



# Communicable Diseases Intelligence

Bulletin number 83/12  
Issue date: 17 June 1983

## Contents:

Viral meningitis in a  
neonatal unit

## VIRUS REPORTING SCHEME

A total of 1398 reports were received this period. Patterns suggested by the reports included the seasonal increase of respiratory syncytial virus (RS) infection for the autumn period. (134 reports received compared to 83, 41 and 30 for the previous three periods). In contrast, the seasonal rise in rotavirus infections monitored by CDI (CDI 83/10) showed a still high but steady level (41 reports received compared to 37, 42 and 9 for the previous three periods), without the occurrence of significant outbreaks of rotavirus gastroenteritis being reported by any pediatric wards.

## Influenza virus

- Reports of first isolates of influenza for 1983 are being received from various laboratories.
- Commonwealth Serum Laboratories, Melbourne reported their first isolation of influenza A virus, subtype H3N2 for 1983. The virus was recovered from a 21 year-old female patient who presented to a clinic in a Northern Melbourne suburb with fever, aches and pains. HI tests indicate that the strain resembles A/Philippines/2/82.
- State Health Laboratory, Queensland presented their first influenza A virus subtype H1N1 isolation, not previously encountered since September 1981. The virus was recovered from a 4 year-old boy suffering from an upper respiratory tract infection. CSL stated that the strain resembles A/England/333/80. The specimen has been sent to USA for further typing.

TWO CONCURRENT EPIDEMICS OF VIRAL MENINGITIS IN A NEONATAL UNIT  
(Contributed by E. Reiss-Levy and A. Baker, Neonatal Unit, The St. George Hospital, Kogarah, NSW.)

Between 12 and 29 December 1982, 11 babies, in the Neonatal Nurseries of St. George Hospital developed common clinical features of fever and lethargy from viral illness, sufficiently severe to warrant lumbar puncture. Most of the babies, eight males and three females with ages at onset ranging from 2-18 days except for one at 60 days, were premature and under special nursing care.

CSF findings confirmed viral meningitis in most cases with pleocytosis of less than 400 cells, mainly mononuclear. Initial Echo 11 infection was identified in seven babies. Echo 11 virus isolated from CSF in five cases, and an additional two illnesses were thought to be due to Echo 11, with high serum neutralisation titre (>4096) in one, and in faecal isolation at the time of acute illness in the other. Initial Coxsackie B3 infection was confirmed in the other four babies with Coxsackie B3 virus isolated from CSF in two cases and from faeces and throat in the remaining two. The Echo infections occurred through the whole period, the Coxsackie infections were closer together with onset between 21 and 25 December 1982.

Complications occurred in two of the Coxsackie infected infants. One developed transient tachycardia and thrombocytopenia but no haemorrhages. Another showed non-obstructive hydrocephalus developing left sided fits which responded to phenobarbitone. Among the Echo infections one baby developed severe leucocytosis as well as thrombocytopenia but again without haemorrhages.

During the course of these concurrent epidemics, three babies were infected with two viruses consecutively. One of the Echo 11 infected babies (case of serum neutralising titre >4096) acquired Coxsackie B3 (isolated from urine and faeces) one week after the initial Echo infection. Two of the Coxsackie B3 infected babies (two cases where Coxsackie B3 virus was isolated from CSF) acquired Echo 11 infection (virus isolated from faeces) two weeks later during the convalescence from their initial infection.

Shortly after the outbreak, sixteen nurses, one doctor and one humidicrib technician reported ill, with symptoms of fever, headache and vomiting, sometimes biphasic and lasting on average eight days. Viral cultures from nine nurses were all negative. However, Coxsackie B3 virus was cultured from a throat swab taken from the humidicrib technician, who had

developed the infection in less than 24 hours, instead of the usual incubation period of 2-5 days for enterovirus infection. Since Coxsackie B3 was already present in the nursery when he came to service the crib, it is presumed that he acquired his infection from the nursery, rather than vice versa.

Convalescent sera from the nurses were monitored two weeks or more after the onset of their illness. One nurse showed a rising Echo 11 neutralisation titre of 128 to 512; otherwise the serology was not diagnostic. The humidicrib technician did not show a diagnostic titre and Coxsackie neutralisation was not performed.

