The influence of MC1R on dermal morphological features of photo-exposed skin in women revealed by reflectance confocal microscopy and optical coherence tomography.

Guida S, Ciardo S, De Pace B, De Carvalho N, Peccerillo F, Manfredini M, Farnetani F, Chester J, Kaleci S, Manganelli M, Guida G, Pellacani G Exp Dermatol. 2019 Nov;28(11):1321-1327. . doi 10.1111/exd.14037. Epub 2019 Oct 29..

BACKGROUND:The melanocortin 1 receptor (MC1R) gene is one of the major determinants of skin pigmentation. It is a highly polymorphic gene and some of its polymorphisms have been related to specific skin phenotypes, increased risk of skin cancers and skin photoageing. Currently, its contribution to changes in dermal features in photo-exposed skin is unknown.

OBJECTIVE:The main objective of this study is to evaluate the potential correlation between MC1R status and specific healthy photo-exposed skin characteristics.

MATERIALS AND METHODS:Skin facial features were estimated by evaluation with standard digital photography with automated features count, reflectance confocal microscopy (RCM) and optical coherence tomography (OCT) in 100 healthy women. Skin of the forearms was used as a control.

RESULTS:The study found an association between RHC MC1R polymorphisms and dermal features in photo-exposed areas being represented by increased vessel density and pixel density in OCT (P = .025 and P = .001, respectively) and increased coarse collagen in RCM (P = .034), as compared to non-RHC subjects. To

our knowledge this is previously unreported. Additionally, previously reported correlations between light hair colour and pigmented spots with MC1R RHC polymorphisms have been confirmed.

CONCLUSIONS:Our results suggest the role of RHC MC1R variants in dermal variations of facial skin, as compared to non-RHC variants. To our knowledge this is previously unreported.

KEYWORDS:dynamic optical coherence tomography; melanocortin 1 receptor; reflectance confocal microscopy; skin photoageing

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TAGs

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