



Association between heterozygote Val92Met MC1R gene polymorphisms with incidence of melasma: a study of Javanese women population in Yogyakarta

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Abstract:

INTRODUCTION

Melasma is an acquired hypermelanosis of the face. The pathogenesis of melasma is multifactorial and may be caused by interactions between genetics and the environment. Research has shown that skin pigmentation is regulated by the Melanocortin-1 Receptor gene (MC1R). In Japanese populations, Val92Met and Arg163Gln genotypes of MC1R gene polymorphisms are associated with freckles and lentigo solaris, because they have skin types II-III, but for Indonesians who are skin type IV, hyperpigmentation disorders are often melasma.

Purpose: This study aimed to identify the association between Val92Met and Arg163Gln genotypes of MC1R gene polymorphisms with the incidence of melasma in a Javanese women population.

Patients and methods: This study used unmatched case-control design, conducted by clinical examination and questionnaire. Data were analyzed with Chi-squared test and Odds Ratio (OR).

Results: This study evaluated 158 Javanese women from 18–60 years old with 79 case and 79 control subjects. The genotype of Val92Met was found more common in melasma subjects than in non-melasma ($p=0.005$) with (OR:2.53; 95% CI:1.21–5.29). By using a bivariate test we showed sun exposure and family history of melasma were risk factors for melasma (OR:1.99; 95% CI:1.04–3.78) and (OR:35.32; 95% CI:10.25–121.70). However, genotype of Arg163Gln was not a risk factor for the incidence of melasma (OR: 0.86; 95% CI:0.39–1.89).

Conclusion: The findings showed Val92Met genotypes, sun exposure and family history were risk factors for melasma incidence. This is the first study on incidence of melasma in an Indonesian population and contributes to ongoing efforts to understand the mechanisms of melasma.



Biography:

Betty Ekawati Suryaningsih born 11th July 1966 in Yogyakarta and earned doctorate degree at Gadjah Mada University in 2018. She earned dermatologist title at Gadjah Mada University in 2003. She is founder and Dermatologist at BeQueen Skin Care Center (2010-present); Dermatologist at Jogja International Hospital (2007- present) and lecturer at Indonesia Islamic University (2004 – present)

Publication of speakers:

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