

O1118 Hearing, neurodevelopmental and growth outcomes in children with congenital cytomegalovirus in Soweto, South Africa: a prospective cohort studyJayani Pathirana^{1,2}, Leanne Teixeira³, Hannah Munian³, Michelle Groome^{1,2}, Shabir Madhi^{1,2}

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Background: Congenital cytomegalovirus (cCMV) infection is a leading cause of childhood non-genetic sensorineural hearing loss (SNHL) and neurodevelopmental delay, which may also affect growth. We assessed hearing status, neurodevelopment and growth over the first 12 months of life in a cohort of cCMV infected and uninfected children, in Soweto, South Africa

Materials/methods: Newborns were tested for cCMV infection in saliva at birth, and infection confirmed in repeat saliva and/or urine within 3 weeks of birth, by PCR. cCMV-cases were matched for HIV-exposure, gender and gestational age (± 2 weeks) to CMV-uninfected infants in a 1:2 ratio. Auditory tests were done at age of one and 12 months; neurodevelopmental assessments using the Bayley III Scales at 12 months; and anthropometry at birth, 2, 6 and 12 months.

Results: Forty-six cCMV cases and 84 CMV-uninfected controls were enrolled; of whom 36 and 77, respectively, completed all assessments at 12 months of age. At 12 months, no cases of SNHL were present in either group. Neurodevelopmental delay was present in 8.1% (n=3) of cases and 3.9% (n=3) of controls, which was not significant ($p=0.299$). The mean difference in standardized head circumference for age was significantly lower in cases than controls at 2 ($p=0.048$) and 3 months age (0.032), but not significant at 12 months ($p=0.053$). There was no effect of cCMV infection on the mean difference in standardised weight-for-age, length-for-age or body mass index over the study period.

Conclusions: cCMV infection was not associated with SNHL, neurodevelopmental abnormalities or growth abnormalities by 12 months of age in black-African children from South Africa. Further follow-up is warranted in this cohort.

Table: Outcome of cCMV infected and uninfected infants at 12 months of age

	cCMV-infected N=36	CMV-uninfected N=77	P-value
SNHL, n(%)	0 (0)	0 (0)	-
Neurodevelopmental delay, n(%)	3 (8.1)	3 (3.9)	0.299
Cognitive delay	2 (5.4)	0 (0)	0.103
Language delay	1 (2.7)	1 (2.6)	0.904
Motor delay	2 (5.4)	1 (1.3)	0.325
Anthropometry, Z-score, mean (SD)			
Weight-for-age	-0.25 (1.39)	-0.25 (1.46)	0.481
Length-for-age	-0.83 (1.27)	-0.68 (2.11)	0.943
Head-circumference-for-age	0.09 (1.68)	0.69 (1.44)	0.053
Body mass index	0.32 (1.36)	0.25 (1.78)	0.580

