Additional Reports

Australian encephalitis: Sentinel Chicken Surveillance Programme

Sentinel chicken flocks are used to monitor flavivirus activity in Australia. The main viruses of concern are Murray Valley encephalitis (MVE) and Kunjin which cause the potentially fatal disease encephalitis, in humans. Currently 30 flocks are maintained in the north of Western Australia, 9 in the Northern Territory, 12 in New South Wales and 10 in Victoria. The flocks in Western Australia and the Northern Territory are tested year round but those in New South Wales and Victoria are tested only from November to March, during the main risk season.

Results are coordinated by the Arbovirus Laboratory in Perth and reported bimonthly. For more information and details of the location of sentinel chicken sites see Commun Dis Intell *2000;24:8-9.*

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May/June 2001

Sentinel chicken serology was carried out for 26 of the 30 flocks in Western Australia in May and June 2001. The number of seroconversions to flaviviruses have decreased in the north of Western Australia but Murray Valley encephalitis (MVE) and Kunjin virus (KUN) activity was still detected in both the Kimberley and Pilbara regions. In May there were 10 seroconversions from the Kimberley and 22 from the Pilbara. The majority of these were to MVE virus. Flavivirus activity decreased significantly in June and there was only one seroconversion to MVE from the Aboriginal community of Kalumburu in the far north Kimberley and 4 seroconversions (2 KUN, 2 MVE/KUN) from Marble Bar, Paraburdoo and Ophthalmia Dam (near Newman) in the Pilbara. The number of chickens positive for flavivirus antibodies by ELISA at each site and the identity of the infecting virus(es) are shown in Table 7. There have been no cases of disease caused by MVE virus reported from Western Australia during the 2001 wet season.

Serum samples from 7 of the 8 Northern Territory sentinel chicken flocks were tested at the University of Western Australia in May and June 2001. There were 4 new seroconversions to flaviviruses in May (3 KUN, 1 Flavi only) and one to MVE virus from the Alice Springs flock in June 2001. In May, Kunjin virus seroconversions were reported from Howard Springs, Beatrice Hill Farm and the new flock at Gapuwiyak. The single seroconversion to a flavivirus (not MVE or Kunjin) was from Leanyer. A media warning was sent out by the Territory Health Services in May warning of continuing flavivirus activity, particularly in the Top End of the Northern Territory.

Flavivirus activity was not detected in New South Wales or Victoria in May 2001 and the sentinel chicken surveillance programs in these States have now finished for the season.

The State health departments provide funding for the sentinel chicken surveillance programs in Western Australia, the Northern Territory, New South Wales and Victoria.

Table 7. Flavivirus seroconversions in Western Australian sentinel chicken flocks, May and June 2001

	May 2001				June 2001		
Location	MVE	KUN	MVE/KUN	FLAVI	MVE	KUN	MVE/KUN
Kimberley							
Kalumburu			1	1	1#		
Kununurra	2			1			
Derby*	3			1			
Broome*		1					
Pilbara							
Port/South Hedland*	1						
Harding Dam*	2	1					
Marble Bar	2						1#
Tom Price	4	1	1				
Paraburdoo	2	1	1			1#	
Ophthalmia Dam	3	1				1	1#
Newman town		1					
Onslow	1#						

MVE antibodies to Murray Valley encephalitis virus detected by ELISA
KUN antibodies to Kunjin virus detected by ELISA
FLAVI antibodies to a flavivirus only detected by ELISA
Some results not yet confirmed
* Two flocks at this town

Gonococcal surveillance

John Tapsall, The Prince of Wales Hospital, Randwick, NSW, 2031 for the Australian Gonococcal Surveillance Programme.

The Australian Gonococcal Surveillance Programme (AGSP) reference laboratories in the various States and Territories report data on sensitivity to an agreed 'core' group of antimicrobial agents quarterly. The antibiotics currently routinely surveyed are penicillin, ceftriaxone, ciprofloxacin and spectinomycin, all of which are administered as single dose regimens and currently used in Australia to treat gonorrhoea. When in vitro resistance to a recommended agent is demonstrated in 5 per cent or more of isolates from a general population, it is usual to remove that agent from the list of recommended treatment.[1] Additional data are also provided on other antibiotics from time to time. At present all laboratories also test isolates for the presence of high level (plasmid-mediated) resistance to the tetracyclines, known as TRNG. Tetracyclines are however, not a recommended therapy for gonorrhoea in Australia. Comparability of data is achieved by means of a standardised system of testing and a program-specific quality assurance process. Because of the substantial geographic differences in susceptibility patterns in Australia, regional as well as aggregated data are presented.

