ASSOCIATION BETWEEN CIRCULATING LEVELS OF GAMMA-GLUTAMYLTRANSFERASE AND METABOLIC SYNDROME COMPONENTS AMONG YOUNG STUDENTS

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INTRODUCTION AND OBJECTIVES: Recent studies show that the increase in circulating levels of gamma-glutamyltransferase (GGT), even within the reference values may be associated with the risk of metabolic syndrome (MetS). The MetS is characterized by clinical conditions such as obesity, hyperglycemia, hypertension and dyslipidemia. This study aims to correlate the level of serum GGT with the components of MetS, evaluating the importance of serum GGT as early and sensitive marker for metabolic involvement. METHODS: The study was approved by the Fluminense Federal University (UFF) Ethics Committee in Research. Survey participants were students (18 up to 30 years-old) from UFF. Exclusion criteria: previous history of cancer, hepatitis B or C, hepatic or biliary diseases, chronic alcohol consumption, autoimmune and genetic diseases, pregnant or lactating women. After written consent, participants underwent measurement of waist circumference (WC) and blood pressure (BP). Blood venous samples were taken after an overnight fasting (12-14 h) and the biochemistry analysis performed. The Joint Interim Statement criteria MetS classification was applied. Statistical analysis probability was considered significant for p<0.05. RESULTS: A total of 166 volunteers were recruited (31 individuals were excluded). We found a direct correlation between serum GGT and WC (p<0.01), triglycerides (p<0.05), systolic blood pressure (SBP) (p<0.01) and diastolic (DBP) (p<0.01). Moreover, when the serum levels of GGT (related to the reference interval values) were scored into quartiles, it was observed that WC and SBP are directly associated to the increase in GGT quartile level. It means that the highest serum GGT levels were associated to the highest WC and SBP values in this population. CONCLUSIONS: Data suggests that the increase in circulating levels of GGT, even within the reference values, reflected an increment in the values of some of the components of MetS, specifically triglycerides, WC, SBP and DBP. KEYWORDS: Gamma-glutamyltransferase, metabolic syndrome, young students.