Abstract

Background: Metabolic syndrome (MS) is suggested to be associated with a low grade inflammation state, but the relationship between inflammation biomarkers and the components of metabolic syndrome in adolescents are still lacking. Objective: To investigate the association between C-reactive protein (CRP) serum concentrations and metabolic syndrome components in adolescents. Methods: A cross-sectional population based study was conducted. Anthropometric, biochemical and clinical data were collected from 524 adolescents (11-15 years old) randomly sampled from school population of Alegre city, Espírito Santo, Brazil. Data were analyzed by STATA version 9.0. Results: Adolescents with higher values for BMI (p = 0.001) and higher body fat percentage (p = 0.003) had higher CRP concentrations than those with lower BMI and body fat percentage. CRP concentrations was directly correlated with BMI (r = 0.17, p = 0.0001), waist circumference (r = 0.15, p = 0.0005), HDL-c (r = 0.13, p = 0.003), fasting insulin (r = 0.12, p = 0.003) and systolic blood pressure (r = 0.11, p with = 0.01). In the multiple linear regression analysis BMI (r = 0.05, p = 0.002), fasting glucose (r = -0.01, p = 0.003) and HDL-c (r = 0.017, p < 0.001) were associated to CRP concentrations after adjusting for the other components of MS. Conclusion: The association found between individual components of MS and CRP concentrations suggests that inflammation might be an early event in the development of metabolic disorders in adolescents.

Keywords

Key words, Adolescents, Risk factors, Creactive protein, Metabolic syndrome x, Obesity.