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VIROLOGIA

CONGENITAL HUMAN CYTOMEGALOVIRUS INFECTION IN LOMBARDY (CHILD STUDY)-AN INTERIM ANALYSIS.

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INTRODUZIONE

Human cytomegalovirus (HCMV) is the leading infectious cause of severe congenital disabilities. Both primary and non-primary maternal infection may cause fetal infection.

METODI

A multicenter, observational study is ongoing in Lombardy. The primary objective is to estimate the incidence and outcome of congenital HCMV infection in immune pregnant women. Secondary objectives are possible serological parameters associated with non-primary infection and potential risk factors for vertical transmission. Ultimate goal is to develop effective primary prevention strategies. Overall, 10,000 pregnant women with pre-conception immunity are being enrolled. An interim analysis was planned after examination of 5,000 newborns. A subset of women are monitored during pregnancy for viral DNA shedding and antibody response. Saliva swab samples are collected from newborns and mailed to a centralized diagnostic facility. In case HCMV DNA is detected in newborn's saliva, a urine sample is obtained for diagnosis of congenital infection.

RISULTATI

For the interim analysis, 5260 newborns were examined. HCMV DNA was detected in saliva of 31 newborns and congenital infection was confirmed in urine of 12 newborns (0.23%, 95% CI: 0.12-0.39%) from 11 mothers (one twin pregnancy). HCMV DNA load was higher in saliva swab of congenitally infected (median: 6.4x105, range: 0.5x103-2.1x106 copies/ml resuspension medium) than non-infected newborns (1.5x101; 0.5x101-2.5x102 copies/ml). Age, nationality, occupation and close contact with young children were similar between mothers of infected or non-infected newborns. Multiple pregnancy (18% vs 2%, p=0.021) and a concomitant non-specific disease (73% vs 25%, p=0.008) were more common in mothers of infected newborns.

CONCLUSIONI

The frequency of congenital infection in immune mothers appears to be lower than reported in the literature. In particular, it is ≥10 times lower than that observed in high–risk seronegative women. Close contact with young children, the main risk factor in seronegative mothers, does not seem to be associated with congenital infection in seropositive mothers. These results, if confirmed at the end of the study, suggest that HCMV-seronegative women in childbearing age are the main target of behavioural prevention strategies and, thus, should be identified by pre-conception screening.