

Cosmetic & Pharmaceutical Research > Cosmetic & Pharmaceutical Research > Pigmentation / Melasma

11

In vivo confocal microscopic substrate of grey colour in melanosis.

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ABSTRACT

BACKGROUND: Melanosis is the most common cause of mucosal pigmentation and can be clinically difficult to differentiate from early melanoma (MM). Dermoscopy can help in the distinction between melanosis and MM, but in some instances, melanoses may exhibit overlapping features with MM such as the presence of grey colour. **OBJECTIVE:** We sought to evaluate whether reflectance confocal microscopy (RCM) can help to better understand the dermoscopic features of melanoses in order to assist clinicians in their diagnosis.

METHODS: All melanoses diagnosed between June 2011 and December 2014 in the Departments of Dermatology of the University of Saint-Etienne (France) and of Modena and Reggio Emilia (Italy), for which dermoscopic and RCM images were available, were included. Twenty-two lesions were biopsied to confirm the clinical diagnosis, whereas the others did not present any change at a follow-up of at least 6 months. The correlation between dermoscopic and RCM features were evaluated by the Spearman's rho correlation coefficient. **RESULTS:** 55 melanoses were studied: 31 of the oral mucosa and 24 of the genital mucosa. 49% (n = 27) of melanoses exhibited a grey colour under dermoscopy. The grey colour correlated with the presence of melanophages under RCM ($r = 0.424$, $P = 0.002$). **CONCLUSION:** Our findings highlight that the presence of the grey colour on dermoscopy, considered as an alerting feature, is common in melanoses and it is related to the presence of melanin-laden inflammatory cells in the papillary dermis on RCM. When it is present as a 'pure' feature not associated to other colours than brown or to atypical dermoscopic structures, it could be related to the diagnosis of melanosis.