Abstract

Introduction: Preeclampsia is a complex syndrome of unknown aetiologic origin. It is characterized by the clinical triad of hypertension, edema and proteinuria. Current concepts of the genesis of preeclampsia include endothelial dysfunction and oxidative stress. Objective: This study assessed the relationship between the activity of superoxide dismutase, the zincemia and the preeclampsia. Methods: A case-control study was carried out with 94 women, age between 17 and 44 years, which were divided in two groups: women with preeclampsia (n = 44) and control group women with normal pregnancy (n = 50). The activity of superoxide dismutase enzyme was determined according to Ransod kit. Zinc concentrations in plasma and erythrocytes were determined using the flame atomic absorption spectrophotometry technique, both determined before delivery and during puerperium. Student’s t-test and the paired t-test were used for statistical analysis, and significance was established at p < 0.05. Results: The study revealed plasma hypozincemia more pronounced in women with severe preeclampsia (p < 0.05). This behavior was not observed in erythrocytes, whose concentrations remained stable, before delivery and puerperium in women with preeclampsia and normal pregnancy. The antioxidant activity of the enzyme superoxide dismutase was found elevated in women with and without preeclampsia (p>0.05), with significant reduction in activity in the postpartum period (p < 0.05) in both groups studied (p>0.05). Conclusions: This study shows there are alterations in biochemical parameters of zinc in women with preeclampsia. The activity of superoxide dismutase shows that this marker cannot be used to predict the evolution of the disease.

Keywords