The sources of the virus outbreaks could not be ascertained with certainty. However, the mother of the Echo 11 infected baby which subsequently acquired Coxsackie B3 infection, had fever and respiratory infection for two weeks prior to delivery, and headache, photophobia and neck stiffness for eight days thereafter. She may have had a Coxsackie B3 infection since her enterovirus CFT was 320. On the other hand, Echo 11 was prevalent in the community at the time. Two mothers of ill babies had high Echo 11 neutralising titres as did one of three other post partum mothers examined as controls and one asymptomatic nurse. Three mothers acquired asymptomatic infection from their babies - two Echo 11, one Coxsackie B3 - as demonstrated by viral culture of faeces 2-3 weeks after the onset of the episode.

Measures instituted to stop the epidemic included closure of the special care nursery, cohort nursing of ill babies and contact babies, 24 hour rooming in for new admissions, and reducing visitors. Handwashing, separate gowns for each baby and general hygiene were stressed. Mothers and babies were discharged as early as possible, and the whole area was then emptied, cleaned and re-opened.

The babies' prognoses are slightly guarded. Mental impairment is generally thought to occur only with encephalitic involvement such as is manifested by seizures or coma. However, a small study of 4 year-olds who had suffered neonatal meningitis without seizures did show a reduced level of receptive language function.

#### Editorial Comment

The Coxsackie viruses share many properties with the echoviruses. Wide dissemination is the rule. Because of their epidemiologic similarities, these two enteroviruses may occur together in nature, even in the same human host. Unlike the enterobacteria, which are constantly present in the intestinal tract, the enteroviruses produce only transitory infection. They are more apt to be found in the young than in the old. In

temperate climates such as in Sydney, Coxsackie viruses and echoviruses are recovered much more frequently during the summer and early autumn. Also, children develop neutralising and complement fixing antibodies during the summer, indicating infection by these agents during this period. Such children have much higher incidence rates of acute, febrile minor illnesses during summer than children who fail to develop Coxsackie viruses antibodies.

Avoidance of contact with patients exhibiting acute febrile illness, especially those with a rash, is advisable for very young children. Members of institutional staffs caring for infants should be tested to determine whether they are carriers of enteroviruses. This is particularly important during outbreaks of diarrheal disease among infants.

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE  
 REPORTING PERIOD - 27/5/83 to 9/6/83 BULLETIN NUMBER .  
 VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES

