Detection of fetal cytomegalovirus syndrome burden among newborn in parallel to serostatus of their mothers attending Tertiary Care Hospital, Salem District

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ABSTRACT

Introduction: Neonatal diseases are entirely unique among human diseases due to the dramatic physiological transition from fetal to neonatal life. As a result, there will inevitably be more occurrences of fetopathy and more babies delivered with congenital abnormalities. The study aimed to determine the prevalence of fetal cytomegalovirus syndrome in live births in correlation with the mothers' serostatus for CMV infection. **Materials and Method:** The present study was a prospective cohort study for the period of 6 months (Jan–June 2024). Sixty pregnant women with bad obstetric history and fetus with < 2kg (IUGR) and abnormal ultrasound presentation were included in the study. Mother and fetus without risk were excluded from the study. Written informed consent & ethical clearance was obtained (GMKMC&H/114/EC/2023-84). Under aseptic condition, 3ml of blood specimen collected from antenatal pregnant women for detection of CMV IgM, IgG & IgG avidity using ELISA. Saliva/ urine were collected from the neonates of IgM Positive pregnant mother and Real Time PCR was carried out. Data was analyzed using SPSS software 22.0. **Results:** In the present study, among 60 antenatal pregnant women, 8(13.3%) showed IgM CMV reactive. Of the 8 CMV positive cases, 7(11.6%) exhibited high avidity for IgG and 1(1.7%) had low avidity. Neonates whose expectant mothers tested positive for CMV had births with intrauterine death (6), anomalous baby (1) and alive (1). The clinical and epidemiological features of pregnant women & newborn are analyzed using the ONE WAY ANOVA, which is statistically insignificant ($p<0.50$). **Conclusion:** Our diagnosis is primarily based on the antenatal pregnant women and their newborn's CMV infection which found to be 13.3% of positivity in Salem district. About 10% of affected deaths are caused by CMV and happen in utero. Hence, robust testing of this infection and their genetic play could be a preventive strategy for CMV genetic disease in newborn.