

Prenatal predictors of adverse perinatal outcome in congenital cytomegalovirus infection: a multicenter study

Nicole Meogrossi*, Davide Calandra, Francesca Di Sebastiano, Danilo Italo Pio Buca, Marco Liberati, Francesco D'Antonio

Center For High-Risk Pregnancy and Fetal Care, Department of Obstetrics and Gynecology, University of Chieti, Chieti, Italy.

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Objective. To identify predictors of adverse perinatal outcome in congenital cytomegalovirus infection.

Materials and Methods. In a multicenter study fetuses with congenital CMV infection diagnosed by PCR on amniotic fluid and normal prenatal imaging at the time of diagnosis were included. Primary outcome was the occurrence of structural anomalies at follow-up ultrasound or prenatal MRI. Secondary outcomes were the occurrence of anomalies detected exclusively postnatally and the rate of symptomatic infection.

Results. 104 fetuses with congenital CMV were included in the study. Anomalies were detected at follow-up ultrasound or MRI in 18.3% (19/104) cases. Anomalies were found after birth in 11.9% (10/84) of cases and 15.5% (13/85) of newborns showed clinical symptoms related to CMV infection. There

was no difference in either maternal age ($p = 0.3$), trimester ($p = 0.4$) of infection and prenatal therapy ($p = 0.4$) between fetuses with or without anomalies at follow-up. Median viral load in the amniotic fluid was higher in fetuses with additional anomalies at follow-up ($p = 0.02$) compared to those without. At multivariate logistic regression analysis, a high viral load in the amniotic fluid, defined as $\geq 100,000$ copies/mL was the only independent predictor for the occurrence of anomalies detected exclusively at follow-up ultrasound assessment or MRI, with an OR of 3.12.

Conclusions. Viral load in the amniotic fluid is a strong predictor of adverse perinatal outcome in congenital CMV infection. The results of this study emphasize the importance of adequate follow up even in case of negative neurosonography.