AUSTRALIA

Communicable Diseases Intelligence

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Contents:

VIRUS REPORTING SCHEME - A total of 888 reports were received this period. Reports of interest include four diagnoses of arbovirus infection contracted earlier this year:

. Australian encephalitis was confirmed by the State Health Laboratory, Brisbane, in a two year old girl from Claraville Station, Croydon. She became ill on 2 April 1981 with fever, lymphadenopathy and a clear viral meningoencephalitis. A serum sample taken on 24 April gave an HI titre of 1/320 with specific IgM against MVE virus. The diagnosis was confirmed by the Queensland Institute of Medical Research who reported a rise in CF antibody of 1/32 to 1/128 in consecutive serum samples (24 April and 8 June). Eleven cases of Australian encephalitis have been reported to the CDI in 1981.

. Two unresolved indigenous group B arbovirus infections were reported by the same laboratory. A serum sample taken on 14 April from a 58 year old female from Townsville had specific IgM against dengue virus, but also had high HI and CF antibody titres ($\geq$ 1/128) to all group B arboviruses tested. Similarly, serum samples taken on 23 April and 14 May from a 36 year old female from Mossman had HI titres of 1/1280 and 1/5120 against MVE virus respectively, but no IgM.

. Fairfield Hospital, Melbourne, reported the third possible case of epidemic polyarthritis from Tasmania. A 32 year old male duckshooter from Launceston presented with joint pains on 1 April. A serum sample taken on 14 July showed HI antibody to group A arbovirus, but no IgM was detected.

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Alternatively, in a control group of subjects with no history of TSS, 78.6% had antibodies to SEF, of which 50% had titres $\geq$ 1/1000. This finding suggested that SEF was more immunogenic among persons in the control group following exposure to other staphylococcal infection or concievably mild TSS at some early date. However, TSS patients developed a poor response to SEF, and remained susceptible to recurrence.

References

1. NEJM (1980) 303 : 1429

2. Lancet (1981) 1 : 1017

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HUMAN SALMONELLOSIS SURVEILLANCE

(Contributed by C. Beaton and J. Taplin, Microbiological Diagnostic Unit, University of Melbourne).

This issue contains reports tabulating the identification of salmonellas, shigellas and campylobacters isolated from humans in Australia for the first quarter of 1981. During the period, 1658 salmonella (89 serotypes), 260 shigella and 117 campylobacter isolations were reported.

The C. fetus and C. jejuni isolates were reported for the first time from all States, and although the nomenclature for the organism unfortunately varies with different States, improved isolation techniques have resulted in varied places of isolation indicating its ubiquitous presence. Nearly half the cases were symptomatic. In a preliminary survey conducted by the State Health Laboratory Services, Perth, 40/40 cloacal swabs from broilers presented for slaughter were positive for campylobacter. In addition, 12/20 finished carcases were positive.

Shigella isolates were also reported for the first time from Western Australia, including 28 isolates of Sh. flexneri 2A of which 12 were resistant to ampicillin, sulphamethoxazole and trimethoprim. One patient infected with this strain subsequently died (see also CDI 81/10). A large number of Sh. sonnei biotype A isolations were made from a Victorian pyschiatric hospital. The isolations occurred over several weeks involving 78 patients and six staff members, including two from another hospital where patients were sent. The problem was eventually contained by increased awareness by the staff, and the improved hygiene.

The 12 reports of S. typhi include the isolation of S. typhi N from a ten year old girl, her mother and her father. The child had raised tites to "O" and "H" antigens, but her only symptom was constipation. The father had typhoid 28 years previously. S. typhi 27 was isolated from a six year old girl and a 23 year old female in the same family following their return from Lebanon.

Other salmonella reports of interest include 37 cases of S. adelaide infection, of which 16 were from New South Wales. Although the number of isolates from other States are consistent with previous records, in 27 cases the age of the patients was less than two years. Only three cases were in adults. This serotype has been reported from dairy products and kangaroo meat on previous occasions, and investigations are proceeding to determine the possible source of this increase.

A similar increase has been recorded for S. kinondoni. There were no reports of this serotype in 1980. The 14 cases this quarter emanated from Casuarina, Northern Territory, and Penrith, New South Wales. All cases were in children under two years, except for the mother of one of the children. This serotype is unusual, although it is frequently isolated from lizards. The age grouping of the patients suggests a common source. It had been isolated from an Indo-Chinese refugee prior to this national reporting scheme. S. weltervreden also showed a slight increase in the Northern Territory, and although this serotype is common to the region, the increase may possibly be related to the S. kinondoni outbreak.

