Comparing serum IgG titers against Chlamydia pneumoniae in patients with early and late-onset pre-eclampsia and healthy individuals

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Abstract

Introduction: Pre-eclampsia is one of the complexities of maternal and neonatal health. There are several similarities between pre-eclampsia and atherosclerosis. The relation between chronic Chlamydia pneumoniae infections with atherosclerosis has been shown previously. This study has been done to determine the connection between pathogenesis and onset time of pre-eclampsia and chronic Chlamydia pneumoniae infection.

Materials & Methods: This cross-sectional study was done on 88 women with normal pregnancy outcomes, 72 patients with late-onset pre-eclampsia and 16 patients who developed early-onset pre-eclampsia in Zahedan in the years 2004-2005. Anti-Chlamydia IgG and its titer were checked for in the cases and controls by ELISA method. After entering the demographic data and IgG status of the study population, statistical analysis was performed using SPSS software by one-way ANOVA and Chi-Square test, at a significance level of $p<0.05$.

Results: The results showed that there were no difference in seropositivity among the three groups ($p=0.4$). There were also no differences between early-onset and late-onset pre-eclampsia ($p=0.5$), early-onset pre-eclampsia and control group ($p=0.32$) and late-onset pre-eclampsia and control group ($p=0.25$) in that regard. There was a significant difference in IgG titers among the three groups ($p<0.0001$), between early-onset and late-onset pre-eclampsia ($p<0.0001$) and between early-onset pre-eclampsia and control group ($p<0.0001$), but there were no differences between those with late-onset pre-eclampsia and the control group ($p=0.98$).

Conclusion: The results of this study showed that chronic infection with Chlamydia pneumoniae could be related to early-onset pre-eclampsia. This study can be a support for evaluating the relationship between pre-eclampsia and subsequent atherosclerosis. Therefore, it is suggested that use of macrolides be part of the preventive programs in high-risk individuals for pre-eclampsia.

Key Words: Pregnancy outcome, Pre-eclampsia, Chlamydia Infections, Chlamydia pneumoniae, Antibodies, ELISA, Atherosclerosis, Macrolides.

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