

RELATIONSHIP BETWEEN SERUM 25(OH)D WITH INSULIN RESISTANCE, METABOLIC SYNDROME AND ADIPONECTIN AMONG ADULTS AND ELDERLY POPULATION

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In order to describe 25(OH)D levels and examine associations between 25(OH)D levels with insulin resistance (IR), metabolic syndrome (MetSyn) and adiponectin, in adult and elderly population in Sao Paulo, Brazil, 405 people were enrolled in the study. After an overnight fasting a single blood sample was collected and anthropometric measurements (weight, height, waist circumference) were undertaken. The MetSyn was defined by using the NCEP-ATP III criteria. Serum 25(OH)D (insufficiency < 75 nmol/L) was measured by HPLC, iPTH, serum calcium, adiponectin, glucose and fasting insulin by standard methods. Insulin resistance and Cell- λ dysfunction were calculated by using the homeostasis model assessment (HOMA IR and HOMA-beta). Student T test and Pearson correlation test were performed. The results are presented as mean (sd), the level of significance was $p < 0.05$. The mean age was 51(15) years, mean BMI 29(6) kg/m² and 47% of the patients had MetSyn. In relation to serum 25(OH)D 85% presented insufficiency. In 43% individuals with MetSyn individuals vitamin D insufficiency was observed. There was no association between MetSyn components and insufficiency of 25(OH)D, however, a significant increase in concentration of 25(OH)D was observed according to the number of MetSyn components. In individuals with MetSyn, serum 25(OH)D were positively associated with adiponectin ($r = 0.227$, $p = 0.057$), but no associations were found with HOMA-IR and HOMA-beta. Despite high prevalence of individuals with vitamin D insufficiency, no association was observed with glucose metabolism. However, the results indicate that the action of vitamin D in MetSyn involves adipogenic components.