In Western Australia the increase in S. senftenberg reports was due to contaminated smallgoods. The increase was first noted during routine sewage monitoring by the State Health Laboratory Services, Perth, and was subsequently traced to a smallgoods factory (see also CDI 81/5). Investigation showed contamination of the goods, and 12 of the food-handlers recognized as excretors. At this time the first isolations were made from symptomatic patients, but the closure and cleaning of the

factory averted further infection of the community. Twenty-two isolations were also made from Indo-Chinese refugees, but since this is a common serotype from this population, it is unlikely that they were linked to the smallgoods incident.

Other serotypes that exhibited regional and/or isolation frequency variation include an increase of S. muenchen in Western Australia, a decrease of S. saint-paul in South Australia, and a slight increase of S. kottbus in all States. S. virchow showed an increased isolation rate in Queensland for the quarter, although the same increase occurred in the same period last year (48 reports of which 38 were symptomatic, compared with 47 for 1980). A further nine cases of S. mississippi were reported from Tasmania, which is the only State from which this serotype has been isolated. Five symptomatic cases of S. braenderup were reported from NSW, compared with only one report in 1980. Similarly there were two cases of S. johannesburg from a family in Townsville, Queensland, compared with one report from New South Wales in 1980. The symptomatic index case also yielded S. adelaide.

Three phage types of S. typhimurium showed increases this quarter; - 15 reports of phage type 141 from New South Wales compared with zero for the two previous quarters; seven reports of phage type 16 and 11 reports of phage type 23, ten of which were linked to a food poisoning incident.

The following serotypes were isolated for the first time under this reporting scheme; - S. blukwa (Western Australia); S. brisbane (Western Australia); S. elizabethville (Victoria, but infection acquired overseas); S. galiema (Northern Territory); S. gaminara (South Australia); S. hessarek (Western Australia); S. lanka (Northern Territory); S. mendoza (New South Wales, but infection acquired overseas); S. raus (New South Wales); S. reading (Queensland); S. richmond (Northern Territory); S. treforest (Western Australia) and S. zanzibar (Victoria and Queensland).

PRIMARY AMOEBIC MENINGOENCEPHALITIS - NEW SOUTH WALES

(Contributed by P. Christopher and D. Fox, Health Commission of New South Wales; P. Procopis, Royal Alexandra Hospital for Children, Sydney; J. Stuart, Manning River District Hospital, Taree, New South Wales).

On 1 February 1981, a three year old boy was admitted to the Manning River District Hospital with neck stiffness and drowsiness, but without signs of raised intracranial pressure. Three days prior to admission the child had complained of abdominal pain, nausea and was noted to be febrile and drowsy. The abdominal pains became more severe, vomiting occurred, his temperature remained elevated and he complained of headache.

Lumbar puncture showed 1,200 white cells with 90% polymorphs, sugar 4.6 m mol/L and raised protein of 2.1 gm/L. Gram stain was negative, and no cultures were obtained. He was treated with ampicillin, but because of his deterioration, chloramphenicol was added the next day. His condition further deteriorated with a decreasing level of consciousness. There were episodes of stiffening with arching of the back, apnoea and some convulsive movements. Dilantin and mannitol were administered, and the child was transferred on 2 February to the Royal Alexandra Hospital for Children, Sydney. Examination on arrival showed he was hyperventilating, in shock, unconscious and with no response to pain. The pupils were equal, measured 6 mm in diameter, and reacted to light. Fundi were normal. During a C.T. scan he had a cardiac arrest and was resuscitated. The intracranial pressure was monitored, and a brain biopsy taken because of his continued deterior-

ation and suspicion of herpes simplex encephalitis. There was no evidence of herpes simplex by immunofluorescence. The child died on 3 February 1981. Amoeboid forms, that fitted the characteristics of Naegleria fowleri, were evident in histopathology sections of the brain on follow-up examination.

Four days before becoming ill, it was reported that the child had been swimming at a pool in Richmond, near Sydney. Water samples from the pool and filter were referred to the State Water Laboratory, Engineering and Water Supply Department, Adelaide. Strains of amoebae of the genus Naegleria were isolated from both the pool and filter water. Tests to determine whether these strains of amoebae were of the pathogenic N. fowleri species are still underway. Tests on the water along points of the same reticulated water supply as the pool were negative for the organism. Although these environmental investigations commenced one month following the child's death when the histopathology results became available, the isolation of amoebae of the Naegleria species is sufficient evidence that the organisms were present a month earlier. In addition, the pool had a poor maintenance history.

