Abstract

Introduction: Low-grade inflammation and increased immunity related to cardiovascular diseases have been described in children and adults, however, studies in Mexican adolescents are being done at present. Objective: To evaluate inflammatory proteins and indicators of immunity in adolescents by gender and body mass index. Material and methods: 115 Mexican adolescents, 15-18 years old (36 men), were divided into non-overweight, risk of overweight and overweight by CDC pediatric criteria by body mass index. Serum concentrations of ceruloplasmin, C3 and C4 were quantified by nephelometry; IL-6 and TNF- from stimulated supernatant were analyzed with Human Th1-Th2 cytokine CBA II kit (BD Biosciences Pharmigen, San Diego, CA), and detected by flow cytometry. Data were analysed by Mann-Whitney U. Results: Gender differences were found in C3 (men: median 118.8, mean rank: 41.0; women: median: 143.9, mean rank: 65.7, p = 0.001) and ceruloplasmin (men: median: 31.01, mean rank: 47.06; women: median: 31.0, mean rank: 62.9, p = 0.015). Differences by BMI were found in C3 (women non-overweight: median: 137.00 mena rank: 36.52; women with risk of overweight/overweight: median: 175.80, mean rank: 57.69, p = 0.002) and C4 (men non-overweight: median: 23.40, mean rank: 16.60; men with risk of overweight/overweight: median: 26.40, mean rank: 26.36, p = 0.028; women non-overweight: median: 24.25, mean rank: 37.16 and women with risk of overweight/overweight: median: 32.80, mean rank: 54.42, p = 0.013). Conclusion: Inflammatory proteins are increased in adolescents with risk of overweight and overweight, particularly in women.

Keywords

Adolescents, Immunity, Inflammation, Overweight.