ASSOCIATION BETWEEN OXIDATIVE STRESS AND INFLAMMATORY MARKERS IN SUBJECTS WITH AND WITHOUT TRADITIONAL CORONARY RISK FACTORS

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Introduction: High sensitivity C-reactive protein (hs-CRP) is an inflammatory biomarker which is associated with cardiovascular diseases (CVD). The balance of oxidants and antioxidants is a novel coronary risk factor. The aim of this study was to evaluate the association between PAB and hs-CRP in patients with and without traditional coronary risk factors including diabetes mellitus, obesity, hypertension, central obesity and metabolic syndrome (MS). Method: This population-based cross-sectional study was conducted among 747 men aged 20-69 years old who were employees of Shahid Hasheminejad Processing Company (S.G.P.C). Demographic and anthropometric data and biochemical markers including lipid profile, fasting blood sugar (FBS), hs-CRP and PAB were measured and analyzed for all subjects. We categorize them into different subgroups such as central obese, obese, diabetes, hypertensive and MS according to International Diabetes Federation definition, then we compared PAB and hs-CRP values between patients and healthy subjects in these subgroups. Moreover the association between PAB and hs-CRP values was evaluated. Result: Statistical analyses show a significant differences in serum level of hs-CRP between subjects with and without obese (2.57[1.50-4.62] vs. 1.70[1.05-2.92]), diabetics (3.05[1.45-5.08] vs. 1.75[1.06-3.00]), central obese (2.78[1.63-4.41] vs. 1.71[1.04-3.00]) and MS patients (2.26[1.37-4.09] vs. 1.68[0.99-2.91]) (p<0.001), also those with obesity had significantly higher PAB value (40.82[34.32-46.74] vs. 37.39[29.72-46.74], p=0.005) compared with healthy subjects, however there are not any significant differences between PAB and hs-CRP values in hypertensive vs. non-hypertensive subjects. Serum level of hs-CRP is significantly correlated with PAB (r=0.260, p<0.001) in total population. Conclusion: A significant correlation was observed between hs-CRP and PAB values. Serum hs-CRP values were significantly higher in subjects with MS, central obesity, diabetes and obesity compared with subjects without them. Although, PAB value were significantly higher only in obese than non-obese subjects. The interaction effects between oxidative stress and inflammation process should be considerate in clinical practice.