

P207. Association between fasting serum C-peptide level, obesity, preeclampsia and gestational diabetes

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Context. Obesity (Ob) and insulin resistance are the risk factors of preeclampsia (PE). Pathogenesis of PE in pregnancy with gestational diabetes (GD) is poorly understood. Interestingly, C-peptide always suggested as inert biomarker of insulin secretion has recently received attention as a potentially bioactive peptide. C-peptide exerts protective effect on the vessel wall in the physiological concentration range and atherogenic – in high concentration, that might be one of the mechanisms of PE development. **Objective.** To study the association between fasting serum C-peptide level, Ob, PE and GD in pregnancy. **Methods.** Fasting serum C-peptide level was assessed using immunohemiluminiscence analysis in pregnant women during the third trimester, calculated BMI. Correlation analysis and ANOVA were used to find the association between factors. Data were tested on normality using Kolmogorov-Smirnov and Lilliefors tests. All calculations were carried out using STATISTICA 10.0 (StatSoft, Inc.)

Patients. The prospective study included 87 age-matched pregnant women, that were divided in 4 groups: index group (n=18) – women with complex outcome (PE +GD), comparison group 1 (n=15) – with PE, comparison group 2 (n=29) – with GD, control group (n=25)

Results. BMI did not statistically differ between groups ($p=0,08$), but clinically higher BMI was detected in comparison group 1 ($29,97\pm1,93$) and index group ($33,08\pm2,43$) comparing to control group ($26,64\pm0,79$) and comparison group 2 ($27,74\pm1,96$).

Two-way ANOVA found statistically significant effect of BMI on GD ($p=0,0085$), PE ($p=0,0046$). BMI has not effect on complex outcome (GD and PE).

Fasting serum C-peptide level significantly differed in patients with PE ($p=0,0253$), obesity ($p<0,0001$) comparing with patients without these pregnancy complications.

Weak positive correlation was found between obesity and PE ($p<0,05$, $r=0,34$), thus, the association of PE with C-peptide level can be only partly explained by BMI contribution. The impact of factors interaction (GD, Ob and PE) on C-peptide level was not statistically significant

Conclusions. These data suggest that fasting serum C-peptide level and Ob have positive direct and independent association with PE, by contrast GD has not any impact on this relation. Therefore, C-peptide might be investigated as a sensitive marker of PE including GDM pregnancy. It could be implicated into pathogenesis and long-term consequences of PE. Further studies are requested