Primary amoebic meningoencephalitis is a rare disease with only about 100 cases reported in the literature worldwide,[1] and 17 cases occurring in Australia in the last 25 years[2]. The mode of infection is presumed to be through the cribriform plate during swimming. This appears to be the first case recorded in New South Wales. Although it has been reported that 10 p.p.m. chlorine is ineffective against the organism[3], in vitro studies have shown that 0.5 p.p.m. residual free chlorine with a contact time of 30 minutes will kill 99% of cystic forms of N. fowleri[4]. In New South Wales, the recommended standard for chlorinated outdoor pools without cyanurate is not less than 1 p.p.m. of free chlorine. For chlorinated pools with cyanurate the level of free chlorine should be in the range of 3-4 p.p.m. There are also criteria and ranges for levels of cyanurate, total nitrogen, pH and reserve alkalinity.

References

1. CDI (1980) 80/3 : 2
2. CDI (1981) 81/2 : 6
3. Control of Communicable Diseases in Man (1975) 12th Edition, Ed. A. Benenson. American Public Health Association. pp. 6-8.
4. Robinson B. Effect of Chlorine on Naegleria fowleri (1978) Water and Sewage Treatment Branch, Engineering and Water Supply Department, South Australia.

THE OCCURRENCE OF GROUP B STREPTOCOCCAL SEROTYPES IN MELBOURNE

(Contributed by S.M. Garland, G.L. Gilbert and J. Fairbairn, Royal Women's Hospital, Melbourne).

During 1979 there was an unprecedented increase in the number of serious neonatal infections diagnosed as group B streptococcus (GBS) at the Royal Women's Hospital, Melbourne. Eighteen babies were infected with seven deaths compared with an average of two to three cases in previous years.

Accordingly, a study was initiated in 1980 to examine the epidemiology of this infection, which included the antenatal screening of pregnant women at 32 weeks gestation. Low vaginal swabs were taken and inoculated directly into a GBS enrichment broth. In addition, cultures were taken from babies soon after birth where mothers had been shown to be GBS carriers at this screening, and from all other babies in whom neonatal sepsis was suspected. In the latter half of 1980, all GBS isolates

made at the Royal Children's Hospital, Melbourne, were also referred to the laboratory for serotyping. Isolates were serotyped by a coagglutination method using rabbit antisera against the major polysaccharide type specific antigens. The majority of isolates were grouped into one of five serotypes, Ia, Ib, Ic, II and III.

During 1980 more than 1,200 isolates of GBS were serotyped, of which 1,003 were from vaginal or cervical swabs taken in the antenatal screening program, or from routine swabs forwarded to the laboratory for culture. Fifty-four isolates were from patients with urinary tract infections. Ninety-seven isolates were from infants less than one year old. This population was subdivided into neonates less than one week old who were presumed to be infected or colonised from the mother's genital tract, and infants older than one week who were presumably colonised from other sources.

GBS type III accounted for about 25% of the isolates, with type Ic only a little less frequent. These percentages are consistent with other studies. However, there was a very marked monthly variation in the frequency of different serotypes. Type III organisms varied from 6% of the total isolates in April to 37% in October. Type Ia was the least common serotype over the whole year, but accounted for 20-25% of isolates during the first five months of 1980. Type II exhibited little variation, whereas type Ib was slightly more frequent in the middle of the year, and type Ic which was common throughout the year, reached a peak in March of 42% of total isolates.

The vaginal carriage rate of GBS in pregnant women averaged 12%, with a variation of 8-18% in different months. The marked variation in serotype frequencies suggested that long term carriage of the same serotype was relatively uncommon, and involved only about 5% of the population studied. However, it was shown to be fairly persistent when it did occur. GBS type III (50%) and type II (25%) were the most common strains to be isolated on more than one occasion, implying that these two serotypes were more likely to be involved in persistent carriage. In addition, the distribution of serotypes among the 56 colonised infants agreed with the vaginal carriage rates and the serotypes associated with long term carriage, since type III organisms were isolated twice as frequently as other serotypes.

During 1980, 24 isolates of GBS were taken from babies who were judged to have had significant intrauterine or early neonatal infection. The source of these infections was presumed to be the mothers' genital tract. GBS was isolated from tissues of four stillborn infants. In two infants there was good evidence of intrauterine infection; the role of GBS as the cause of death was suspected but not confirmed in the other two cases. In the liveborn infants, 13 presented with pneumonia, with or without septicaemia, two with urinary tract infections, one with meningitis with septicaemia, and four with fairly mild undifferentiated infection. These latter babies had been given antibiotics immediately after birth so partially masking or aborting infection. The serotypes involved in these perinatal infections revealed a higher than expected frequency of serotypes Ic and II, but a relatively low incidence of type III organisms when compared with the isolation frequency from colonised infants. However, there was an increased frequency of infection due to type III strains in December, even though the majority of infections were due to other serotypes. In 1979 the distribution of GBS serotypes involved in neonatal infection focused principally on type III and type Ia strains.

