

VIROLOGICAL CONTROL OVER TIME IN A COHORT OF SYMPTOMATIC AND ASYMPTOMATIC, TREATED AND UNTREATED CASES OF CONGENITAL CYTOMEGALOVIRUS

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Introduction: Congenital cytomegalovirus (cCMV) is the leading cause of sensorineural hearing loss worldwide. Lack of T-cell immunity in the fetus may have an important role in the pathophysiology of cCMV infection. Treatment within the first 4 weeks of life improves both hearing and neuro-developmental outcomes, and plasma CMV viral load measurements are frequently used to monitoring therapeutic response. However, as thymic output increases during early infancy, virological control may also correspond with the development of T-cell immunity.

Methods: A retrospective analysis of infants with cCMV referred to a tertiary paediatric infectious Diseases centre from 2012-2021. Data collected included CMV plasma viral and lymphocyte count at approximately 4, 8, 12, 16, 28 and 32 weeks of infants' age. We aimed to assess virological control in symptomatic/asymptomatic and treated/untreated patients and to explore a possible relationship between virological control and total lymphocyte count. R

Results: 90 infants with confirmed cCMV were included, 46/90 (51%) were symptomatic. Treatment with ganciclovir/valganciclovir was given in 60 (66.7%) patients of those 36 (60%) were symptomatic and 24 (40%) asymptomatic. Symptomatic infants with cCMV had higher viral loads for longer than in asymptomatic patients ($p=0.2$). During treatment, the viral load declined by week 8, without treatment this appeared to occur from week 12. In the majority of patients that did not require treatment did not have routine viral load monitoring beyond 8 weeks. No trend was observed between total lymphocyte count and CMV viral load (Figure 1).

Conclusions: CMV virological control occurred later in untreated compared to treated infants. Total lymphocyte count does not appear to reflect functional T-cell immunity. Future studies that include detailed analysis of T-cell immunity in infants with cCMV may provide further insight into cCMV pathophysiology.