suspicious changes, three biopsies were performed, two on the pigmented areas and one on the central achromic macule. All samples displayed the same histological pattern with a strongly atypical junctional melanocytic proliferation consistent with a Lentigo Maligna (LM). The whole lesion was then surgically removed with a 5 mm margin and the final histological examination confirmed the diagnosis of LM with no dermal infiltration.

This observation strikingly illustrates the pitfalls in evaluating pigmented facial lesions of banal appearance and the hazards of treating such lesions of unknown nature, located on sun-exposed areas, when no initial histological or at least dermoscopical examination has been performed. Indeed, it is very likely that the initial lesion was already a misdiagnosed atypical melanocytic proliferation that should have been surgically removed. Diagnostic of LM can sometimes be clinically difficult, but dermoscopical examination may significantly improve diagnostic accuracy. A combination of 4 features (asymmetric pigmented follicular openings, dark rhomboidal structures, slate-gray dots and slate-gray globules) has indeed been proposed, resulting in an adequate classification of 93% of patients with a specificity of 96% and a sensitivity of 89% [1]. However, multiple and repeated biopsies should be performed if any doubt persists.

In our observation, our patient had been unadequately treated by vascular laser because she had been initially misdiagnosed for a benign lesion with a likely vascular component. This procedure resulted in an achromic evolution of the whole area that made the diagnostic of LM even more difficult. Indeed, clinical suspicion of a genuine melanocytic lesion arose only at second evaluation, due to the occurrence of two new pigmented lesions at the periphery of the secondarily amelanotic LM, related to progressive peripheral extension of this intra-epithelial malignancy.

Laser therapy should not be used in undocumented pigmented lesion, especially on sun-exposed areas, for several reasons. First, no histological examination is possible. Second, superficial destructive therapies such as laser are associated with a high relapse rate [2]. More importantly, as it often results in a dyschromic scar, and this procedure makes post-treatment follow up and secondary diagnosis of the initial lesion more difficult. Surgical excision with a 1 cm margin (5 mm if impossible because of localization) is recommended in LM according to the current guidelines [3]. Histological examination of the entire lesion is the only way to rule out a dermal invasion associated with a less favorable outcome. This frequent misleading decrease of pigmentation after laser procedure is perhaps related to a direct effect of laser light on melanocytes either normal of malignant, with disturbances of melanin synthesis (Figures 2 and 3).

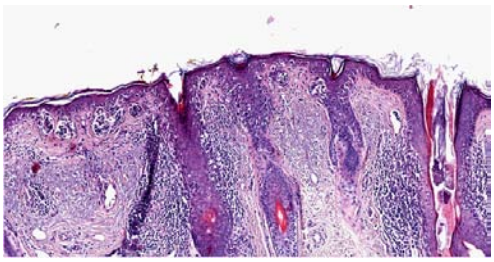

Figure 1: Post-laser facial amelanotic macule with secondary peripheral pigmented dots (arrows): lentigo maligna with peripheral extension.

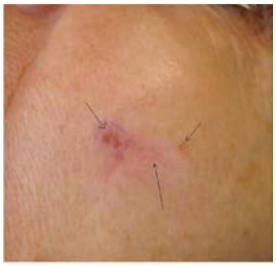

Figure 2: Tumoral lentiginous proliferation extending down the external root sheath of hair follicles.

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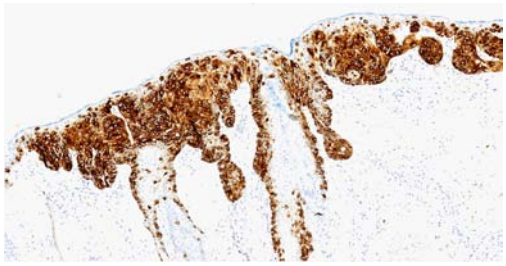

Figure 3: Strongly expressing melan A.

To conclude, superficial destructive therapies such as laser should be strongly discouraged on facial pigmented lesions of dubious nature since, they may overlook a genuine malignancy. If such a treatment is nonetheless performed, a periodic and prolonged follow up is crucial.

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