AUSTRALIA
Communicable Diseases Intelligence

Bulletin Number 78/14
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Australian Encephalitis

Arbovirus surveillance in the north-west of Western Australia has been increased following the detection of 8 cases of arbovirus encephalitis between February and June this year. The people affected were aged between 3 and 23 years, and none of the cases was fatal.

Of the 8 cases, 4 have been confirmed clinically and serologically as Australian encephalitis (formerly known as Murray Valley Encephalitis). One further case has been attributed to Kunjin virus but the cause of the remaining 3 cases has not been conclusively established. (Serological identification of Australian encephalitis involves detection of Ig M antibody to the virus or a rise in Haemagglutination Inhibition and neutralizing antibody to virus or virus antibody).

Both Australian encephalitis and Kunjin viruses are transmitted to humans by the mosquito Culex annulirostris ('ring-nosed mosquito') which breeds in fresh water (and slightly brackish waters in Northern Australia). Extensive breeding of this species has occurred in some areas of the Kimberley region following unusually heavy rainfall earlier this year. The normal cycle of the arbovirus is from the mosquito to the water-birds (e.g. ducks, heron) but when the mosquito is present in very large numbers, it includes humans in its meal.

Extensive investigations are being carried out in the Pilbara region by the Department of Microbiology of the University of Western Australia and the Western Australian Public Health Department to determine the epidemiology of the disease in that area.

The last known outbreak of Australian Encephalitis occurred early in 1974 in the Murray Valley, and of 58 cases there were 12 deaths. A possible factor in the appearance of the virus among the human population, is the migration of the virus with the avian reservoirs of infection to populated areas, along with an upsurge of the mosquito vector population due to high rainfall in affected areas.

The Bulletin is compiled and distributed by the Environmental Health Branch, Department of Health, P.O. Box 100, Woden, A.C.T. 2606, Australia, and is available on request. Contributions are solicited, and do not preclude later publication elsewhere.

Infant Botulism in Australia

Our report on infant botulism (CDI 9/78) inspired Dr L.K. Shield, Dr R.G. Wilkinson and Dr M. Ritchie to report a case of their own. The following is extracted from a letter that will soon appear in the Medical Journal of Australia, and is published with permission.

> We have recently seen a 3 month old male infant who presented with a 10-day history of constipation followed by rapid onset of inability to suck, poor cough, weak cry, limb weakness and generalized hypotonia. Bilateral ptosis and sluggish pupillary responses were present. Severe clinical problems persisted for several weeks but respiratory support was not necessary and spontaneous recovery ensued. Four months after the onset he had returned to normal except for mild weakness of neck flexion.
>
> Peripheral electrophysiological studies were consistent with a neuromuscular junction defect while muscle biopsy was normal. Clostridium botulinum Type B was isolated from a faecal specimen on admission but was not reisolated 4 months later. Identification of the organism was based on gas liquid chromatographic analysis of bacterial metabolic products as well as toxin neutralisation in mice.
>
> The clinical, electrophysiological and bacteriological characteristics of this case leave little doubt about the diagnosis of 'infant botulism'. Although we believe this to be the first documented case in this country, the Californian experience indicates that further cases will almost certainly be recognized. Physicians caring for infants should be aware of this syndrome as differentiation from other causes of weakness and bulbar paresis in this age group is of paramount importance. Even though paralysis can be severe and may require respiratory support, recovery to normal is usual.

Dr Russell Wilkinson, Department of Microbiology, University of Melbourne, Parkville, Vic., 3052, has agreed to receive Clostridium botulinum from suspected cases of infant botulism for characterization of toxin production. These will be subjected to gas-liquid chromatographic confirmation and toxin typing by mouse neutralization tests.

Although no laboratory infections have been reported with C botulinum, laboratory staff are reminded of the care that should be exercised in the handling of any cultures.

/3.

Food Poisoning from Oysters

In the first week of July, public health authorities around the country were alerted to a large outbreak of food poisoning apparently due to consumption of rock oysters grown in the Sydney area. An estimated 500 cases were reported, but it is believed that the actual number affected was very much higher.

The symptoms associated with the outbreak were acute abdominal pain, vomiting and diarrhoea, between 24 and 48 hours after eating the oysters. Only 2 cases which required hospitalization were reported.

Extensive testing of oysters and faecal samples was carried out in a number of laboratories around the country, but no bacterial pathogens were detected from either sources. One report has been received from the I.C.P.M.R. in Sydney, however, of parvovirus-like particles being detected by electron microscopy in the faeces of a man who had diarrhoea and vomiting after eating oysters.

