Assessment of third trimester serum cystatin C levels in women with preeclampsia: a case-control study

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Objective

Preeclampsia is a multisystemic disorder which is associated with maternal and fetal morbidity and mortality. Cystatin C is determined as a glomerular filtration rate marker and is reported to be associated with cardiovascular disease. Cystatin C levels were also found to be increased in women with preeclampsia; however, more studies are needed to use it in clinical practice. The aim of the study is to assess serum cystatin C levels in women with preeclampsia.

Methods

Eighty women with preeclampsia and 40 healthy pregnant women were enrolled in the study. Serum levels of cystatin C was measured with enzyme-linked immunosorbent assay (ELISA) and compared between preeclamptic and control groups. Student's t-test or Mann-Whitney U-test was used for comparisons of the mean between the two groups, as appropriate. Correlation analyses were performed by using Pearson's and Spearman's correlation methods.

Results

Cystatin C levels were significantly higher in the preeclamptic group compared with the control group (0, 89 \pm 0, 16 mg/L vs 0, 73 \pm 0, 25 mg/L, respectively; p< 0. 01). There was no statistically significant difference between the groups in terms of age, body mass index and gestational age. Mean blood pressure, 24-hour urine protein and serum uric acid levels were significantly higher in the preeclamptic group. Cystatin C levels were found to be positively correlated with uric acid levels (r=0. 315, p<0. 01) in women with preeclampsia.

Conclusion

Women with preeclampsia have significantly higher serum cystatin C levels than the controls. Cystatin C levels were found to be positively correlated with uric acid levels in women with preeclampsia.