VIRUS OR VIRAL ANTIGEN	ICPMR	RAHC (NSW)	PHH/ POW	FAIR- FIELD	RCH (VIC)	IMVS (SA)	STATE	STATE	Total
	(NSW)/ MVH (ACT)		(NSW)	(VIC)			LAB (QLD)	LAB (WA)	
0100 ADENOVIRUS NOT TYPED.....	3		5	2	1	1		5	18
0101 ADENOVIRUS TYPE 1.....						3			5
0102 ADENOVIRUS TYPE 2.....				1			3	1	5
0103 ADENOVIRUS TYPE 3.....						1			1
0107 ADENOVIRUS TYPE 7.....							1	2	3
0119 ADENOVIRUS TYPE 19.....					2			14	16
0199 ADENOVIRUS TYPING PENDING.....			2	6		5	1		14
0201 INFLUENZA A VIRUS.....	2						1		3
0203 INFLUENZA B VIRUS.....	1							1	3
0204 INFLUENZA C VIRUS.....							1		1
0206 INFLUENZA A VIRUS SUBTYPE H1N1.....							1		1
0301 PARAINFLUENZA VIRUS TYPE 1.....						1	18	2	22
0302 PARAINFLUENZA VIRUS TYPE 2.....							2	7	11
0303 PARAINFLUENZA VIRUS TYPE 3.....	1				1	3	1	2	8
0399 PARAINFLUENZA VIRUS TYPING PENDING.....							6	1	7
0400 RESPIRATORY SYNCYTIAL VIRUS (RS)...	15	20	2	5	19	17	56		134
0500 RHINOVIRUS (ALL TYPES).....	4				4	4	11	5	28
0600 MYCOPLASMA PNEUMONIAE.....	14			7	8		4	7	45
0700 ORNITHOSIS-PSITTACOSIS.....					1				1
0800 COXSACKIEVIRUSES GROUP A - NOT TYPED.....							1	2	3
0816 COXSACKIEVIRUS A16.....					1				1
0903 COXSACKIEVIRUS B3.....						1	1	2	4
1009 ECHOVIRUS TYPE 9.....							1		1
1011 ECHOVIRUS TYPE 11.....	20	4	1	5	13	3	12	1	59
1014 ECHOVIRUS TYPE 14.....							4		4
1022 ECHOVIRUS TYPE 22.....			1				5		6
1101 POLIOVIRUS TYPE 1.....					1		3		4
1102 POLIOVIRUS TYPE 2.....				1			1	2	4
1103 POLIOVIRUS TYPE 3.....				1			2		3
1104 POLIOVIRUS-VACCINAL STRAIN.....						1			1
1199 POLIOVIRUS TYPING PENDING.....								1	1
1200 MUMPS VIRUS.....	2			3	3	1			9
1300 HERPES VIRUS GROUP-NOT TYPED.....	26			1	2		7		36
1301 HERPES SIMPLEX VIRUS NOT-TYPED.....					5				5
1302 EPSTEIN-BARR VIRUS (EB VIRUS).....	6	3			1			3	13
1303 VARICELLA-ZOSTER VIRUS.....	2			1	1		1		6
1306 HERPES SIMPLEX TYPE 1.....	6				29		23	26	94
1307 HERPES SIMPLEX TYPE 2.....	119				52		25	93	343
1399 HERPES VIRUS TYPING PENDING.....				20		2	3		25
1401 COXIELLA BURNETI.....	8			1	1			10	20
1502 PICORNA VIRUS-NOT TYPED.....	3			5					12
1514 MOLLUSCUM CONTAGIOSUM.....							1		1
1521 MEASLES VIRUS.....	3			2	1	1			7
1522 RUBELLA VIRUS.....	2			1			1	3	7
1530 HEPATITIS A VIRUS.....					1				15
1531 HEPATITIS B VIRUS.....					39				9
1532 HEPATITIS B ANTIGEN.....	34	1	6	1		4	12	2	60
1533 HEPATITIS B ANTIBODY.....							3		3
1535 HEPATITIS A ANTIBODY.....	4			1	5		8	8	26
1541 CHLAMYDIA A - C TRACHOMATIS.....	28			4			17	61	110
1556 CMV - CYTOMEGALOVIRUS.....	5			3	10	4	2	6	38
1562 REOVIRUS (ALL TYPES).....					1				1
1564 ROTAVIRUS.....	2			6	6	1	26		41
1571 ENTEROVIRUS TYPE 71 (BRCR).....					2				2
1599 ENTEROVIRUS TYPING PENDING.....			2	7		3	3	7	22
ARBO. GROUP A.(UNSPECIFIED).....								1	1
ROSS RIVER VIRUS.....								34	34
DENGUE.....								1	1
Total.....	310	43	83	184	63	184	327	204	1,398

## AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

PERIOD : 27 5 83 to 9,6 83 ....

