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Communicable Diseases Intelligence

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Contents:

Since the Editor was on leave during June, publication of CDI issues 83/12 and 83/13 was performed by other members of the Environmental Health Branch staff.

VIRUS REPORTING SCHEME - A total of 1422 reports were received this period.

- Congenital infections - Rubella virus was isolated by Fairfield Hospital, Melbourne, from urine of a seven week old boy with hypospadias, splenomegaly and a cardiac murmur. The mother had had a rash early in pregnancy, but no blood specimens were taken. The hospital also isolated cytomegalovirus (CMV) from saliva and urine of an hydropic neonate who later died. Intrauterine CMV infection was diagnosed by the laboratory recently in two neonates with clinical evidence of brain damage.

- Acquired Immune Deficiency Syndrome (AIDS) - Fairfield Hospital reported the isolation of CMV from a 43 year old bisexual male admitted to Prince Henry Hospital, Melbourne, with chronic diarrhoea. The man, who had lived for eight years on the West Coast, US, had returned to Australia for a holiday in April. Tests conducted by the Cancer Institute, Melbourne, indicated that the patient had a gross immune defiency. He was treated for Crohn's disease with steroids after negative results for amoebic dysentery which he stated he had had in mid-1982. Three weeks later, a hemicholectomy was performed following a perforation of the bowel. Since biopsy material indicated CMV colitis, steroid therapy was terminated. CMV was also isolated from urine, saliva, blood and the liver, and Clostridium difficile was cultured from faeces. One week later the patient developed nutritional problems, and bilateral consolidation of the lungs. CMV, Pneumocystis carinii and Pseudomonas were isolated from a lung biopsy. The patient died on 8 July with a diagnosis of severe opportunistic infection.

- A 46 year old female was admitted recently to Fairfield Hospital with cryptococcal meningitis. This is a severe disease which necessitates prolonged treatment. During the past 11 months, five patients have been admitted with this disease compared with an average annual admittance of one or two cases.

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EVIDENCE FOR EPIDEMIC POLYARTHRITIS INFECTION IN PAPUA NEW GUINEA

(Contributed by J. Aaskov, Queensland Institute of Medical Research (QIMR), Brisbane)

In CDI 83/10 it was stated that evidence for epidemic polyarthritis in Papua New Guinea has so far been absent. However, recent collaborative studies performed by the Papua New Guinea Institute of Medical Research, the University of Papua New Guinea and the QIMR, Brisbane, have found evidence of clinical Ross River virus activity in both the highlands and coastal plain of the island. Tropical polyarthritis appeared to be almost always a streptococcal arthritis, but among these patients there were a number with polyarthritis, very low titres of antistreptolysin O antibody and who had neutralising and IgM antibody against Ross River virus. There have also been several instances of Australians working in Papua New Guinea developing serologically confirmed Ross River polyarthritis without having travelled outside the country.

ERYTHEMA INFECTIOSUM (FIFTH DISEASE) AND HUMAN PARVOVIRUS

(Based on CDR (1983) 83/23:3)

Erythema infectiosum or fifth disease is a mild, acute exanthematous disease occurring most commonly in children[1,2]. The erythematous maculopapular rash often begins on the face giving the so-called 'slapped cheek' appearance. The most characteristic feature is the rash on the trunk and extremities with central fading of the eruption giving a reticular or lacy appearance[3]. There are few, if any, constitutional symptoms although arthralgia may occur, especially in adults. The rash usually fades within a week but transient recrudescences often occur in the ensuing days or weeks, especially in relation to bathing or exposure to sunlight. Epidemics tend to occur in late winter and spring.

