

BACKGROUND

Congenital infection with human cytomegalovirus (CMV) results from transmission of the virus to the foetus *in utero*. Nearly all significant congenital infections with CMV result from primary maternal infection. A conservative prediction of rates of congenital CMV infection in Australia, based upon known birth rates is 200 per annum. Some will present in the neonatal period and will be confirmed by viral cultures or serology. Others may present later with clinical features consistent with CMV, although laboratory confirmation is less definitive at this age. 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). Symptomatic congenital and perinatal infections occur in 5-10% of infected neonates who present with prematurity, low birth weight, hearing loss or mental retardation.

The incidence and management of congenital CMV is unknown in Australia. Trials of potential vaccines and antiviral drugs will require baseline data which will be collected during this study. The study will also allow laboratory testing of CMV isolates to determine the strains most commonly associated with congenital CMV.

Objectives:

The study aims to determine:

1. the incidence of congenital CMV and suspected congenital CMV, prior to trials of vaccines and antiretrovirals
2. the presenting features and clinical spectrum of disease due to congenital CMV
3. current therapy for congenital CMV infection

CASE DEFINITION and REPORTING INSTRUCTIONS

Definite congenital CMV is defined as any child from whom CMV is isolated in the first three (3) weeks 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 isolated 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, developmental delay), seizures, microphthalmia, chorioretinitis, cataracts), hepatitis, hepatosplenomegaly, thrombocytopenia, pneumonitis or myocarditis

REPORTING

Follow-up of notifications

A questionnaire requesting details will be sent to clinicians who notify a case. Clinicians will also be sent information on a voluntary follow-up study to be conducted by the research group.

Recommended laboratory investigation for suspected cases of congenital CMV:

From the child:

Urine (10-50 mL)
and 1 mL of clotted blood
and 1mL of anticoagulated blood (in ACD or EDTA tube)

From the mother:

urine (10-50 mL collected as an MSU)
and 10 mL of clotted blood
and 10mL of anticoagulated blood (in ACD or EDTA tube)

Specimens should be sent to your local laboratory

Investigators

A/Prof William Rawlinson (Principal Investigator), Virology Division, Department of Microbiology, SEALS Randwick

Mr Daniel Trincado, Ms Gillian Scott, Dr Sian Munro, Dr Cristina Baleriola and Beverley Hall, Virology Division, Department of Microbiology, Prince of Wales Hospital, High Street, Randwick

Dr Pamela Palasanthiran, Department of Immunology & Infectious Diseases, Sydney Children's Hospital

Associate Professor Mark Ferson, Public Health Unit, South Eastern Sydney Area

Dr David Smith, Pathcentre Queen Elizabeth II Medical Centre, Hospital Avenue, Nedlands WA

Dr Geoff Higgins, IMVS, Frome Road, Adelaide SA

Dr Micheal Catton, Victorian Infectious Disease Laboratory, North Western Health, Melbourne, Victoria

Dr Alistair McGregor, Department of Microbiology, Royal Hobart Hospital, Hobart, TAS

Dr Dominic Dwyer, CIDMLS, Westmead Hospital, WESTMEAD NSW

Dr Alisson Kesson, Microbiology Department, The Children's Hospital at Westmead, Locked Bag 4001, Westmead NSW 2145

Any questions should be directed to:

A/Prof William Rawlinson or the Study Co-ordinator (Beverley Hall)

Virology Division, Department of Microbiology

SEALS Randwick

Prince of Wales Hospital

RANDWICK NSW 2031

Phone: (02) 9382 9243

Fax: (02) 9382 8533

Email: w.rawlinson@unsw.edu.au

Beverley.Hall@SESLIAHS.HEALTH.NSW.GOV.AU