Reporting period 1 January to 31 March 2001

The AGSP laboratories examined a total of 938 isolates in this quarter, virtually the same number as in the past two years. About 36 per cent of this total was from New South Wales, 19 per cent from Victoria, 18 per cent from Queensland, 12 per cent from the Northern Territory, 8 per cent from Western Australia and 6 per cent from South Australia. Isolates from other centres were few.

Penicillins

Figure 1 shows the proportions of gonococci fully sensitive (MIC 0.03 mg/L), less sensitive (MIC 0.06 – 1 mg/L), relatively resistant (MIC 1 mg/L) or else penicillinase producing (PPNG) aggregated for Australia and by State and Territory. A high proportion those strains classified as PPNG or else resistant by chromosomal mechanisms fail to respond to treatment with penicillins (penicillin, amoxycillin, ampicillin) and early generation cephalosporins.

In this quarter about 23 per cent of all isolates were penicillin resistant by one or more mechanisms, 9 per cent PPNG and 14 per cent by chromosomal mechanisms (CMRNG). The proportion of penicillin resistant strains ranged from 7 per cent in the Northern Territory to 34 per cent in New South Wales.

The number of PPNG isolated across Australia (85) was slightly less in this quarter than in the corresponding period in 2000 (91). The highest proportion of PPNG was found in isolates from Victoria (16%) and Western Australia (11%). PPNG were present in all jurisdictions including 5 (4.5%) in the Northern Territory. South East Asian countries were the main source of external acquisition, but local acquisition was prominent in New South Wales.

More isolates were resistant to the penicillins by separate chromosomal mechanisms (132). These CMRNG were especially prominent in New South Wales (27%) and Queensland (11%). Three CMRNG were detected in the Northern Territory.

Ceftriaxone

Low numbers of isolates with decreased susceptibility to ceftriaxone (MICs 0.06/0.12 mg/L) were present in New South Wales, Victoria, Queensland and South Australia.

Spectinomycin

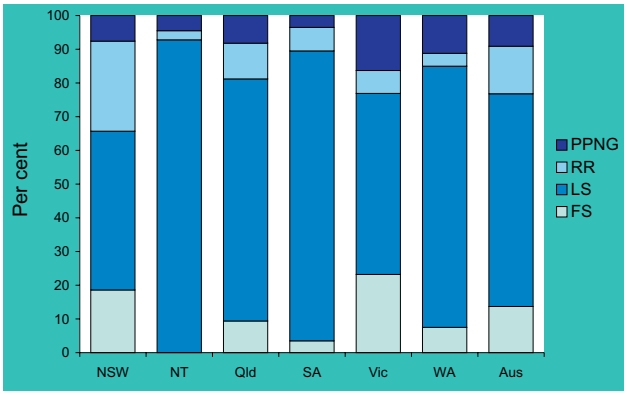
All isolates susceptible to this injectable agent.

Quinolone antibiotics

Quinolone resistant *N. gonorrhoeae* (QRNG) are defined as those isolates with an MIC to ciprofloxacin equal to or greater than 0.06 mg/L. QRNG are further subdivided into less sensitive (ciprofloxacin MICs 0.06 – 0.5 mg/L) or resistant (MIC 1 mg/L) groups.

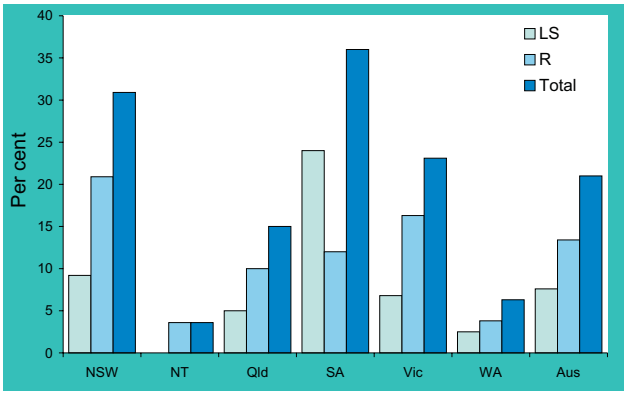
The total number (197) and proportion (21%) of all QRNG was again high and little changed from the first quarter of 2000 (183 isolates, 20%). QRNG were again widely distributed. High rates were maintained in South Australia (36%), New South Wales (31%), Victoria (22%) and

Figure 1. Categorisation of gonococci isolates, Australia, 1 January to 31 March 2001, by penicillin susceptibility and region



FS Fully sensitive to penicillin, MIC 0.03 mg/L
LS Less sensitive to penicillin, MIC 0.06 – 0.5 mg/L
RR Relatively resistant to penicillin, MIC 1 mg/L
PPNG Penicillinase producing *Neisseria gonorrhoeae*

