

The correlation between severity of melasma with facial wrinkles

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Abstract

Melasma is a common disfiguring involving acquired hyperpigmentation especially on the face, for which the pathogenesis is still uncertain, however histopathological studies show there is not only hyperpigmentation in the epidermis, but also solar elastosis or photo-aging due to abnormality of dermal extracellular matrix which contributes to clinical wrinkles. This study aimed to examine a link between the severity of melasma and facial wrinkles as a manifestation of photoaging in a tropical area. An observational study with cross-sectional design was conducted in Yogyakarta, Indonesia in 51 patients with melasma aged 30-50 years who had fulfilled the inclusion and exclusion criteria. The melasma severity was measured clinically with the modified melasma severity index (mMASI), and objectively with the melanin index (MI) and erythema index (EI) assessed with Mexameter Courage Khazaka. The wrinkle severity was measured clinically by scoring from forehead horizontal lines, crow's feet, glabellar and nasolabial lines, and total score from all of them. The correlation analysis was done statistically with Spearman's rank tests. The results show that there is a weak positive but not significant correlation between the mMASI score and total facial wrinkle score ($r: 0.165$), and a weak positive non-significant correlation between EI and total facial wrinkle score ($r: 0.06$). There were significant positive moderate correlations between MI and total facial wrinkle score ($r: 0.441$), due to significant positive moderate correlations between MI and glabella wrinkle ($r: 0.392$), and between MI and nasolabial wrinkle ($r: 0.339$). Conclusions show there were no correlations between mMASI score and total facial wrinkle score. A positive moderate correlation was found between MI and total facial wrinkle score, especially relating to glabellar and nasolabial wrinkles.

Biography

Kristiana Etnawati is specialized in dermatology and Venereology, faculty of Universitas Gadjah Mada, Indonesia.