Ten infants with presumed late onset GBS infection were referred from the Royal Children's Hospital. GBS was isolated from autopsy specimens taken from four infants who had died suddenly and unexpectedly. Although the significance of these isolations is debatable, three of the strains were type Ia, and occurred in July. The fourth serotype was type II, and occurred in June. The other infections included two cases of meningitis due to type Ib and Ic respectively, two respiratory infections due to type III, one impetigo and one urinary tract infection each due to type II.

In the last two years, GBS isolates from five infants with meningitis have been serotyped. Two infants had early onset infection occuring within a few hours of birth, and three infants became ill several weeks or months after birth. Only one episode of meningitis was attributed to GBS type III, which is the serotype diagnosed in 90% of meningitis cases in most other studies. It is not clear whether this low incidence of type III meningitis is simply due to the small number of cases studied, or whether it represents a seasonal or geographical difference in the aetiology of this infection.

RECURRENCE OF TOXIC SHOCK SYNDROME (TSS) - WESTERN AUSTRALIA

(Contributed by M.F. Quinlan and G. Hookway, St John of God Medical Centre, Perth).

Severe TSS was reported in 30 year old woman following normal menstruation in March 1981 (case 3, see CDI 81/5). S. aureus phage type 29/52 was isolated from a vaginal swab. Following recovery, cloxacillin was given for two months until a high vaginal swab was negative. The patient did not use tampons again, and remained well except for recurrent mild acneform-type pustules on her back which she had not had since adolescence.

On 6 August, the patient experienced a recurrence of TSS. She initially presented with a very severe sore throat without exudate a few days before menstruation. Amoxil was administered, but the sore throat continued. She became nauseated and developed an erythematous rash over her trunk and perineum. No superimposed pustular vesicles were evident on this occasion. Her temperature was 38.5°C, and she had a tachycardia. However, there was no evidence of shock, and electrocardiography showed no sign of myocarditis.

Blood specimens and swabs from the vagina, skin and throat were taken, and the patient given IV cloxacillin. The following day her temperature settled, the nausea disappeared and the erythema began to fade. She was discharged on 12 August on a two month regimen of cloxacillin.

S. aureus phage type 29/52 was isolated only from the nasal swab. S. epidermidis was cultured from the skin and vagina, and a Bacteriodes species from the throat.

Editorial Comment

No recurrences have been reported in the other Australian cases of TSS to date. However, reports from the United States have shown that there is a high recurrence rate of approximately 30%, particularly if the vaginal cultures continue to grow S. aureus.(1) Subsequent attacks are usually milder, and appear eventually to die out. It has recently been suggested that staphylococcal enterotoxin F (SEF) may cause the signs and symptoms of TSS(2). In addition, study showed that only 10% of TSS patients developed anti-SEF antibodies to titres of $\geq$ 1/1000, and that 46.7% of patients failed to develop antibody to a 1/5 dilution.

(continued on page 1)

HUMAN SALMONELLOSIS CASES

Period January - March 1981

Serotype	Total	NSW & ACT	VIC	QLD	SA	WA	TAS	NT
S. abony	3	1		1		1		
S. adelaide	37	17	2	5	2	7		4
S. agona	8	1	5					2
S. anatum	44	6	4	16	4	11		3
S. arizonae	3			1		1		1
S. bahrenfeld	3					2		1
S. ball	2			1		1		
S. birkenhead	20	6	3	7	3		1	
S. blockley	2		1			1		
S. blukwa	1					1		
S. bovis-morbificans	58	23	4	7	19	5		
S. braenderup	5	5						
S. bredeney	9	2			2	1	3	1
S. brisbane	1					1		
S. bukavu	1					1		
S. cerro	4		4					
S. chester	62	14	8	8	6	14		12
S. cholera suis	1			1				
S. derby	20	7	6	1	3	3		
S. eastbourne	7	2		3		1		1
S. eimsbeuttel	1			1				
S. elizabethville	1		1					
S. emmastad	1					1		
S. enteritidis	13	2	3	8				
S. galiema	1							1
S. gaminara	2				2			
S. give	15	4	1	1	2	5		2
S. haifa	1					1		
S. havana	54	5	11	10	5	7		16
S. heidelberg	3	1	1	1				
S. hessarek	1					1		
S. hvittingfoss	3			2		1		
S. infantis	35	9	14	2	3	2		5
S. isangi	1	1						
S. jangwani	1					1		
S. java	4			3				1
S. java - untypable	4		1		3			
S. java - 1 var 6	1				1			
S. javiana	3					3		
S. johannesburg	2			2				
S. kimberley	1					1		
S. kinondoni	14	1						13
S. kottbus	16	1	1	5	5	4		
S. lanka	1							1
S. lansing	10			8		1		1
S. litchfield	10	1		3		1		5
S. livingstone	3					3		
S. lombruegge	1			1				