Contamination of the oysters with whatever microorganism caused the outbreak appears to have followed an overflow of raw sewage into the estuaries in which they were grown. This in turn was due to recent heavy rain in the Sydney area. Public health authorities have given substantial publicity to the possibility that more than one organism may have infected the oysters, and so that most doctors and patients are on the watch for an outbreak of Hepatitis A.

Campylobacter outbreaks in USA (MMWR 23 June 1978 MMWR 7 July 1978)

Since the publication of Skirrow (BMJ 2 July 1977) on the role of Campylobacter spp in the pathogenesis of acute gastroenteritis a number of outbreaks of disease have been attributed to this organism. Two such reports appeared in recent issues of the MMWR.

The first occurred in Bennington, Vermont, U.S.A., during the 2 week period beginning 28 May 1978, and involved an estimated 2 000 of the town's 10 000 residents. The illness was characterized by abdominal pain or cramps (88%), diarrhoea (83%), malaise (76%), headache (54%) and fever (52%), and symptoms generally lasted from 1-4 days. Epidemiologic investigation showed a strong association between illness and drinking water from the town supply. ($p = < 0.005$).

/4.

Campylobacter fetus sub jejuni was isolated from 5 to 9 cases cultured whilst rectal swabs from 20 non-ill controls were all negative. Although the organism was not isolated from the water supply, records show that throughout the period of the outbreak, water specimens from several areas of the town had no residual chlorine.

The second outbreak occurred on 7 June 1978 in a family on a farm in Colorado. Similar symptoms occurred in 3 of 5 members, and stool cultures yielded C. fetus sub jejuni from those afflicted. Samples of raw milk, eggs, and all animals from the farm were cultured for Campylobacter organisms and all were negative with the exception of the stool culture of the cow, which yielded C. fetus sub jejuni.

The article suggests that the evidence from this outbreak is compatible with the transmission of Campylobacter by unpasteurized milk, which has been previously suggested as a vehicle for such infections.

Yersinia enterocolitica - correction

In the article on Y. enterocolitica in Bulletin 78/12, the statement was made that this term applied to a number of organisms previously classified as belonging to the genus Pasteurella, including Pasteurella pseudotuberculosis. This is incorrect, since Yersinia as a genus composed of three distinct species, namely, Y. pestis, Y. pseudotuberculosis, and Y. enterocolitica.

Human Salmonellosis

The tables in this bulletin include data on the cases of human salmonellosis reported to the CDI for June. A total of 316 isolates were reported, and the trends observed in April continued. S. typhimurium represented 41% of the total, and infections in children up to the age of 5 years comprised 53% of the reports.

Virus Tables

It was not possible to prepare the virus tables in time for this issue. These will be included in the next issue.

HUMAN SALMONELLOSIS CASES

PERIOD JUNE. 1978

SEROTYPE	TOTAL	NSW & ACT	VIC	QLD	SA	WA	TAS	NT	AGE						CUMULATIVE TOTAL
									< 1	1-5	6-15	16-60	> 60	NOT STATED	
S. abony	2					2				1		1			2
S. adelaide	5					5			3	2					22
S. anatum	9	1	4	1		3			2		2	4		1	22
S. bahrenfeld	1					1				1					12
S. bareilly	1				1								1		4
S. birkenhead	1			1							1				4
S. bovis-morbificans	12	3	7		1	1			6	2	1		3		45
S. bredeney	3	2				1				3					19
S. brisbane	2				1	1			1				1		3
S. chester	13			2	2	7		2	2	4		6		1	32
S. cholerae-suis	1						1						1		1
S. derby	18	3	10			4	1		3	3	2	8	1	1	48
S. enteritidis	1		1							1					11
S. give	5		1			4			1	1		1		2	10
S. hador	2		2							1		1			2
S. havana	10	1	5	1	3				3	4		2		1	35
S. infantis	9	7		1	1					3		6			16
S. jangwani	2					1		1		1		1			9
S. kettbus	1				1				1						1
S. krefeld	1	1										1			1
S. kinondoni	1							1		1					1
S. lansing	2					2			2						6
S. litchfield	7		1	1		2		3	1	3	1	2			14
S. meleagridis	1		1									1			3

