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C-reactive protein and neopterin levels in healthy non-obese adults.

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Abstract

BACKGROUND:

Obesity and increased waist-to-hip ratio, emphasizing the importance of truncal obesity, have been found to correlate positively with increased cardiovascular disease risk and mortality. Owing to the inflammatory nature of atherosclerosis, the aim of our study was to find possible correlations between body mass index and waist-to-hip ratio, and the inflammatory markers C-reactive protein (CRP) and neopterin in healthy lean and overweight adults.

METHODS:

A total of 49 healthy adults (mean age 42.4 +/- 1.8 years, 32 females and 17 males) were classified according to their body mass index (BMI) and waist-to-hip ratio values. CRP and neopterin levels were measured.

RESULTS:

CRP levels were found to be significantly higher in the group with BMI \geq 25 kg/m² compared to the group with BMI $<$ 25 kg/m² ($p = 0.014$). Subjects with increased waist-to-hip ratio displayed significantly higher serum CRP and neopterin levels ($p = 0.014$ and $p = 0.033$, respectively) compared with the group in which the waist-to-hip ratio was $<$ 0.9. A strong positive correlation was found between CRP and BMI in the whole group ($r = 0.658$, $p = 0.0001$).

CONCLUSIONS:

Grouping overweight subjects according to their waist-to-hip ratio, which is an indicator of truncal obesity, seems to be convenient in studying the inflammatory process in relation to the elevation of adipose tissue. Elevated CRP and neopterin levels may be useful in the assessment of cardiovascular risk in overweight as well as obese subjects.

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