The aetiology of the disease is unknown, but a recent outbreak in North London [4] has provided the opportunity of investigating cases for evidence of human parvovirus infection. This virus was initially found in the serum of largely asymptomatic blood donors[5] and has subsequently been associated with mild febrile illness[6] and aplastic crises in patients with chronic haemolytic anaemia[7]. Most of the cases occurred among pupils of two primary schools between early March and late May with 101 known cases among the 430 pupils in one school and 51 of 229 children in the other. To date, blood samples have been obtained from 41 cases of the disease comprising 31 children aged 4-12 years, two adolescents (15 and 17 years) and eight adults. The rash involved the face in 18(46%) and recurred in 12(31%). Arthralgia was present in four (10%), two children and two adults. Single convalescent serum specimens taken within one month (28 cases), within two months (10 cases) or within three months (3 cases) of onset were available. All were tested for parvovirus specific IgM by an IgM antibody capture radioimmune assay[7]. Parvovirus specific IgM was detected in all sera from the 31 cases in children and the two adolescent cases. Sera from six of the eight adult cases were positive. On the basis of these preliminary results it is proposed that the human parvovirus is the hitherto elusive agent of erythema infectiosum, and a full epidemiological and virological investigation of the outbreak is in progress.

1. CDI (1980) 80/11:5
2. MJA (1978) 1:454
3. Am. J. Dis. Child. (1976) 130:239
4. CDR (1983) 83/18:1
5. Lancet (1975) 1:72
6. BMJ (1980) 2:1580
7. J. Clin. Pathol. (1982) 35:744
8. J. Hyg. Cambs. (1982) 88:309

GONOCOCCAL SURVEILLANCE - AUSTRALIA (OCTOBER-DECEMBER 1982)

(Contributed by the Australian Gonococcal Surveillance Program (AGSP). Co-ordinator - J.W. Tapsall, Department of Microbiology, Prince of Wales Hospital, Sydney).

The AGSP compiles the national prevailing penicillin sensitivities of N. gonorrhoeae isolates on a quarterly basis. This report collates the penicillin minimal inhibitory concentration (MIC) values of the 1508 isolates assayed during October-December 1982 (see CDI 82/25, 82/20 and 82/11 for the previous three quarters). The majority of the strains were again allocated into the three phenotypic categories of "sensitive", "decreased-sensitivity" and "penicillinase-producing N. gonorrhoeae". The prevalences and regional distribution of these categories are shown in Table 1.

TABLE 1. Penicillin sensitivity of N. gonorrhoeae isolates, (October - December 1982)

Percentages for October-December 1981 are in parentheses.

Source	Percentage of isolates		
	Sensitive(1)	Decreased sensitivity(2)	PPNG
Brisbane	51.3 (52.0)	38.3 (42.0)	3.8 (4.9)
Sydney	16.5 (25.4)	74.8 (66.3)	2.8 (7.0)
Melbourne	41.4 (45.7)	43.8 (40.3)	2.5 (3.0)
Adelaide	35.7 (35.4)	42.6 (55.3)	4.5 (2.9)
Perth	16* (45.3)	69* (20.7)	7.9 (11.5)

1. MIC = 0.008 µg/ml ± one doubling dilution.
2. MIC = 0.12 µg/ml ± one doubling dilution.
* Preliminary data only

Apart from the PPNG isolates, the data forwarded at the time of publication from the Perth laboratory was incomplete for the number of "sensitive" and "decreased sensitivity" strains, and final figures will be published in a subsequent issue. Comparison of the isolation percentages with those of the same period in 1981 showed no significant variance. Gonococci relatively resistant to penicillin (MIC ≥ 1.0 µg/ml) were isolated infrequently and represented 3.3% of all isolates.

Sixty-one (4%) PPNG strains were isolated, and their suspected sources of infection are detailed in Table 2. Adelaide was the only centre that reported an increase in their PPNG isolation rate when each centre was compared with the data for the equivalent period in 1981.

TABLE 2. PPNG cases by sex and suspected sources of infection (October - December 1982)

Source	Male	Female	Total
Manila	12		12
Thailand	7	2	9
Indonesia	1	2	3
USA	1		1
Imported		4	4
Local	4	4	8
Unknown	23	1	24
Total	48	13	61

Editorial Comment

With the increasing frequency of gonococcal infections caused by strains fully or partially resistant to penicillin and other

antibiotics, more and more treatment failures will occur leading to extended periods of infectivity of the patient and an increased risk of complicated disease, particularly in females. The number of PPNG cases reported in developed countries has risen significantly in the past three years (Table 3).

