

INVESTIGATING WITH SEROLOGICAL AND MOLECULAR METHODS OF CYTOMEGALOVIRUS INFECTION IN RISKY PREGNANT WOMEN

SUMMARY

Aim and Hypothesis: Cytomegalovirus (CMV) is the most commonly encountered cause of viral intrauterine infections. As primary and recurrent CMV infections in pregnancy can lead to severe conditions in both the mother and the fetus it should be described properly in order to take precautions and treat these infections. In this study, we aimed to determine the ratio of CMV seroconversion and the presence of CMV DNA in amniotic fluids from risky pregnant women in Aydın region.

Method: During the period between March 2006 to December 2008 in Laboratory of Department of Microbiology and Clinical Microbiology, Adnan Menderes University Faculty of Medicine, CMV-specific IgG and IgM were determined by ELISA (Meddens Diagnostics BV) in 100 pregnant women who were performed amniocentesis for a variety of obstetric indications at 17 to 21 weeks of gestation. Avidity index was studied by ELISA (Radim SpA, Pomezia-Roma-İtalya). The pregnant women were classified as seropositive or not according to the presence of CMV-specific IgG and IgM and a primary or a recurrent CMV infection according to avidity index of anti-CMV IgG. CMV DNA was investigated in the amniotic fluid and blood samples by real-time (RT) polymerase chain reaction (PCR) assay.

Results: The rate of seropositivity was found as 95 % and seronegativity as 5 % in pregnant women and the fetal infection rate was found 1 %. The only a pregnant women was positive for CMV DNA by RT PCR and high avidity index. The infant whom mother determined CMV DNA in her amniotic fluid showed high avidity index. The another pregnant woman was found CMV IgM positive and also high avidity index but not detected CMV DNA in her amniotic fluid. CMV DNA was not found in any of the blood samples.

Conclusion: We concluded that the fetal CMV infection rate is very low due to high maternal seropositivity in our region. During the pregnancy, serological screening of CMV in mother should be supported with avidity test whwn seroconversion occured or CMV IgM antibody positivity determined. In acute infections cases, CMV quantitative PCR and/or cell culture assays can be applied to amniotic fluid in the 21-22th weeks of pregnancy. As a result, the pregnant women had risk factors should be screened in terms of CMV infection.

Key words: CMV, seropositivity, amniotic fluid, real-time polymerase chain reaction (RT-PCR)

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