Figure 2. Distribution of *N. gonorrhoeae* showing quinolone resistance, Australia, 1 January to 31 March 2001



LS QRNG Ciprofloxacin MICs 0.06 – 0.5 mg/L
R QRNG Ciprofloxacin MICs 1 mg/L

Queensland (15%). Six per cent of Western Australian isolates were QRNG. Seventy-two of the New South Wales, 23 of the Victorian and 17 of the Queensland QRNG exhibited high level resistance (MIC ciprofloxacin 1 mg/L) and higher level QRNG were also seen in the Northern Territory, South Australia and Western Australia. Local acquisition became increasingly prominent and MICs ranged up to 16mg/L. The majority of QRNG (126 of 197, 64%) are now in the high level category and this is a shift from the situation at this time last year.

High level tetracycline resistance (TRNG)

The number (73) and proportion (7.8%) of TRNG detected declined. TRNG represented 14 per cent of isolates from Queensland and Victoria, 7 per cent from South and Western Australia and 6 per cent from the Northern Territory.

Reference

1. Anon. Management of sexually transmitted Diseases. World Health Organization 1997; Document WHO/GPA/TEM94.1 Rev.1 p 37.

HIV and AIDS Surveillance

National surveillance for HIV disease is coordinated by the National Centre in HIV Epidemiology and Clinical Research (NCHECR), in collaboration with State and Territory health authorities and the Commonwealth of Australia. Cases of HIV infection are notified to the National HIV Database on the first occasion of diagnosis in Australia, by either the diagnosing laboratory (Australian Capital Territory, New South Wales, Tasmania, Victoria) or by a combination of laboratory and doctor sources (Northern Territory, Queensland, South Australia, Western Australia). Cases of AIDS are notified through the State and Territory health authorities to the National AIDS Registry. Diagnoses of both HIV infection and AIDS are notified with the person's date of birth and name code, to minimise duplicate notifications while maintaining confidentiality.

Tabulations of diagnoses of HIV infection and AIDS are based on data available three months after the end of the reporting interval indicated, to allow for reporting delay and to incorporate newly available information. More detailed information on diagnoses of HIV infection and AIDS is published in the quarterly Australian HIV Surveillance Report, and annually in HIV/AIDS and related Diseases in Australia Annual Surveillance Report. The reports are available from the National Centre in HIV Epidemiology and Clinical Research, 376 Victoria Street, Darlinghurst NSW 2010. Internet: http://www.med.unsw.edu.au/nchecr. Telephone: (02) 9332 4648. Facsimile: (02) 9332 1837.

HIV and AIDS diagnoses and deaths following AIDS reported for 1 January to 31 march 2001, as reported to 30 June 2001, are included in this issue of Communicable Diseases Intelligence *(Tables 8 and 9).*

Table 8. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 January to 31 march 2001, by sex and State or Territory of diagnosis

										Totals for Australia			
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2001	This period 2000	Year to date 2001	Year to date 2000
HIV diagnoses	Female	0	6	0	7	1	0	5	0	19	21	19	21
	Male	0	26	1	21	8	2	22	1	81	198	81	198
	Sex not reported	0	0	0	0	0	0	0	0	0	0	0	0
	Total[1]	0	32	1	28	9	2	28	1	101	220	101	220
AIDS diagnoses	Female	0	1	0	0	0	0	1	0	2	7	2	7
	Male	0	5	1	9	0	0	9	0	24	69	24	69
	Total[1]	0	6	1	9	0	0	11	0	27	76	27	76
AIDS deaths	Female	0	1	0	0	0	0	1	0	2	3	2	3
	Male	0	3	0	3	0	0	5	0	11	29	11	29
	Total[1]	0	4	0	3	0	0	6	0	13	32	13	32

1. Persons whose sex was reported as transgender are included in the totals.

Table 9. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 31 March 2001, by sex and State or Territory

		State or Territory								
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
HIV diagnoses	Female	27	640	10	170	64	5	233	123	1272
	Male	229	11261	109	2092	702	80	4050	946	19,469
	Sex not reported	0	242	0	0	0	0	24	0	266
	Total[1]	256	12164	119	2269	766	85	4322	1075	21,056
AIDS diagnoses	Female	9	202	0	50	25	3	73	26	388
	Male	87	4750	37	865	351	45	1699	359	8193
	Total[1]	96	4964	37	917	376	48	1781	387	8606
AIDS deaths	Female	4	115	0	33	16	2	51	17	238
	Male	68	3254	24	582	234	29	1302	255	5748
	Total[1]	72	3377	24	617	250	31	1360	273	6004

1. Persons whose sex was reported as transgender are included in the totals.