TABLE 3. PPNG cases in Australia, USA, Canada, UK and 11 European countries

Country	1982	1981	1980
Australia	215	177	144
USA	3424(Jan-Sept)	1910(Jan-Sept)	1099
Canada	37(Jan-June)	33	23
UK	1033	443	211
UK (endemic transmission)	584	211	50
Europe*	1029(Jan-June)	1616	-

* Includes Belgium, Denmark, Finland, German Democratic Republic, Federal Republic of Germany, Netherlands, Norway, Spain, Sweden, Switzerland.

Marked regional differences within countries may be evident, and although the factors associated with a high percentage of these strains in a given community have not been fully identified, it is assumed that the presence of a sizeable promiscuous group keeping itself under prophylactic antibiotic coverage would serve as an efficient reservoir of resistant strains and their endemic spread (e.g. Netherlands). However, it has been shown in Los Angeles County, California, that almost complete endemic transmission of PPNG can be checked by a comprehensive control effort, including targeted use of spectinomycin therapy, laboratory surveillance, testing and treating sexual partners, screening and educating high-risk populations, and educating high-risk community and professional groups[1]. In Australia, the epidemiological situation provides a less favourable environment for the maintenance of these strains, and the majority of infections are acquired from abroad.

The first outbreak of gonorrhoea caused by non-PPNG strains that were highly resistant to penicillin (MIC = 2-4 µg/ml) was also reported recently in the US[2]. The outbreak was due to transmission of a single resistant strain, as demonstrated by the antibiotic resistance patterns, auxotyping data, and outer membrane protein studies. In South-East Asia, more than 20% of gonococcal isolates are non-PPNG strains resistant to penicillin.

Until recently spectinomycin-resistant infections have been sporadic (nine PPNG and five non-PPNG), and have occurred among individuals without known contact[3]. However, between August 1982 and January 1983, 27 cases of spectinomycin-resistant PPNG infection were reported by US Air Force Facilities in the Pacific[4]. Twenty-five cases were among US Air Force personnel stationed at Osan or Kunsan, Republic of Korea.