HUMAN SALMONELLOSIS CASES

Period January - March 1981

Serotype	Total	NSW & ACT	VIC	QLD	SA	WA	TAS	NT
S. meleagridis	3		2				1	
S. mendoza	1	1						
S. mississippi	9						9	
S. montevideo	1	1						
S. muenchen	65	6	1	6	9	37		6
S. new brunswick	1				1			
S. newington	2			2				
S. newport	17	9	2	2	4			
S. ohio	4							4
S. ohlstedt	3					2		1
S. ondersterpoort	1							1
S. oranienburg	14	6		1		4		3
S. orientalis	4	2		1		1		
S. orion	7			4		1		2
S. oslo	5	3		1	1			
S. panama	3	2	1					
S. paratyphi A	4	1			1	2		
S. paratyphi A2	3	3						
S. paratyphi B	1					1		
S. paratyphi dun V1	2	2						
S. paratyphi B untypable	4	4						
S. paratyphi C	1					1		
S. potsdam	19	4		8	4	3		
S. raus	1	1						
S. reading	1			1				
S. richmond	1							1
S. rubislaw	5					1		4
S. saint paul	65	2	8	26	15	10		4
S. schwarzengrund	4		4					
S. senftenberg	102	3		2		96		1
S. singapore	16	8	2	1	4	1		
S. sofia	2	2						
S. stanley	1							1
S. tenessee	12	1	1			8		2
S. thompson	1			1				
S. treforest	2					2		
S. typhi*	12	6	1	5				
S. typhimurium*	638	208	166	47	117	81	10	9
S. untypable rough: F,G:-	1		1					
S. untypable 1,4,5,12:1,2	1		1					
S. untypable	14	4		2	1	4	1	2
S. urbana	7	3		1		2		1
S. victoria	3	2	1					
S. virchow	58	5	3	48		2		
S. wandsbek	4				1	3		
S. wandsworth	5					5		
S. warragul	1	1						
S. waycross	8	5		3				
S. welikade	1					1		

HUMAN SALMONELLOSIS CASES

Period January - March 1981

Serotype	Total	NSW & ACT	VIC	QLD	SA	WA	TAS	NT
S. weltevreden	17		1		1	2		13
S. zanzibar	2		1	1				
S. 4,12:D:-	5	3			1			1
TOTAL	1,658	407	266	261	220	353	25	126
S. typhimurium*								
S. typhimurium	33	8	5			20		
S. typhimurium UDNC	17	8	7	1	1	1		
S. typhimurium untypable	57	14	31	3	6		3	
phage type 1	9	5	1	1		2		
phage type 3	2			2				
phage type 4	12	7	2	2	1			
phage type 5	6	1	1	1	2			1
phage type 6	14	1	1	2	8			2
phage type 8	4			1	2	1		
phage type 9	45	4	2	4	23	12		
phage type 12	8		6		2			
phage type 12A	31	7	6	5	10	3		
phage type 16	7				7			
phage type 20	1						1	
phage type 21	2	1			1			
phage type 22	18	7		4	1	5		1
phage type 23	11	10				1		
phage type 24	6	4	1		1			
phage type 25	7			1		6		
phage type 26	34	12	11			10		1
phage type 27	16	5	5	1	3	1		1
phage type 35	4	4						
phage type 41	1		1					
phage type 44	26	5	12	1	8			
phage type 58	2					2		
phage type 64	9	1		1	6	1		
phage type 66	2	2						
phage type 68	1		1					
phage type 70	1				1			
phage type 72	3				3			
phage type 86	1				1			
phage type 90	8	1		1	5			1
phage type 92	2	1		1				
phage type 99	1	1						
phage type 101	28	10	10	2	4			2
phage type 102	3	3						
phage type 108	3	1	2					
phage type 121	1	1						
phage type 124	1	1						
phage type 126	2	1	1					
phage type 127	3		1		2			

