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ALERT: APSU Surveillance of Microcephaly in children aged < 12 months

The Australian Paediatric Surveillance Unit has been invited by the Department of Health to undertake surveillance for Microcephaly due to all causes in children aged <= 12 months.

There are many causes of microcephaly, including (i) congenital and neonatal infections: Zika virus, toxoplasmosis, cytomegalovirus, herpes simplex, syphilis (TORCHES) and HIV; (ii) exposure to teratogens in pregnancy (e.g. alcohol, drugs and other toxins); (iii) maternal phenylketonuria; (iv) poorly controlled maternal diabetes); (v) severe CNS trauma, ischaemic or haemorrhagic stroke; (vi) severe deprivation including malnutrition, and placental insufficiency; (vii) chromosomal syndromes and other genetic disorders; (viii) neural tube defects and (ix) familial [(1)].

Microcephaly is of current interest due to the proven relationship between maternal Zika virus infection and microcephaly in children[(2)] with a twenty-fold increase in birth prevalence over 5 years from 5.7 cases/100,000 live births in 2010 to 99.7/100,000 live births in 2015 in Northern Brazil [(3)].

STUDY OBJECTIVES

1. To describe the epidemiology of microcephaly in children aged < 12 months presenting to paediatricians.

2. To describe the causes of microcephaly in Australia.

3. To document infective causes of microcephaly (e.g. Zika virus, congenital rubella, congenital Cytomegalovirus infection, toxoplasmosis infection etc.) and to describe how infection was acquired.

4. To educate Australian paediatricians about the possible causes of microcephaly including maternal Zika virus infection and to disseminate best practice guidelines as these become available or are updated.

CASE DEFINITION

Please report any child < 12 months of age with microcephaly (≤ 2 SD or < 3rd percentile below the mean) who presented to you in the last month and whom you have not previously reported.

Only report cases when the Occipito-Frontal head Circumference (OFC) is equal to or more than two standard deviations below the mean for age and gender, according to standard growth charts* and adjusted for ethnicity.

*We recommend the Intergrowth Charts (https://intergrowth21.hghn.org/)[(4)] which allow for adjustment for gestational age and ethnicity.

It is advised that all children have OFC measured at birth and as part of routine health checks.

Surveillance Commences on the 1st of June 2016.
Please report all cases diagnosed since then.

The final protocol and data collection form will be distributed directly to you via email/mail and will be available on the www.apsu.org.au website before the end of the month.

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References:

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2. Rasmussen SA, Jamieson DJ, Honein MA, Peterson LR. Zika Virus and Birth Defects – Reviewing the Evidence for Causality. New England Journal of Medicine. 2016; 374:1981-1987.

3. Soares de Araújo JS, Regis CT, Gomes RGS, Tavares TR, Rocha dos Santos C, Assunção PM, et al. Microcephaly in northeastern Brazil: a review of 16 208 births between 2012 and 2015 Bull World Health Organ E-pub. 2016.

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