HUMAN SALMONELLOSIS CASES

PERIOD JUNE. 1978

SEROTYPE	TOTAL	NSW & ACT	VIC	QLD	SA	WA	TAS	NT	AGE						CUMUL TOT
									< 1	1-5	6-15	16-60	> 60	NOT STATED	
S. mississippi	2				2							1		1	5
S. muenchen	8	3	1			4			4	4					29
S. newington	1					1				1					3
S. newport	13	6	2	5					1	7	1	1		3	31
S. onderstepoort	1							1	1						1
S. oronienburg	1					1			1						9
S. orientalis	2			1		1			1		1				7
S. orion	3	1				2					1		1	1	6
S. paratyphi-B	1				1					1					3
S. ramatgan	1					1			1						1
S. saint-paul	24		1	1	1	21			3	6	2	11	1	1	66
S. senftenberg	1	1										1			11
S. stanley	1		1						1						2
S. tennessee	3					3				2				1	9
S. typhi	1					1						1			21
S. typhimurium	130	47	32	5	11	28	3	4	18	52	18	28	5	9	374
S. virchow	4			4					1	1		1		1	25
S. waycross	1			1									1		2
S. wordsworth	6					6			5	1					26
S. welikade	1					1				1					4
S. weltevreden	1							1				1			3
TOTAL	316	76	69	24	25	104	5	13	62	107	30	79	15	23	

COMMONWEALTH DEPARTMENT OF HEALTH

NOTIFIABLE DISEASES IN THE STATES AND TERRITORIES OF AUSTRALIA

Cases reported during the week ended, 9/6/'78

LIST A. Communicable diseases notified by medical practitioners, hospitals or diagnostic laboratories.

DISEASE	CASES NOTIFIED DURING WEEK								CUMULATIVE TOTAL - year to date*							
	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.
ACUTE RHEUMATISM (including Chorea)	N.N.				N.N.	N.N.		1	N.N.				N.N.	N.N		9
ANTHRAX																
BRUCELLOSIS	2								12	4	2	7				
CHOLERA																
DIARRHOEA, INFANTILE		N.N.			N.N.	N.N.		38	98	N.N.			N.N.	N.N	5	389
DIPHTHERIA																
DYSENTERY, BACILLARY (clinical diagnosis only)	N.N.	1			1	N.N.		1	N.N.	18			60	N.N		62
ENCEPHALITIS (not included under B)		1				N.N.			2	4	4			N.N		
FOOD POISONING (occuring in 2 or more associated cases)			N.N.	N.N.	N.N.		N.N.		95	2	N.N.	N.N.	N.N.		N.N.	
GONORRHOEA	91	42		16	46	5	7	13	2028	1088		593	625	106	99	332
HEPATITIS, INFECTIVE(icteric form only)	15	23	3	2	2	2		3	473	* 297	220	42	142	41	26	27
HEPATITIS, SERUM (homologous)	5	6	2	4					112	108	52	60	11		5	7
LEPROSY					2				3	1	7		10			
LEPTOSPIROSIS			1								7	7	1			
PARATYPHOID FEVER		N.N.							3	N.N.						
PLAGUE																
POLIOMYELITIS																
PUERPERAL FEVER	N.N.								N.N.		1		2			5
RUBELLA	N.N.	1			N.N.	N.N.			N.N.	24		1	N.N.	N.N		
SCARLET FEVER	N.N.	4				N.N.			N.N.	20			3	N.N		
SMALLPOX																
SYPHILIS	11	3		5	7			9	353	54		92	138	1	2	254
TETANUS									3	2	2					
TRACHOMA		N.N.	N.N.		N.N.					N.N.	N.N.		N.N.			4
TUBERCULOSIS (all forms)	2	6	4	2				4	219	* 119	88	36	79	9	4	13
TYPHOID FEVER					1				6	3			2			
TYPHUS																
YELLOW FEVER																

9/6/'78

LIST B COMMUNICABLE DISEASES AND AGENTS NOTIFIED AFTER HOSPITAL AND LABORATORY DIAGNOSIS

DISEASES	CASES NOTIFIED DURING WEEK								CUMULATIVE TOTAL - year to date*							
	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.
AMOEBIASIS	N.N.		1						N.N.	1	3		2			
ANKYLOSTOMIASIS	N.N.		2						N.N.		3		3			*68
ARBO VIRUS INFECTION			N.N.		N.N.						N.N.		N.N.			
DENGUE					N.N.					1			N.N.			
MURRAY VALLEY ENCEPHALITIS			N.N.	N.N.	N.N.		N.N.				N.N.	N.N.	N.N.		N.N.	
OTHER (STATE TYPE)				N.N.	N.N.		N.N.					N.N.	N.N.		N.N.	
HYDATID									4	2		1				
MALARIA	4	3					1		29	23	37	6	15		8	4
ORNITHOSIS (PSITTACOSIS, etc)																
Q. FEVER							N.N.	1	11	7	133	10			N.N.	1
SALMONELLA (LABORATORY ISOLATES)	22	8	3	4	1	1		3	700	106	64	173	111	21	17	59
SHIGELLA (LABORATORY ISOLATES)	N.N.			1				8	N.N.		41	14			1	121