HUMAN SALMONELLOSIS CASES

Period January - March 1981

Serotype	Total	NSW & ACT	VIC	QLD	SA	WA	TAS	NT
phage type 135	65	25	26	2	3	4	5	
phage type 141	22	15	3	1	3			
phage type 145	1	1						
phage type 154	3				3			
phage type 156	2				2			
phage type 170	16	12	2		2			
phage type 175	1				1			
phage type 176	2	1		1				
phage type 179	53	5	21	9	5	12	1	
phage type 182	14	14						
phage type 183	10	4	6					
phage type 185	3	2	1					
TOTAL	638	208	166	47	117	81	10	9
S. typhi*								
S. typhi A	2	1		1				
S. typhi D4	1	1						
S. typhi E1	1	1						
S. typhi M4	1		1					
S. typhi N	3			3				
S. typhi untypable VI neg	1			1				
S. typhi 27	3	3						
TOTAL	12	6	1	5				
Shigellae								
Sh. boydii 4	1		1					
Sh. boydii 10	1		1					
Sh. dysenteriae 9	1		1					
Sh. flexneri 1A	1		1					
Sh. flexneri 2	1	1						
Sh. flexneri 2A	51		3			39		9
Sh. flexneri 3A	4		2		1	1		
Sh. flexneri 4A	3		2	1				
Sh. flexneri 6	30		1			25		4
Sh. sonnei BIO A	162	5	114	2	6	26		9
Sh. sonnei BIO C	2	1						1
Sh. sonnei BIO G	3		3					
TOTAL	260	7	129	3	7	91		23
Campylobacter								
C. fetus sp.	82		3		2	77		
C. jejuni	35	4	10	21				
TOTAL	117	4	13	21	2	77		

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

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REPORTING PERIOD - 6-8-81 - 19-8-81 BULLETIN NUMBER . 81/17

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES

VIRUS OR VIRAL ANTIGEN	ICPMR (NSW)/ WVH (ACT)	RAHC (NSW)	PHH/ POW (NSW)	FAIR-FIELD (VIC)	RCH (VIC)	IMVS (SA)	STATE LAB (QLD)	STATE LAB (WA)	Total
0100 ADENOVIRUS NOT TYPED.....	9		2				2	2	15
0101 ADENOVIRUS TYPE 1.....					3	1			4
0102 ADENOVIRUS TYPE 2.....	2		1	1	5				9
0103 ADENOVIRUS TYPE 3.....				1		2			3
0104 ADENOVIRUS TYPE 4.....				1					1
0105 ADENOVIRUS TYPE 5.....	1			1	1				3
0108 ADENOVIRUS TYPE 8.....				1					1
0117 ADENOVIRUS TYPE 17.....	1								1
0119 ADENOVIRUS TYPE 19.....			1						1
0199 ADENOVIRUS TYPING PENDING.....			6		7	5			18
0201 INFLUENZA A VIRUS.....	11		8	1	2	4	1	3	30
0203 INFLUENZA B VIRUS.....	1			1					2
0206 INFLUENZA A VIRUS SUBTYPE H1N1.....	4	1		12	6		3		26
0301 PARAINFLUENZA VIRUS TYPE 1.....					2	2	4	6	14
0303 PARAINFLUENZA VIRUS TYPE 3.....	2				2		1		5
0399 PARAINFLUENZA VIRUS TYPING PENDING.					5				5
0400 RESPIRATORY SYNCYTIAL VIRUS (RS)...	3	3	1	11	18	30	5	10	81
0500 RHINOVIRUS (ALL TYPES).....	1	1		5	12		2	1	22
0600 MYCOPLASMA PNEUMONIAE.....	5	1			1		4		11
0800 COXSACKIEVIRUSES GROUP A - NOT TYPED.....								1	1
0816 COXSACKIEVIRUS A16.....				1					1
0904 COXSACKIEVIRUS B4.....	1								1
0905 COXSACKIEVIRUS B5.....						1			1
1002 ECHOVIRUS TYPE 2.....	1								1
1009 ECHOVIRUS TYPE 9.....	1			1					2
1014 ECHOVIRUS TYPE 14.....					1		1		2
1017 ECHOVIRUS TYPE 17.....	1								1
1022 ECHOVIRUS TYPE 22.....					4				4
1023 ECHOVIRUS TYPE 23.....					1				1
1030 ECHOVIRUS TYPE 30.....				1					1
1101 POLIOVIRUS TYPE 1.....							1		1

