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High prevalence of cytomegalovirus (CMV) infection in infants born to HIV infected mothers—ANRS French Perinatal Cohort (EPF)

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Background

In developed countries, 0.3% to 0.5% of all newborns are congenitally infected by cytomegalovirus (CMV) with the risk of sensorineural hearing loss or mental retardation [1,2]. Few results about congenital CMV infection in infants born to HIV-infected women have been reported [3]. Rate of disease progression and central nervous system disease was found to be higher in HIV-1-infected infants who acquire CMV infection in the first 18 months of life than those infected with HIV-1 alone [4]. We aimed to estimate the prevalence of neonatal CMV infection in children born to HIV-infected mothers between 1993 and 2004 enrolled in the ANRS French Perinatal Cohort (EPF).

Materials and methods

EPF is a national prospective multicenter cohort of mother-to-child HIV transmission. As part of the standardized follow-up of infants born alive between 1993 and 2004 in EPF sites, a urine sample was obtained within the ten first days of life. These samples were used to screen for congenital CMV infection, using rapid culture from 1993 to 2001 and real-time PCR since 2001.

Results

Between 1993 and 2004, 4995 of the 7878 newborns included in EPF were screened for CMV. The prevalence of CMV infection was 2.4% (119 positive tests; 95% confidence interval: 2.0–2.8). Thirteen of the 119 CMV infected newborns were also infected with HIV. The prevalence of CMV infection was higher in HIV-infected newborns (10.2%; 95% CI: 4.9-15.5) than in HIV-uninfected newborns (2.2%, 95% CI: 1.8-2.6, $p < 0.01$).

Conclusions

The prevalence of congenital CMV infection was high in children born to HIV-infected mothers and was significantly higher in HIV-infected children than HIV-uninfected children.

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