N.N. - NOT NOTIFIABLE
* - INCLUDES ADJUSTMENTS FOR REVISED DIAGNOSIS OR OTHER AMENDMENT.
QLD. (+) - MONTHLY NOTIFICATION OF GONORRHOEA AND SYPHILIS.

Director-General of Health

COMMONWEALTH DEPARTMENT OF HEALTH

NOTIFIABLE DISEASES IN THE STATES AND TERRITORIES OF AUSTRALIA

Cases reported during the week ended, 2/6/'78

LIST A. Communicable diseases notified by medical practitioners, hospitals or diagnostic laboratories.

DISEASE	CASES NOTIFIED DURING WEEK								CUMULATIVE TOTAL - year to date*							
	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.
ACUTE RHEUMATISM (including Chorea)	N.N.				N.N.	N.N.			N.N.				N.N.	N.N		8
ANTHRAX																
BRUCELLOSIS		1							10	4	2	7				
CHOLERA																
DIARRHOEA, INFANTILE		N.N.			N.N.	N.N.		15	98	N.N.			N.N.	N.N	5	351
DIPHTHERIA																
DYSENTERY, BACILLARY (clinical diagnosis only)	N.N.	3				N.N.		6	N.N.	17			59	N.N		61
ENCEPHALITIS (not included under B)						N.N.			2	3	4			N.N		
FOOD POISONING (occuring in 2 or more associated cases)	3		N.N.	N.N.	N.N.		N.N.		95	2	N.N.	N.N.	N.N.		N.N.	
GONORRHOEA	45	30		22	9	4		15	1937	1046		577	579	101	92	319
HEPATITIS, INFECTIVE (icteric form only)	7	13	10	3	2	5		1	458	275	217	40	140	39	26	24
HEPATITIS, SERUM (homologous)	6	1	4	2				1	107	102	50	56	11		5	7
LEPROSY									3	1	7		8			
LEPTOSPIROSIS											6	7	1			
PARATYPHOID FEVER		N.N.							3	N.N.						
PLAGUE																
POLIOMYELITIS																
PUERPERAL FEVER	N.N.								N.N.		1		2			5
RUBELLA	N.N.				N.N.	N.N.			N.N.	23		1	N.N.	N.N		
SCARLET FEVER	N.N.	1				N.N.			N.N.	16			3	N.N		
SMALLPOX																
SYPHILIS	4	3			2			12	342	51		87	131	1	2	245
TETANUS									3	2	2					
TRACHOMA		N.N.	N.N.		N.N.					N.N.	N.N.		N.N.			4
TUBERCULOSIS (all forms)	6		15		2		1	1	217	118	84	34	74	9	4	9
TYPHOID FEVER		1							6	3		1	1			
TYPHUS																
YELLOW FEVER																

2/6/'78

LIST B COMMUNICABLE DISEASES AND AGENTS NOTIFIED AFTER HOSPITAL AND LABORATORY DIAGNOSIS

DISEASES	CASES NOTIFIED DURING WEEK								CUMULATIVE TOTAL - year to date*							
	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.
AMOEBIASIS	N.N.								N.N.	1	2		2			61
ANKYLOSTOMIASIS	N.N.								N.N.		1		3			
ARBO VIRUS INFECTION			N.N.		N.N.						N.N.		N.N.			
DENGUE					N.N.					1			N.N.			
MURRAY VALLEY ENCEPHALITIS			N.N.	N.N.	N.N.		N.N.				N.N.	N.N.	N.N.		N.N.	
OTHER (STATE TYPE)				N.N.	N.N.		N.N.					N.N.	N.N.		N.N.	
HYDATID									4	2		1				
MALARIA	1	1	1	1					25	20	37	6	15		7	4
ORNITHOSIS (PSITTACOSIS, etc)																
Q. FEVER			1				N.N.		11	7	133	10			N.N.	
SALMONELLA (LABORATORY ISOLATES)	26	18	1	2	6	2		4	678	98	61	169	116	21	17	56
SHIGELLA (LABORATORY ISOLATES)	N.N.							6	N.N.			13			1	113

N.N. - NOT NOTIFIABLE
* - INCLUDES ADJUSTMENTS FOR REVISED DIAGNOSIS OR OTHER AMENDMENT.
QLD. (+) - MONTHLY NOTIFICATION OF GONORRHOEA AND SYPHILIS.

