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### **Correlation between vitamin D and cardiovascular disease predictors in overweight and obese Koreans.**

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#### **Abstract**

Although there is evidence that vitamin D deficiency relates to expression of chronic disease, relationship between vitamin D and cardiovascular disease predictors have not been clearly demonstrated in Korean. Our objective was to assess the correlation between vitamin D and the cardiovascular and inflammatory markers in overweight and obese people who had not been exposed to a particular disease. We enrolled 171 healthy adults (159 men and 12 pre-menopausal women) with no history of cardiovascular disease and with a body mass index  $>23$  kg/m<sup>2</sup> in this study. In addition, levels of serum vitamin D and concentrations of the inflammatory markers hs-CRP, interleukin-6, and adiponectin were measured. The average age of our study subjects was 48.53 years old, and 64.8% of all male subjects and 91.9% of all female subjects were in the vitamin D deficient status. Serum vitamin D levels showed a positive correlation with age ( $p<0.05$ ), HDL-cholesterol ( $p<0.05$ ), and adiponectin ( $p<0.05$ ) levels. However, there was a negative correlation of vitamin D with triglyceride ( $p<0.01$ ) and interleukin-6 levels ( $p<0.05$ ). In addition, even after adjusting for factors that may affect the cardiovascular index (age, sex, body mass index, smoking, and alcohol intake), serum vitamin D levels showed a significant correlation with triglyceride ( $p<0.05$ ), HDL-cholesterol ( $p<0.05$ ), and adiponectin ( $p<0.05$ ) levels. Therefore, the results of this study suggest that vitamin D may be a predictor of cardiovascular disease for overweight and obese people who are likely to be at a risk for cardiovascular disease.

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