

Plasma levels of C-reactive protein a cardiovascular risk factor indicator in Sudanese overweight and obese adults.

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Abstract:

Background: C-reactive protein is a member of the class of acute-phase reactants, as its levels rise dramatically during inflammatory processes occurring in the body. This increment is due to a rise in the plasma concentration of IL-6, which is produced predominantly by macrophages as well as adipocytes. This study aims to test whether overweight and obesity are associated with low-grade systemic inflammation as measured by serum C-reactive protein level.

Methods: The study involved 20-60 years old Sudanese adults divided in 3 groups according to their body mass index (BMI). Blood samples were drawn, Serum specimens for the measurement of CRP were analyzed using a high-sensitivity CPR test.

Results : The sample of the present study has included 41 males and 20 females with an age range between 18 and 52 years , the sample was divided into 3 groups according to their body mass index into 21 normal weight (BMI=22.17±1.45) , 20 overweight (BMI= 27.68± 1.15) and 20 obese (BMI= 34.15± 3.54) . The normal weight group had the lowest levels of C-reactive protein(2.15 ±2.52 mg/l) and obese the highest(2.87 ± 2.22 mg/l) . Plasma levels of C-reactive protein showed a positive and significant correlation with body mass index (p< 0.05) .

Conclusion: In conclusion, this study has shown, in Sudanese adults a positive and significant relationships between levels of CRP and measures of obesity(BMI) , These findings suggest a state of low-grade systemic inflammation in overweight and obese persons , the result of this study extend recent observations made by other investigators.

Keywords: Obesity; C-reactive protein; Inflammation; Body Mass Index.