Director-General of Health

COMMONWEALTH DEPARTMENT OF HEALTH

NOTIFIABLE DISEASES IN THE STATES AND TERRITORIES OF AUSTRALIA

Cases reported during the week ended, 26/5/'78...

LIST A. Communicable diseases notified by medical practitioners, hospitals or diagnostic laboratories.

DISEASE	CASES NOTIFIED DURING WEEK								CUMULATIVE TOTAL - year to date*							
	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.
ACUTE RHEUMATISM (including Chorea)	N.N.				N.N.	N.N.		1	N.N.				N.N.	N.N		8
ANTHRAX																
BRUCELLOSIS									10	3	2	7				
CHOLERA																
DIARRHOEA, INFANTILE	6	N.N.			N.N.	N.N.		10	98	N.N.			N.N.	N.N	5	336
DIPHTHERIA																
DYSENTERY, BACILLARY (clinical diagnosis only)	N.N.	1				N.N.		1	N.N.	14			59	N.N		55
ENCEPHALITIS (not included under B)						N.N.			2	3	4			N.N		
FOOD POISONING (occuring in 2 or more associated cases)			N.N.	N.N.	N.N.		N.N.		92	2	N.N.	N.N.	N.N.		N.N.	
GONORRHOEA	119	57	185+	25	37	6	4	21	1892	1016	*957	555	570	97	92	304
HEPATITIS, INFECTIVE (icteric form only)	15	6	7	1	5		1	2	451	*262	207	37	138	34	26	23
HEPATITIS, SERUM (homologous)	7	4	1	1	1			3	101	101	46	49	11		5	6
LEPROSY									3	1	7		8			
LEPTOSPIROSIS											6	7	1			
PARATYPHOID FEVER		N.N.							3	N.N.						
PLAGUE																
POLIOMYELITIS																
PUERPERAL FEVER	N.N.							1	N.N.		1		2			5
RUBELLA	N.N.				N.N.	N.N.			N.N.	23			N.N.	N.N		
SCARLET FEVER	N.N.	2				N.N.			N.N.	15			3	N.N		
SMALLPOX																
SYPHILIS	36	6		1	6			12	338	48		87	129	1	2	233
TETANUS									3	2	2					
TRACHOMA		N.N.	N.N.		N.N.					N.N.	N.N.	*463	N.N.			4
TUBERCULOSIS (all forms)	15	2	104+	4	1	2			211	118	69	34	72	9	3	8
TYPHOID FEVER	1				1				6	2		1	1			
TYPHUS																
YELLOW FEVER																

26/5/'78

LIST B COMMUNICABLE DISEASES AND AGENTS NOTIFIED AFTER HOSPITAL AND LABORATORY DIAGNOSIS

DISEASES	CASES NOTIFIED DURING WEEK								CUMULATIVE TOTAL - year to date*							
	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	A.C.T.	N.T.
AMOEBIASIS	N.N.								N.N.	1	2		2			
ANKYLOSTOMIASIS	N.N.		1						N.N.		1		3			61
ARBO VIRUS INFECTION			N.N.		N.N.						N.N.		N.N.			
DENGUE					N.N.					1			N.N.			
MURRAY VALLEY ENCEPHALITIS			N.N.	N.N.	N.N.		N.N.				N.N.	N.N.	N.N.		N.N.	
OTHER (STATE TYPE)				N.N.	N.N.		N.N.					N.N.	N.N.		N.N.	
HYDATID	2								4	*2		1				
MALARIA		2			2			3	24	19	36	5	15		7	4
ORNITHOSIS (PSITTACOSIS, etc)																
Q. FEVER			4				N.N.		11	7	132	10			N.N.	
SALMONELLA (LABORATORY ISOLATES)	13	4	2	4	6	1	2	3	652	80	60	167	110	19	17	52
SHIGELLA (LABORATORY ISOLATES)	N.N.		1					13	N.N.		41	13			1	107

N.N. - NOT NOTIFIABLE
* - INCLUDES ADJUSTMENTS FOR REVISED DIAGNOSIS OR OTHER AMENDMENT.
QLD. (+) - MONTHLY NOTIFICATION OF GONORRHOEA AND SYPHILIS.

N.B. Notifications by Queensland for gonorrhoea and syphilis are for the month of May.

Director-General of Health