Serum lipid, lipocalin-2 levels in preeclamptic and non-preeclamptic pregnants with intrauterine growth retardation

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Objective

Lipocalin-2 (LCN2) is expressed from the adipose tissue and positively correlated with body mass index (BMI), hypertriglyceridemia, hyperglycaemia, and insulin resistance (IR). In our study, for to understand the pathophysiology of preeclampsia and intrauterine growth retardation (IUGR) we aimed to evaluate the LCN2 levels in pregnant women with IUGR with normal blood pressure and preeclampsia.

Methods

The study included 71 pregnant women: 23 preeclamptic pregnant women with IUGR (group 1), 23 pregnant women with IUGR who has normal blood pressure (group 2), and 25 normal healthy pregnant women (group 3) who applied to Kahramanmaraş Sütçü İmam University Medical Faculty Obstetrics and Gynecology Clinic. It was noted that these pregnancies were similar in age, gestational week, and BMI averages. Serum LCN2 levels, fasting insulin, fasting blood glucose, IR, triglyceride (TG), HDL, LDL, total cholesterol, hemogram, AST and ALT levels were measured in all pregnancies. These values were compared between the 3 groups. The maternal levels of plasma LCN2 were determined by enzyme-linked immunosorbent assay.

Results

Although plasma LCN2 levels in the normotensive IUGR group were lower than the other groups, the difference was not statistically significant (Table 1) ($p > 0,05$). There was no significant correlation between LCN2 levels and fasting blood glucose, IR, lipid profile, systolic and diastolic blood pressure, birth weight and gestational week at delivery in each group and in all groups (Table 3) ($p > 0.05$).

Conclusion

Our results show that there are decreased concentrations of plasma LCN2 levels in the preeclamptic and normotensive IUGR group may indicate that LCN2 may play a role in the pathogenesis of preeclampsia and IUGR. However, further experiments are needed to clarify this role.