

25-Hydroxy Vit D, Adiponectin Levels and Cardiometabolic Risk Factors in a Sample of Obese Children

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Abstract : Association between vitamin D, adiponectin and obesity is a matter of debate, as they play important role in linking obesity with different cardiometabolic risk factors. Objectives: Evaluation of the association between metabolic risk factors with both adiponectin and vitamin D levels and that between adiponectin and vitamin D among obese Egyptian children. Subjects and Methods: This case-control cross-sectional study consisted of 65 obese and 30 healthy children, aged 8-11 years. 25-hydroxy vitamin D (25(OH) D) level, serum adiponectin, total cholesterol (TC), triglycerides (TG), high-density lipoprotein-cholesterol (HDL-C) and low-density lipoprotein-cholesterol (LDL-C) were measured. Results: The mean 25(OH) D levels in the obese and control groups were 29.9 ± 10.3 and 39.7 ± 12.7 ng/mL respectively ($P < 0.001$). The mean 25(OH) D and adiponectin levels in the obese were lower than that in the control group ($P < 0.0001$). 25(OH) D were inversely correlated with body mass index (BMI), triglyceride, total cholesterol and LDL-cholesterol (LDL-C), while adiponectin level were inversely correlated with systolic blood pressure (SBP), and diastolic blood pressure (DBP), and positively correlated with HDL-C. However, there is no relation between 25(OH) D and adiponectin levels among obese children and total sample. Conclusion: In spite of strong association between vitamin D and adiponectin levels with metabolic risk factors and obesity, there is no relation between 25(OH) D and adiponectin levels. In obese children, there are significant negative correlations between 25(OH) D with lipid profile, and between adiponectin levels with blood pressure. At certain adiponectin level, the relation between it and BMI disappears.

Keywords : 25-hydroxy vitamin D, adiponectin, lipid profile, blood pressure, children

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