ABSTRACT BOOK
ABSTRACTS

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GENETICS AND GENODERMATOSES

GENOME-WIDE ASSOCIATION STUDY IN KOREAN FEMALES IDENTIFIES GENETIC VARIANTS ASSOCIATED WITH SKIN BARRIER

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Recent genome-wide association studies have identified many genetic variants correlated with complex traits. Genetic variations are associated with diversity in the population, individuality, susceptibility to diseases, and physical characteristics, such as facial features, body shape and skin aging.

Understanding the genetic characteristics of the skin would provide an optimal solution for personalized skin care and skin improvement. Therefore, we conducted research to predict the skin characteristics by investigating phenotype-genotype interaction. Using a large-scale genetic mutation analysis technique, we propose prediction models of skin properties in the Korean population. To conduct Genome-wide association study, we recruited about 500 participants who visited to skin counselling space of Amorepacific. All the participants confirmed the written contents, and this research approved the institutional review boards. Each participant was measured various index representing skin properties; degree of hydration, facial temperature, stratum corneum lipid contents and dermal hemoglobin contents for epidermal barrier function. The genetic information was obtained by precision medicine research array of Affymetrix. Total 900k SNPs were used to test the GWAS, and we could identify suggestive SNPs for each skin properties. Several SNP markers were commonly showed a relationship between degree of hydration, lipid contents and facial temperature. We can predict the skin characteristics associated with skin barrier by investigating phenotype-genotype interaction. The genetic markers can be used for not only prediction and prevention of skin aging but also providing personalized solutions based on one's genotype.

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