

Early Emerging Lentigo Maligna and the Role of Confocal Microscopy in Guiding PRAME-Directed Immunohistochemical Staining

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Case Presentation

We present the case of a 59-year-old male patient who, during a skin exam in a dermatology consultation, was found to have a 4 × 3 mm brown macule on the left mandibular branch, with the presence of gray dots upon dermoscopy (Figure 1A). As it did not exhibit specific characteristics, a reflectance confocal microscopy (RCM) was performed, revealing atypical dendritic cells with folliculotropism (“caput medusae” appearance) in a single follicle (Figure 1B). Subsequently, a biopsy of the lesion was conducted, initially showing histopathological evidence of a junctional melanocytic nevus. However, due to the clinicopathological discrepancy, an additional study was requested using anti-PRAME (preferentially expressed antigen in melanoma) immunostaining, which demonstrated intense positivity in over 80% of the melanocytes at the dermoepidermal junction and in the affected follicle previously visualized through RCM (Figure 1C), leading to the final diagnosis of lentigo maligna. Finally, the lesion was excised using the slow Mohs technique.

Teaching Point

There are various signs described in reflectance confocal microscopy (RCM) to suspect a lentigo maligna, among which we find the alteration of the honeycomb pattern, poorly defined dermal papillae, pagetoid cells, and atypical cells at the dermoepidermal junction or around the follicles resembling a medusa head-like structure, among others [1]. As illustrated by the presented case, these signs could be detected in early lesions. Immunostaining with anti-PRAME antibodies proves to be of great diagnostic utility, possessing a sensitivity of 93.5% and specificity of 94.7% for diagnosing lentigo maligna, especially in complex cases [2]. The use of RCM can be a very useful tool for diagnosing early-stage lentigo maligna in clinically difficult lesions, allowing guided immunostaining to the initially delimited suspicious area by this non-invasive method, thus improving diagnostic accuracy and allowing early treatment with lower associated morbidity.

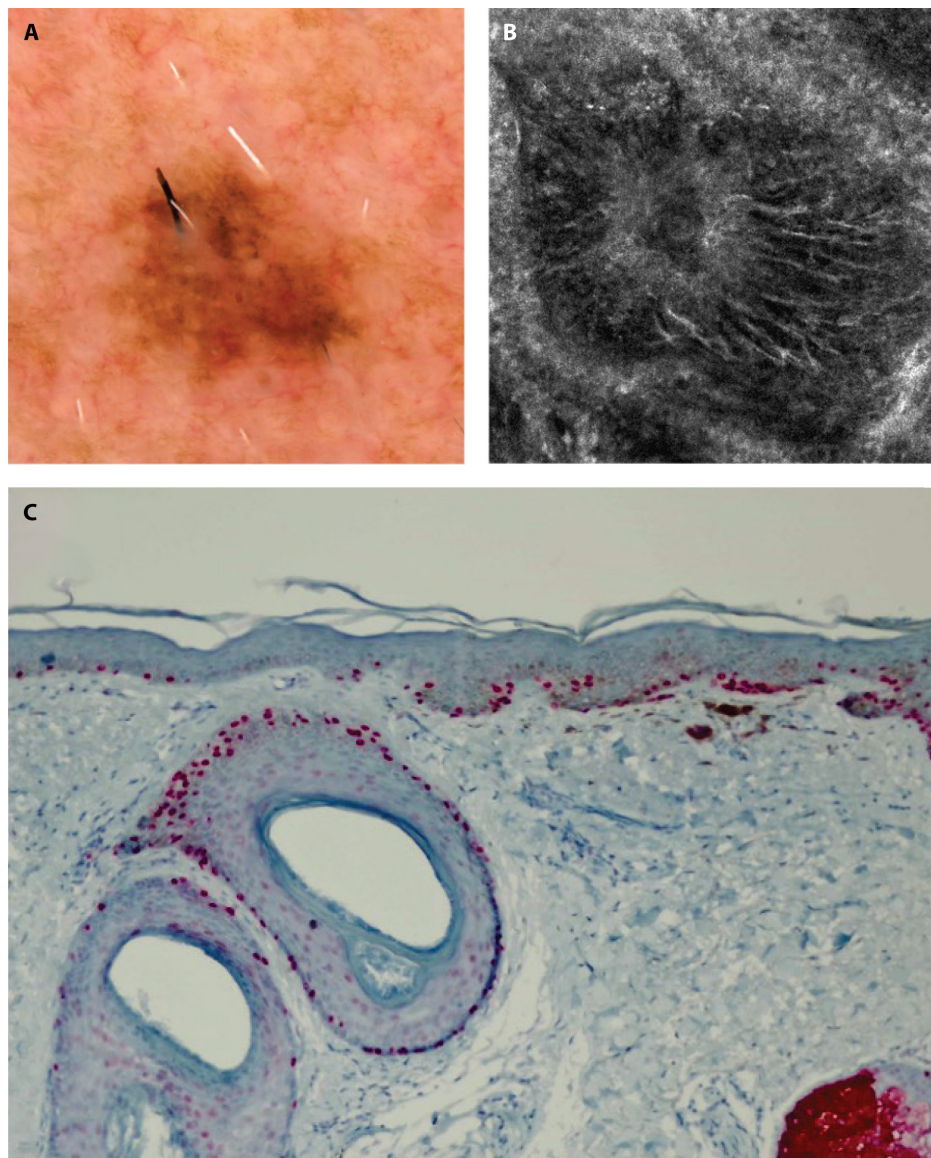


Figure 1. Early-stage lentigo maligna. (A) Brown macule with the presence of asymmetric gray dots. (B) Reflectance confocal microscopy showing atypical dendritic cells with folliculotropism resembling a medusa head-like structure. (C) Immunostaining with anti-PRAME antibodies displaying intense positivity in >80% of melanocytes at the dermoepidermal junction and the affected follicle (Courtesy of Dr. Miguel Villaseca).

References

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