Myeloperoxidase Evaluation As A Biomarker in Pregnancy


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Introduction: A metabolic state of resistance to insulin and lipid disorders is usual to exist in pregnancy. These alterations in lipid profile are probably due to increased hepatic effect of estrogens which are known to increase production of VLDL and decrease hepatic lipase activity. The aim of this study was to evaluate serum mieloperoxidase (MPO), High sensitive C reactive protein (Hs-CRP) and Total Antioxidant Capacity (TAC) according to trimesters of pregnancy.

Materials and Methods: Serum MPO (ELISA Kit), Hs-CRP (turbidmetric Kit) and TAC (ABTS Method) were measured to different groups: 25 subjects (control group), 22 subjects (G1 group), 20 subjects (G2 group), 21 subjects (G3 group). Other Biochemical, physiological and hematological parameters were analyzed too (Data not shown).

Results: There were observed significant increasing in white blood cell counting, triglycerides, LDL cholesterol for all groups compared to control. MPO (ng/mL; Mean ± SD) was not statistically significant: control 48±33; G1 63±25; G2 75±71; G3 90±114. Hs-PCR (mg/L; Mean ± SD) was statistically significant for all groups compared to control (ANOVA and Tukey post hoc test): control 3.0±2.8; G1 4.6±5.5; G2 7.3±4.9; G3 7.0±6.8. TAC (inhibition %) was statistically significant for all pregnancy groups compared to control (Kruskal-Wallis test): control 59.9; G1 46.6; G2 45.7; G3 43.8. Conclusion: Serum levels of MPO did not provide information about significant laboratory differentiation between groups. Decreasing on the antioxidant capacity of serum is probably resulting from an oxidative stress related to the trimester of pregnancy. HS-PCR and other biomarkers evaluated showed a significant increase in inflammation and cardiovascular risk factors.

Word Keys: myeloperoxidase, TAC, chronic inflammation, pregnancy.

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