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Assessment of skin pigmentation by confocal microscopy: Influence of solar exposure and protection habits on cutaneous hyperchromias.

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ABSTRACT

BACKGROUND: Cutaneous hyperchromias are disorders of skin pigmentation involving an increase of melanin production and its irregular accumulation in skin cells. It is known that the use of sunscreens helps to prevent changes in the skin pigmentation pattern, but the structural and morphological alterations that occur in the different types of hyperpigmentations need better elucidation. **OBJECTIVE:** To assess the influence of solar exposure and protection habits on the pattern of skin pigmentation using reflectance confocal microscopy (RCM). **METHODS:** Forty volunteers aged 18-39 years with skin hyperpigmentation participated in the study. Skin characterization was performed by imaging techniques and by assessing the habits of solar exposure and protection by applying questionnaires to the volunteers. RCM was used to record sequences of confocal sections at areas of interest and to examine cell shape and brightness in the basal cell layer of the lesion and in normal perilesional skin. Furthermore, high-resolution images were obtained for analysis of the spots. **RESULTS:** Sunlight influences the number and location of spots as the face of volunteers with higher solar exposure was covered with spots, whereas volunteers with less exposure had fewer spots located in the nose and cheeks region due to greater exposure of these areas to the sun. **CONCLUSION:** The data showed the importance of sun protection for preventing changes in the pattern of skin pigmentation, and RCM proved to be an important tool for skin characterization. © 2017 Wiley Periodicals, Inc. **KEYWORDS:** confocal microscopy; hyperpigmentation; sun protection; sunscreen
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