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 2

REPORTING PERIOD - 6-8-81 - 19-8-81 BULLETIN NUMBER 81/17

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES-CONTINUED

VIRUS OR VIRAL ANTIGEN	ICPMR (NSW)/ WVH (ACT)	RAHC (NSW)	PHH/ POW (NSW)	FAIR-FIELD (VIC)	RCH (VIC)	IMVS (SA)	STATE LAB (QLD)	STATE LAB (WA)	Total
1103 POLIOVIRUS TYPE 3	1			1					2
1104 POLIOVIRUS-VACCINAL STRAIN	4				4		1		9
1200 MUMPS VIRUS	10			4	2	3		3	22
1300 HERPES VIRUS GROUP-NOT TYPED	13			1		2			16
1301 HERPES SIMPLEX VIRUS NOT-TYPED		4		1				38	43
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	8					3		3	14
1303 VARICELLA-ZOSTER VIRUS	3		4				1		8
1306 HERPES SIMPLEX TYPE 1	2		13	14		17	5		51
1307 HERPES SIMPLEX TYPE 2	29		11	26		17	14		97
1399 HERPES VIRUS TYPING PENDING			4	1	4	2			11
1401 COXIELLA BURNETI	6			1		3	6		16
1502 PICORNA VIRUS-NOT TYPED						1			1
1514 MOLLUSCUM CONTAGIOSUM				1					1
1521 MEASLES VIRUS	9	3	2		3				17
1522 RUBELLA VIRUS	2		1	2			6		11
1532 HEPATITIS B ANTIGEN	11		3	32	1	10	2	5	64
1535 HEPATITIS A ANTIBODY	1	1				2	7	10	21
1541 CHLAMYDIA A - C.TRACHOMATIS	7		3			1		25	36
1556 CMV - CYTOMEGALOVIRUS	6		3	12	8		2	6	37
1562 REOVIRUS (ALL TYPES)					1				1
1564 ROTAVIRUS	10	14	13		22	32	9	16	116
1599 ENTEROVIRUS TYPING PENDING			3		1	2			6
ARBO. GROUP A.(UNSPECIFIED)				1					1
POXVIRUS GROUP NOT TYPED				1					1
AUSTRALIAN ENCEPHALITIS							1		1
ROSS RIVER VIRUS							4	1	5
ASTROVIRUS	2								2
SMALL VIRUS (LIKE) PARTICLE						7			7
ARBO. GROUP B. ...							2		2
Total	168	28	79	136	116	147	84	130	888

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

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PERIOD : 6/8/81 to 19/8/81 .... 81/17

Viral Identifications by Clinical Information Table 1.
Code 00,99 -No ill or data; 01,02,11,12 -Respiratory; E3 -Encephalitis; M3 -Meningitis; 04 -Paralysis; 05,13 -CNS other unspec.; 07,49 -GI; 17,47 -Hepatic; 19 -CVS; 89 -Urinary; 06 -Skin/mucous.

VIRUS OR VIRAL ANTIGEN	No-ill or data	Respiratory	Encephalitis	Meningitis	Paralysis	CNS other unspec	GI	Hepatic	CVS	Urinary	Skin/mucs memb
0100 ADENOVIRUS NOT TYPED.....		1									
0101 ADENOVIRUS TYPE 1.....		3					1				
0102 ADENOVIRUS TYPE 2.....	2	3	1			1	2				
0103 ADENOVIRUS TYPE 3.....							2				
0105 ADENOVIRUS TYPE 5.....		2					3				
0201 INFLUENZA A VIRUS.....	3	19	2						2		
0203 INFLUENZA B VIRUS.....		1									
0206 INFLUENZA A VIRUS SUBTYPE H1N1		24				1					
0301 PARAINFLUENZA VIRUS TYPE 1....		13									
0303 PARAINFLUENZA VIRUS TYPE 3....		5									
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....	3	79									
0500 RHINOVIRUS (ALL TYPES).....	1	17									1
0600 MYCOPLASMA PNEUMONIAE.....	1	9									
0816 COXSACKIEVIRUS A16.....				1							
0904 COXSACKIEVIRUS B4.....		1									
0905 COXSACKIEVIRUS B5.....		1									
1002 ECHOVIRUS TYPE 2.....				1							
1009 ECHOVIRUS TYPE 9.....		1									1
1014 ECHOVIRUS TYPE 14.....	1						1				
1022 ECHOVIRUS TYPE 22.....	1	3									
1023 ECHOVIRUS TYPE 23.....							1				
1030 ECHOVIRUS TYPE 30.....				1							
1103 POLIOVIRUS TYPE 3.....		1									
1104 POLIOVIRUS-VACCINAL STRAIN....	3	1					4				
1200 MUMPS VIRUS.....	3		1	5		1					
1301 HERPES SIMPLEX VIRUS NOT-TYPED	3	1									32
1302 EPSTEIN-BARR VIRUS (EB VIRUS).	4							1			

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 4

PERIOD : 6/8/81 to 19/8/81 .... 81/17

Viral Identifications by Clinical Information Table 1.
Code 00,99 -No ill or data; 01,02,11,12 -Respiratory; E3 -Encephalitis; M3 -Meningitis; 04 -Paralysis; 05,13 -CNS other unspec.; 07,49 -GI; 17,47 -Hepatic; 19 -CVS; 89 -Urinary; 06 -Skin/mucous. -CONTINUED