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	Respir atory	Enceph alitis	Mening -itis	Para- lysis	CNS other unspec	GI	Hepa -tic	CVS	Urin -ary	Skin/ mucs memb
0100 ADENOVIRUS NOT TYPED.....	1						4				
0101 ADENOVIRUS TYPE 1.....		4					1				
0102 ADENOVIRUS TYPE 2.....		2				1	2				
0103 ADENOVIRUS TYPE 3.....						1	1				
0107 ADENOVIRUS TYPE 7.....		3									
0201 INFLUENZA A VIRUS.....		2									
0203 INFLUENZA B VIRUS.....		2									
0301 PARAINFLUENZA VIRUS TYPE 1....			22								
0302 PARAINFLUENZA VIRUS TYPE 2....	1	9				1					
0303 PARAINFLUENZA VIRUS TYPE 3....		6									
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....	2	131		1	1	1					
0500 RHINOVIRUS (ALL TYPES).....	1	25									
0600 MYCOPLASMA PNEUMONIAE.....	6	32									1
0700 ORNITHOSIS-PSITTACOSIS.....		1									
0800 COXSACKIEVIRUSES GROUP A - NOT TYPED.....											1
0816 COXSACKIEVIRUS A16.....											1
0903 COXSACKIEVIRUS B3.....				1			1		1		
1009 ECHOVIRUS TYPE 9.....				1							
1011 ECHOVIRUS TYPE 11.....	8	8	1	20		1	6		1		2
1014 ECHOVIRUS TYPE 14.....		1					2				
1022 ECHOVIRUS TYPE 22.....		4		1			1				
1101 POLIOVIRUS TYPE 1.....	1	1					1				
1102 POLIOVIRUS TYPE 2.....	1	1					2				
1103 POLIOVIRUS TYPE 3.....		2					1				
1104 POLIOVIRUS-VACCINAL STRAIN....		1									
1200 MUMPS VIRUS.....	2	1		2			2				
1301 HERPES SIMPLEX VIRUS NOT-TYPED	1		1								
1302 EPSTEIN-BARR VIRUS (EB VIRUS).		4									
1303 VARICELLA-ZOSTER VIRUS.....				1		1					5
1306 HERPES SIMPLEX TYPE 1.....	2	2	1							1	44
1307 HERPES SIMPLEX TYPE 2.....	9	2	1								42
1401 COXIELLA BURNETI.....	4	1					1	1	2		
1502 PICORNA VIRUS-NOT TYPED.....				2		1	1		1		1
1521 MEASLES VIRUS.....			1			3					3
1522 RUBELLA VIRUS.....	3										3
1530 HEPATITIS A VIRUS.....	3							12			
1531 HEPATITIS B VIRUS.....	24							21			
1532 HEPATITIS B ANTIGEN.....	26						2	32			
1533 HEPATITIS B ANTIBODY.....								3			
1535 HEPATITIS A ANTIBODY.....	2							24			
1541 CHLAMYDIA A - C.TRACHOMATIS...											1
1556 CMV - CYTOMEGALOVIRUS.....	5	6				3	1	2	1	4	
1562 REOVIRUS (ALL TYPES).....							1				
1564 ROTAVIRUS.....	2						38				
1571 ENTEROVIRUS TYPE 71 (BRCR)....				2							
9992 ROSS RIVER VIRUS.....	7	2									12
Total.....	111	275	5	31	1	13	68	95	6	5	116

## AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

PERIOD : 27 / 5 / 83 to 9 / 6 / 83 ...  
 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;  
 68 -Fever/malaise; 09 -Other; A1 -SIDS ...

VIRUS OR VIRAL ANTIGEN	Eye	Gen-ital	Endo/sal gland	RES	Muscle/joint	Con-genital	PUO	Fever/mal-aise	Other	SIDS
0100 ADENOVIRUS NOT TYPED.....								1	1	
0119 ADENOVIRUS TYPE 19.....	6	10								
0201 INFLUENZA A VIRUS.....								1		
0203 INFLUENZA B VIRUS.....								2		
0204 INFLUENZA C VIRUS.....								1		
0301 PARAINFLUENZA VIRUS TYPE 1....							1	1		
0302 PARAINFLUENZA VIRUS TYPE 2....				1						
0303 PARAINFLUENZA VIRUS TYPE 3....							1	1		
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....								2		
0500 RHIHOVIRUS (ALL TYPES).....							2			
0600 MYCOPLASMA PNEUMONIAE.....							1	8	1	
0903 COXSACKIEVIRUS B3.....							1			
1011 ECHOVIRUS TYPE 11.....							1	3	5	6
1014 ECHOVIRUS TYPE 14.....										1
1022 ECHOVIRUS TYPE 22.....								1		
1101 POLIOVIRUS TYPE 1.....	1									
1200 MUMPS VIRUS.....			1							1
1301 HERPES SIMPLEX VIRUS NOT-TYPED		3								
1302 EPSTEIN-BARR VIRUS (EB VIRUS).			5				1	1	4	
1303 VARICELLA-ZOSTER VIRUS.....								1		
1306 HERPES SIMPLEX TYPE 1.....	3	37		1				1	3	
1307 HERPES SIMPLEX TYPE 2.....		291							1	
1401 COXIELLA BURNETI.....					4		3	10		
1502 PICORNA VIRUS-NOT TYPED.....		1			1			3	1	
1514 MOLLUSCUM CONTAGIOSUM.....		1								
1522 RUBELLA VIRUS.....					1			2		
1530 HEPATITIS A VIRUS.....										1
1531 HEPATITIS B VIRUS.....										3
1541 CHLAMYDIA A - C.TRACHOMATIS...	4	105								1
1556 CMV - CYTOMEGALOVIRUS.....		2		1		6		3	8	
1564 ROTAVIRUS.....										1
9992 ROSS RIVER VIRUS.....			1		24			2		
9995 DENGUE.....					1			1		
Total.....	14	450	7	3	31	7	13	47	32	3