Australian Paediatric Surveillance Unit

STUDY PROTOCOL

(updated September 2020)

Congenital Cytomegalovirus (CMV) Infection

COMMENCED Jan 1999

BACKGROUND

Congenital infection with human cytomegalovirus (cCMV) results from transmission of the virus to the foetus *in utero* either by primary maternal infection or non-primary recurrent maternal infection. A conservative estimate of cCMV infection in Australia, based upon known birth rates is 2000 per annum, with symptomatic congenital infection occurring in 10% of infected neonates at birth and a further 10% postnatally (total of ~400 pa). Although, cCMV is a known cause of stillbirth, the incidence is unknown.

Congenital infection with CMV may be asymptomatic, or present with a spectrum of illness up to the most severe manifestations (cytomegalic inclusion disease or CID). The ideal time to make the diagnosis is in the newborn period with confirmation by serology or nucleic acid testing. For older infants and children laboratory confirmation is less definitive. In some centres, retrospective testing for CMV is available from blood collected at birth on newborn screen (Guthrie's) cards. Targeted screening of children with illness possibly due to congenital CMV (sensorineural hearing loss, cerebral palsy and others) is possible.

National data for the incidence, management and long term outcomes of congenital CMV is unavailable. For neonates diagnosed within 21 days of birth, regimes of intravenous or oral antiviral treatments are available, although long term clinical outcomes are yet to be determined. Trials of potential vaccines and antiviral drugs require baseline and ongoing data collection.

OBJECTIVES

Ongoing CMV surveillance through the APSU aims to determine:

1. the incidence of congenital CMV and suspected congenital CMV, prior to introductions of vaccines and antivirals
2. the presenting features and clinical spectrum of disease due to congenital CMV infection
3. current management of congenital CMV infection

CASE DEFINITION AND REPORTING INSTRUCTIONS

Definite congenital CMV is defined as any child from whom CMV is isolated in the first twenty one (21) days of life, from urine, blood, saliva, or any tissue taken at biopsy.

Suspected congenital CMV is any child up to 12 months of age, in whom CMV is identified from urine, blood, saliva or any tissue taken at biopsy and/or a positive serum IgM is found and in whom clinical features exist that may be due to intrauterine CMV infection.

Clinical features associated with congenital CMV infection include: prematurity, low birth weight, sensorineural deafness, other neurological abnormalities (encephalitis, microcephaly, periventricular calcification, structural abnormalities, gyral abnormalities, seizures, and developmental delay), microphthalmia, chorioretinitis, cataracts, hepatitis, hepatosplenomegaly, thrombocytopaenia, pneumonitis or myocarditis.

REPORTING

Follow-up of notifications: A case report form requesting details will be sent to clinicians who notify a case.

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