Varicella – A SAEFVIC Case Study*

Department of Health Newsletter: Issue 76 August 2015

An 18-month-old previously healthy child flew from the United Kingdom (UK) to Australia for a holiday. While on the plane, the child's mother noted a few lesions on his face. A few days after they arrived the child became febrile, had reduced oral intake and his eye became swollen and he was unable to open it. The patient presented to the Emergency Department and was admitted to a medical ward. A swab from skin lesions confirmed varicella and a swab from the eye showed heavy growth of *Streptococcus Pyogenes* (Group A Streptococcus). The child was also seen by the ophthalmologist who confirmed right eye periorbital cellulitis with right eye keratoconjunctivitis. The patient received intravenous antibiotics and Aciclovir and was commenced on Chlorsig. After three days he was discharged on oral Amoxicillin and Chlorsig drops and ointment. He had follow-up with an ophthalmologist. Final diagnosis was Group A *Streptococcus* periorbital cellulitis secondary to varicella infection.
All of the child's immunisations were up to date according to the UK schedule. Varicella is currently not on their vaccine schedule. The child's five-year-old brother also had varicella infection at the same time. *Note: consent was obtained from the family for this case report.

Varicella: Varicella (chickenpox) is a highly contagious infection caused by the varicella-zoster virus. Its main transmission is by respiratory secretions (air transport or coughing infected droplets). It can also be spread by direct contact with vesicle fluid of skin lesions.
Clinical symptoms for varicella include a rash that contains fluid-filled blisters that turn into scabs. Other symptoms that often occur prior to the rash include fever, lethargy, loss of appetite and headache.

Image: Girl with secondary skin infection due to chickenpox. Source: Centers for Disease Control and Prevention

Varicella is usually a mild disease, however in about one per cent of cases, complications do occur and can include secondary bacterial skin infection, pneumonia, acute cerebellar ataxia, aseptic meningitis, transverse myelitis, encephalitis and thrombocytopenia (*The Australian immunisation handbook,* 10th edition 2013).

Discussion: Varicella is a vaccine-preventable disease that is recommended as part of routine childhood immunisation. Since 2005, when varicella immunisation was first funded through the National Immunisation Program, there has been a huge decline in the number of children admitted to hospital with varicella and associated complications. Prior to the program there were approximately '240 000 cases, 1500 hospitalisations and about seven to eight deaths per year from varicella in Australia' (*The Australian immunisation handbook* 10th edition 2013, p. 424). This decline has been captured by the national Paediatric Active Enhanced Disease Surveillance network which includes the Royal Children's Hospital Melbourne (Marshall, et al., 2013). This decline in hospitalisation and mortality has also been noted in the United States where their varicella vaccination program has been in place since 1995 (*The Australian immunisation handbook 10th edition 2013*). The case study highlights the importance of varicella vaccination as secondary complications such as skin infections and periorbital cellulitis does occur.

Recommendations: In Australia it is recommended that all children aged less than 14 years should have at least one dose of varicella-containing vaccine. A single dose is routinely administered at 18-months of age as a combined measles-mumps rubella-varicella vaccine. In Victoria a catch-up dose is administered to adolescents in Year 7 (aged 12 to 13 years) of secondary school. This case highlights the importance of catch-up vaccination for children emigrating from the UK. Adverse events following vaccines containing varicella are generally mild and well tolerated. The most common reported reactions are injection site reactions. A varicella vaccine associated rash can also occur about five to 26 days post vaccine (*The Australian immunisation handbook 10th edition 2013*).

References and further reading:

Changes in Patterns of Hospitalized Children with Varicella and of Associated Varicella Genotypes after introduction of Varicella Vaccine in Australia. Marshall, H., McIntyre, P., Richmond, P., Buttery, J., Royle, J., Gold, M., Wood, N., Elliott, E., Zurynski, Y., Toi, C., Dwyer, D., & Booy, R. (2013). The Pediatric Infectious Disease Journal, 32 (5), 530-537.

PAEDS: www.paeds.edu.au

Melbourne Vaccine Education Centre - Varicella: www.mvec.vic.edu.au/immunisation-references/varicella-chickenpox.

The Australian Immunisation Handbook: 10th edition 2013 (updated January 2014), Part 4.22 'Varicella': www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook10-home~handbook10part4~handbook10-4-22.

Better health Channel – Chickenpox: www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/chickenpox

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