

The impact of aging on natural killer cell, cytokines and prostaglandin $F_{2\alpha}$ in non-obese healthy subjects

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Aging, which can be considered as an inevitable process, is often linked to dysregulation of the immune system and oxidative stress. The aim of this study is to investigate the impact of aging on natural killer (NK) cell, cytokines and prostaglandin $F_{2\alpha}$ in non-obese healthy subjects. In this study, 987 healthy participants aged 20-80 years who were not obese were enrolled and grouped as follows: 20-34 (group 1), 35-44 (group 2), 45-54 (group 3), 55-64 (group 4), and 65-80 (group 5) years of age. NK cell activity, cytokines in serum and peripheral blood mononuclear cell (PBMC) and urinary 8-epi-prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$) were measured in order to determine age-

dependent changes. Interestingly, we found that the levels of serum interferon (IFN)- γ in groups 3, 4 and 5 were lower than those in groups 1 and 2. In addition, group 5 was lower than groups 1 and 2 in terms of the levels of serum interleukin (IL)-12. Production of IFN- γ by un-stimulated PBMCs was lower in groups 4 and 5 than in groups 1 and 3. On the other hand, serum and PBMC IL-6 in group 5 were higher than those in groups 1, 2, and 3. The level of urinary 8-epi- $PGF_{2\alpha}$ in group 3 was higher than that in group 1. In conclusion, serum IL-12 and both serum and PBMC IFN- γ levels were decreased while both serum and PBMC IL-6 and oxidative stress levels were increased in non-obese healthy subjects depending on aging.

Biography

Ayoung Lee is pursuing her PhD at Yonsei University. She is in Department of Food and Nutrition, Nutrigenetics/Nutrigenomics laboratory, leading by Professor Jong Ho Lee. Her research focuses on Clinical Nutrition; and she is interested in interactions among nutrition, human metabolic profiles, and metabolic diseases. She is currently working with analysis of fatty acid composition in biological samples using GC-MS and GC-TOF-MS.

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