VIRUS OR VIRAL ANTIGEN	No-ill or data	Respiratory	Encephalitis	Meningitis	Paralysis	CNS other unspec	GI	Hepatic	CVS	Urinary	Skin/mucs memb
1303 VARICELLA-ZOSTER VIRUS.....			1								7
1306 HERPES SIMPLEX TYPE 1.....	3	1		1							27
1307 HERPES SIMPLEX TYPE 2.....	2										2
1401 COXIELLA BURNETI.....	6	1									
1514 MOLLUSCUM CONTAGIOSUM.....											1
1521 MEASLES VIRUS.....		3	3								11
1522 RUBELLA VIRUS.....	1										7
1532 HEPATITIS B ANTIGEN.....	38							26			
1535 HEPATITIS A ANTIBODY.....								21			
1556 CMV - CYTOMEGALOVIRUS.....	6	4				1		2		6	
1562 REOVIRUS (ALL TYPES).....							1				
1564 ROTAVIRUS.....	4						110				
ARBO. GROUP A.(UNSPECIFIED).....											1
AUSTRALIAN ENCEPHALITIS			1	1							
ROSS RIVER VIRUS	1										1
ASTROVIRUS							2				
SMALL VIRUS (LIKE) PARTICLE							7				
ARBO. GROUP B.											1
Total.....	86	194	9	10		4	134	50	2	6	92

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 5

PERIOD : 6/8/81 to 19/8/81 ... 81/17
Viral Identifications by Clinical Information Table 2.
Code 10 -Eye; 59 -Genital; 39 -Endo/sal gland;
38 -RES; 29 -Muscle/joint; 69 -Congenital; P8 -PUO;
G8 -Fever/malaise; 09 -Other; A1 -SIDS ...

VIRUS OR VIRAL ANTIGEN	Eye	Genital	Endo/sal gland	RES	Muscle/joint	Congenital	PUO	Fever/malaise	Other	SIDS
0102 ADENOVIRUS TYPE 2.....			1							
0103 ADENOVIRUS TYPE 3.....	1									
0104 ADENOVIRUS TYPE 4.....			1							
0108 ADENOVIRUS TYPE 8.....	1									
0117 ADENOVIRUS TYPE 17.....								1		
0119 ADENOVIRUS TYPE 19.....	1									
0201 INFLUENZA A VIRUS.....							5	3		
0203 INFLUENZA B VIRUS.....								1		
0206 INFLUENZA A VIRUS SUBTYPE H1N1							1	7		2
0301 PARAINFLUENZA VIRUS TYPE 1....								1		
0500 RHINOVIRUS (ALL TYPES).....			1					2		3
0600 MYCOPLASMA PNEUMONIAE.....								1		
1009 ECHOVIRUS TYPE 9.....							1			
1017 ECHOVIRUS TYPE 17.....							1			
1101 POLIOVIRUS TYPE 1.....										1
1103 POLIOVIRUS TYPE 3.....										1
1104 POLIOVIRUS-VACCINAL STRAIN....										1
1200 MUMPS VIRUS.....			15							
1301 HERPES SIMPLEX VIRUS NOT-TYPED	1	10								
1302 EPSTEIN-BARR VIRUS (EB VIRUS).			6	1			1	2		
1303 VARICELLA-ZOSTER VIRUS.....		3								
1306 HERPES SIMPLEX TYPE 1.....	3	13					1	1	2	
1307 HERPES SIMPLEX TYPE 2.....		93								
1401 COXIELLA BURNETI.....							3	6		
1521 MEASLES VIRUS.....	1						2			
1522 RUBELLA VIRUS.....					3	1		1		
1541 CHLAMYDIA A - C.TRACHOMATIS...	1	35								
1556 CMV - CYTOMEGALOVIRUS.....		5	1		1	3	4	1	3	2

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 6

PERIOD : 6/8/81 **to** 19/8/81 ... 81/17

Viral Identifications by Clinical Information Table 2.
Code 10 -Eye; 59 -Genital; 39 -Endo/sal gland;
38 -RES; 29 -Muscle/joint; 69 -Congenital; P8 -PUO;
G8 -Fever/malaise; 09 -Other; A1 -SIDS ... **-CONTINUED**

VIRUS OR VIRAL ANTIGEN	Eye	Genital	Endo/sal gland	RES	Muscle/joint	Congenital	PUO	Fever/malaise	Other	SIDS
1564 ROTAVIRUS.....								1		1
ARBO. GROUP A.(UNSPECIFIED).....					1					
ROSS RIVER VIRUS					4					
ARBO. GROUP B.					2					
Total.....	9	159	25	1	11	4	19	28	5	11