

Vitamin D status, dyslipidemia and markers of endothelial activation in Australian adults

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There is increasing interest in the extra-skeletal effects of vitamin D on chronic diseases including CVD. The objective of this study was to determine whether circulating lipids, systemic inflammation and biomarkers of endothelial cell activation varied across vitamin D status of older Australians. One hundred and one participants were proportionately sampled across tertile (T1=lowest, T2=middle, T3=highest) of 25(OH)D3 from a larger cohort of free living older adults. Blood samples after an overnight fast were assayed for PTH, insulin, TAG, total cholesterol and lipid fractions. Markers of systemic inflammation and endothelial activation included hsCRP, TNF- α , hepatocyte growth factor (HGF), P-selectin and soluble vascular cell adhesion molecule (sVCAM) amongst others. Eighty three participants (48 women, 35 men) aged 65 ± 7.7 years; BMI 28 ± 4.5 kg/m² with complete data entered the analysis. A general linear model multivariate analysis with a backward elimination stepwise procedure was performed (SPSS version 22). The final model built based on a parsimonious model, which included age, gender, BMI, McAuley's index as confounders but excluded season, medications and PTH, indicated that there were significant differences across vitamin D tertile in TC (T1>T3, $p=0.003$), LDL-C (T1>T3, $p=0.005$), HGF (T1<T3, $p=0.009$; T2<T3, $P=0.047$) and sVCAM (T1<T3, $P=0.04$). Lower vitamin D status was associated with higher total and LDL cholesterol and lower HGF and sVCAM. Overall the data are suggestive of a role for the vitamin in CVD.

Biography

Ali Alyami is a Clinical Dietitian, obtained his bachelor's degree from King Saud University 2004 and Master's degree from Canberra University in 2011. He is currently pursuing his PhD at Curtin University, Perth, Western Australia.