
Editorial: Introduction of the National Meningococcal C Vaccination Program

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In January 2003, the Commonwealth Government commenced the National Meningococcal C Vaccination Program. This program provides free meningococcal C conjugate vaccine over the next four years to all children and adolescents who turn one to 19 years of age in 2003, a target group of almost 6 million. The meningococcal C vaccine has also been added to the Australian Standard Vaccination Schedule at 12 months of age. A rise in the incidence of meningococcal disease in Australia, an increasing mortality rate due to the C strain of the disease and success in England and Wales with meningococcal C vaccination, have contributed to the decision by the Australian Government to implement this program.

The meningococcal C vaccine is a new conjugate vaccine, more effective and immunogenic than the polysaccharide vaccine previously available. The polysaccharide vaccine has been available for a number of years. However, it provides protection only for a limited time against serogroups A, C, W135 and Y, and is not effective in infants under two years of age.

The new conjugate vaccine (conjugation involves attaching a carrier protein to the oligosaccharide antigen formed from the coat of the bacteria¹) was approved for use in Australia in 2001. It induces a T-cell dependent antibody response and immunological memory, and is immunogenic in children under two years of age. It is expected that immunity induced by the conjugate vaccine will be long term.

Notifications of meningococcal disease in Australia to the National Notifiable Diseases Surveillance System (NNDSS) have been gradually increasing since 1991 (337 cases) to 677 cases in 2002.² Meningococcal disease is caused by invasive infection with *Neisseria meningitidis*, resulting in meningitis and/or septicaemia. While meningococcal disease may affect all age groups, there is a bimodal age

distribution with the highest incidence rates in children under five years of age and adolescents and young adults.³ Approximately 32 per cent of cases in Australia are serogroup C (the proportion of serogroup C isolates has been rising since 1995) and the majority of the remaining cases are serogroup B.⁴ Unfortunately, no effective vaccine is currently available for serogroup B disease.

A similar vaccination program was launched in England and Wales in November 1999, targeting 18 million children and adolescents.⁵ Results have been very promising. High vaccine coverage (around 90%) has been achieved and there has been a 90 per cent decrease in meningococcal C disease notifications in the targeted age groups, and a 90 per cent decrease in deaths.⁵ Estimates from England and Wales indicate vaccine efficacy ranges of 88–92 per cent in toddlers; and 96–97 per cent in 15–17 year olds.⁶ The data also indicate a good safety record for meningococcal C conjugate vaccine. Post-licensure surveillance has indicated that adverse vaccine events include non-serious reactions such as headache, local reaction, pyrexia and dizziness. Serious and rare adverse events include anaphylactoid reactions (one per 500,000 doses) and purpura.⁶

In Australia, surveillance of meningococcal disease, including detailed serogroup analysis, will continue so that the effect of the vaccination program can be monitored. This surveillance is carried out by the National Neisseria Network and the NNDSS systems and will need to be sensitive enough to detect changes in the epidemiology of meningococcal disease, in particular, increases in the incidence of other serogroups.

For further information about the program visit the Immunise Australia website at <http://immunise.health.gov.au>.

References

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