Linguistic ability and executive functioning in adults with congenital cytomegalovirus infection: a long-term follow-up study

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Background: Congenital Cytomegalovirus (cCMV) is the most common prenatal infection and the main infectious cause of neurodevelopmental abnormalities in developed countries. Long-term neuropsychological outcome is not well understood, and follow-up studies on adults who were screened at birth are rare.

Aim: To investigate linguistic ability and self-reported executive functioning in adults with cCMV infection in relation to uninfected controls, and to identify possible areas of dysfunction in various executive subdomains.

Method: All individuals from a universal newborn CMV screening study in Sweden sampled 1977-85 were invited to participate in a follow-up study. 45/71 persons (63%) with cCMV and 25/46 controls (54%) were enrolled. Participants were between 34-43 years. Hearing and CNS symptoms were documented. Linguistic ability was investigated with word fluency tasks. Executive functioning was evaluated with BRIEF-A (questionnaire).

Results: Related to Swedish norm data, 43 % of participants with cCMV (asymptomatic at birth) had adequate results on word fluency tasks, compared to 86% of the controls. No statistically significant group differences were found on self-reported executive functioning.

Discussion: The results suggest that adults with cCMV infection may have deficits in the word retrieval process, even in absence of known neurodevelopmental delay and hearing loss. Everyday executive functioning might not be affected according to self-reports. More studies are needed to evaluate cognitive abilities in adults with cCMV infection, preferable with both subjective and objective methods.