Survey Serum 25-Hydroxyvitamin D concentration in obese children and clinical significance in Chinese population

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OBJECTIVES

Simple obese is a worldwide public health problem. Recent studies suggested a possible relationship between obese and vitamin D deficiency. To discuss the relationship between 25-Hydroxyvitamin D with glucose and lipid metabolism of simple obese in Chinese children.

METHODS

Sixty five children with obeses (35 mild-to-moderate, 50 severe) and sixty-two children with normal weight were enrolled in this trial. The Serum 25-Hydroxyvitamin D, insulin, cortisol and C peptide were measured by CLIA.

RESULTS

There was significant difference between obeses and normal children in serum 25(OH)D ($P < 0.001$). Serum 25(OH)D was inversely related with BMI ($r = -0.456, P < 0.001$), BMISDS ($r = -0.447, P < 0.001$). Serum 25(OH)D was inversely related with triglyceride obese children $r = -0.389, P < 0.001$.

Moreover, triglyceride in obese children with serum 25(OH)D $\leq 50$nmol/L was higher than that in obese children with 25(OH)D $50$nmol/L ($P = 0.05$). Serum 25(OH)D was not statistically significant with blood total cholesterol and low density lipoprotein cholesterol (HDL-C), blood glucose, insulin, hemoglobin A1c in obese children ($P = 0.05$).

CONCLUSIONS

Serum 25(OH)D in obese children are lower than normal weight children, Serum 25(OH)D was inversely related with height and BMISDS, 25(OH)D was inversely related with triglyceride level in obeses, which imply that 25(OH)D maybe a risk factor of obesity and abnormal blood lipid.