Meningococcal disease in Australia: 1997 and beyond

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In 1997, the death of a young western Australian woman made meningococcal disease a media issue. The publication of horror stories of babies losing limbs created panic and the sense of an epidemic out of control. As we move into the peak period for occurrence of meningococcal disease in 1998, it is timely to review the 1997 data from the National Notifiable Diseases Surveillance System (NNDSS) and to remind readers of the importance of early diagnosis and treatment in the management of meningococcal disease.

Increased rate in 1997

Preliminary figures for 1997♦ indicate that there have been 496 notifications to the NNDSS of meningococcal infection with onset dates during 1997. This corresponds to a rate of 2.7 notifications per 100,000. This rate is slightly higher than the rates for the previous five years, which have ranged from 1.7 per 100,000 in 1992 to 2.3 per 100,000 in 1996.[1] This is consistent with the trends in other industrialised countries.[2]

Cases occurred in all States and Territories. The Australian Capital Territory reported 9 (2% of total cases), New South Wales 222 (45%), Northern Territory 15 (3%), Queensland 72 (14%), South Australia 22 (4%), Tasmania 9 (2%), Victoria 100 (20%) and Western Australia 47 (10%).

Disease is not epidemic

The pattern of disease remained sporadic with occasional clusters of cases, which is typical of the pattern in developed countries. Unpublished data from the Australian Meningococcal Surveillance Program (AMSP) indicate that the predominant serogroup overall continued to be serogroup B (Prof J. Tapsall, personal communication). Of the 343 isolates of meningococci examined by the AMSP in 1997, there were 219 (64%) serogroup B, 108 (32%) serogroup C, and the remaining 4% included serogroups Y, Z and W135. New South Wales had a higher proportion of serogroup C isolates than other jurisdictions and a number of clusters of cases were linked to two specific strains. These will be described more fully in a future issue of CDI.[3]

Seasonal pattern

The usual seasonal pattern occurred with 65% of cases occurring in the six month period between the beginning of June and the end of November. The peak month of onset was August with 63 cases. This was lower than the peak monthly number of cases (73) in 1996, which occurred in July. However, the peak period was slightly longer in 1997 than in 1996 (Figure 1).

Age distribution

The male female ratio was 1.0:1. As in previous years, the age distribution of cases was bimodal with the highest rates in the 0-4 year age group (14.9 notifications per 100,000) and a second peak in the 15-19 year age group (6.6 notifications per 100,000) and the 20-24 year age group (3.5 notifications per 100,000) (Figure 2). Of the 193 cases in children aged under 5 years, 72 (37%) were in

Figure 1. Notifications of meningococcal disease, 1994 to 1998, by month of onset

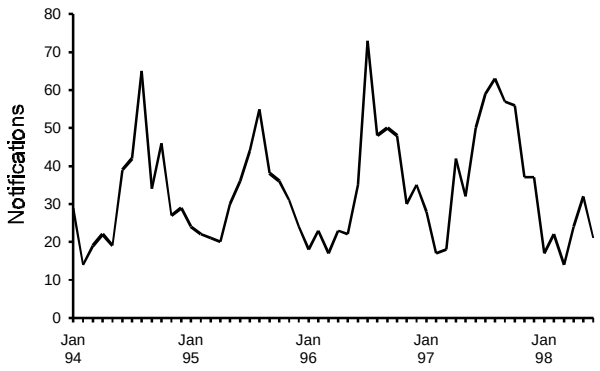
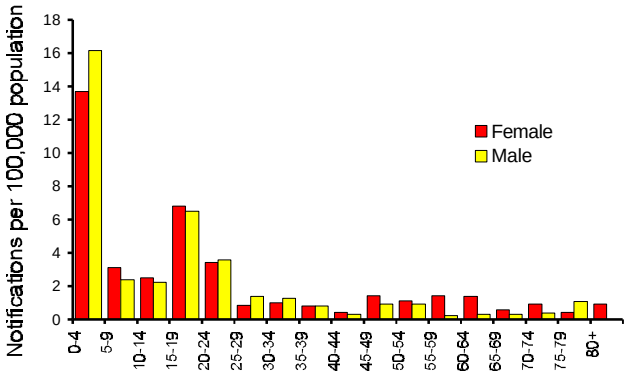


Figure 2. Notification rate of meningococcal disease, 1997, by age group and sex



♦ Data for 1997 are still being finalised and will be published in CDI later this year as part of the Annual Report of the National Notifiable Diseases Surveillance System.

Meningococcal disease

Symptoms

- Fever
- Headache
- Stiff neck
- Nausea
- Weakness and drowsiness
- Rash

Doctors

- Maintain a high index of suspicion for cases.
- Notify suspected cases to relevant public health authority by phone.
- Treat suspected cases immediately with antibiotics, preferably intravenously.
- Try to obtain blood culture prior to treatment BUT
- **DO NOT DELAY THE ADMINISTRATION OF ANTIBIOTICS**

Community

- Recognise symptoms.
- Seek medical attention immediately.
- Be persistent in seeking medical attention if symptoms are not improving as expected.

Public health authorities.

- Collaborate with treating doctor to identify close contacts of cases and administer chemoprophylaxis to protect exposed individuals.
- Consider immunisation for specific situations according to NHMRC Guidelines.

infants under the age of 1 year. This corresponds to a rate of 28.5 notifications per 100,000, the highest of any age group.

Preparing for the 1998 peak season of meningococcal disease

Although meningococcal disease is not a common disease in Australia, it can result in permanent disability and in 5-10% of cases ends in death.[4] The cornerstone for controlling this disease is early diagnosis and prompt treatment on suspicion of the disease. The community need to be made aware of the symptoms of meningococcal disease and encouraged to seek medical attention promptly.

Meningococcal disease can be very difficult to diagnose as many of the early symptoms are similar to other, milder infectious diseases. Patients should not hesitate to seek further medical assessment if anyone, particularly a young child, is not recovering as expected from such an illness. Doctors, especially general and emergency medicine practitioners, need to start treatment on suspicion of the disease and not wait for confirmation of the diagnosis. All cases should be notified by phone to the relevant public health authority to enable prompt public health action to control the spread of the disease.

Several States and Territories have already publicised the coming season through press releases and the development of educational materials. This will assist in educating the community about the need for vigilance and the actions they can take. However, educating the patient is of limited value if the medical practitioners they consult are not sufficiently aware of the disease and the actions they should take.

To assist practitioners, the National Health and Medical Research Council has published guidelines for the control of meningococcal disease.[5] These can be purchased through the Australian Government Publishing Service♦♦ or accessed via the Internet at:

Http://www.health.gov.au/hfs/nhmrc/advice/nhmrc2.

They are essential reading for both clinicians and public health workers.

1. Curran M, Harvey B, Crerar C, Oliver O et al. Australia's notifiable diseases status, 1996. *Comm Dis Intell* 1997;21:281-307
2. Patel M. Meningococcal disease in Australia: looking at the past, thinking of the future. *Comm Dis Intell* 1997;21:233-236
3. Australian Meningococcal Surveillance Programme. Annual Report of the Australian Meningococcal Surveillance Programme, 1997. *Comm Dis Intell* 1998 (in press)
4. Australian Meningococcal Surveillance Programme. Annual Report of the Australian Meningococcal Surveillance Programme, 1997. *Comm Dis Intell* 1997;21:217-221
5. National Health and Medical Research Council. Guidelines for the control of meningococcal disease in Australia. AGPS, Canberra, 1997

♦♦ AGPS - phone orders 132 447