References

1. MMWR (1983) 32:181
2. MMWR (1983) 32:273
3. MMWR (1982) 31:632
4. MMWR (1983) 32:51.

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

REPORTING PERIOD - 23/6/83 - 6/7/83 BULLETIN NUMBER . 83/14

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	8	3	1			3	7	3	25
0101 ADENOVIRUS TYPE 1	1		1		4	2		1	9
0102 ADENOVIRUS TYPE 2	1		2	3					6
0105 ADENOVIRUS TYPE 5			1			2			3
0107 ADENOVIRUS TYPE 7		1	1			1			3
0108 ADENOVIRUS TYPE 8				1					1
0119 ADENOVIRUS TYPE 19						1		3	4
0131 ADENOVIRUS TYPE 31						2			2
0135 ADENOVIRUS TYPE 35				1					1
0199 ADENOVIRUS TYPING PENDING		2	4		2	4			12
0201 INFLUENZA A VIRUS	1	3	2			6			12
0202 INFLUENZA A VIRUS SUBTYPE H3N2				1					1
0203 INFLUENZA B VIRUS	2							1	3
0301 PARAINFLUENZA VIRUS TYPE 1	2			1	4	15	2	1	25
0302 PARAINFLUENZA VIRUS TYPE 2							2	1	3
0303 PARAINFLUENZA VIRUS TYPE 3		1				1		4	6
0399 PARAINFLUENZA VIRUS TYPING PENDING						11	1		12
0400 RESPIRATORY SYNCYTIAL VIRUS (RS)	64	35	2	14	34	37	49	2	237
0500 RHINOVIRUS (ALL TYPES)				2	9	10	1		22
0600 MYCOPLASMA PNEUMONIAE	12		4	16	3	5	2	5	47
0700 ORNITHOSIS-PSITTACOSIS						2		1	3
0809 COXSACKIEVIRUS A9				2					2
0816 COXSACKIEVIRUS A16				2					2
0903 COXSACKIEVIRUS B3	1			2				1	4
1002 ECHOVIRUS TYPE 2								1	1
1005 ECHOVIRUS TYPE 5				1					1
1009 ECHOVIRUS TYPE 9	1					1	1		3
1011 ECHOVIRUS TYPE 11	2	1	2	3	1			1	10
1014 ECHOVIRUS TYPE 14	1								1
1018 ECHOVIRUS TYPE 18				1					1
1021 ECHOVIRUS TYPE 21								1	1
1022 ECHOVIRUS TYPE 22	1				1			2	4
1101 POLIOVIRUS TYPE 1							2		2
1102 POLIOVIRUS TYPE 2						1		2	3
1104 POLIOVIRUS-VACCINAL STRAIN					3				3
1200 MUMPS VIRUS	2	1		2		1	1	4	11
1300 HERPES VIRUS GROUP-NOT TYPED	24			10		5			39
1301 HERPES SIMPLEX VIRUS NOT-TYPED		3		8					11
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	12							8	20
1303 VARICELLA-ZOSTER VIRUS	2					1			3
1306 HERPES SIMPLEX TYPE 1	16			25		9	21	12	83
1307 HERPES SIMPLEX TYPE 2	150			66		23	73	48	360
1399 HERPES VIRUS TYPING PENDING			19		4	4			27
1401 COXIELLA BURNETI	5						7		12
1502 PICORNA VIRUS-NOT TYPED	4		2					6	12
1521 MEASLES VIRUS	3	2		2	2				9
1522 RUBELLA VIRUS	1			1	1	1	4	3	11
1532 HEPATITIS B ANTIGEN			5	36		10	6	10	67
1535 HEPATITIS A ANTIBODY			2	9		1	3	26	41
1541 CHLAMYDIA A - C TRACHOMATIS	11						19	38	68
1556 CMV - CYTOMEGALOVIRUS	5		1	29	3	2	9	9	58
1564 ROTAVIRUS		12	10		1	30		5	58
1571 ENTEROVIRUS TYPE 71 (BRCR)				4					4
1599 ENTEROVIRUS TYPING PENDING		2	1		6	2			11
ROSS RIVER VIRUS							38		38
ASTROVIRUS		1							1
SMALL VIRUS (LIKE) PARTICLE				2					2
PARAMYXOVIRUS						1			1
Total	332	67	60	244	78	194	248	199	1,422

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

PERIOD : 23/6/83 to 6/7/83 .... 83/14

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.....		2									
0101 ADENOVIRUS TYPE 1.....	1	5					2				
0102 ADENOVIRUS TYPE 2.....	1	1					2				
0105 ADENOVIRUS TYPE 5.....		1					3				
0107 ADENOVIRUS TYPE 7.....		2					1				
0131 ADENOVIRUS TYPE 31.....							2				
0201 INFLUENZA A VIRUS.....	3	5	1	1							
0202 INFLUENZA A VIRUS SUBTYPE H3N2		1									
0203 INFLUENZA B VIRUS.....		1				1			1		
0301 PARAINFLUENZA VIRUS TYPE 1....	5	19									
0302 PARAINFLUENZA VIRUS TYPE 2....	1	1							1		
0303 PARAINFLUENZA VIRUS TYPE 3....	2	3							1		
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....	16	216									1
0500 RHINOVIRUS (ALL TYPES).....		21									
0600 MYCOPLASMA PNEUMONIAE.....	5	32									
0700 ORNITHOSIS-PSITTACOSIS.....		2									
0809 COXSACKIEVIRUS A9.....		2									1
0816 COXSACKIEVIRUS A16.....											2
0903 COXSACKIEVIRUS B3.....	1	2		1							
1002 ECHOVIRUS TYPE 2.....				1							
1009 ECHOVIRUS TYPE 9.....		1		1			1				
1011 ECHOVIRUS TYPE 11.....	1	1		3		1	3				
1014 ECHOVIRUS TYPE 14.....		1									
1018 ECHOVIRUS TYPE 18.....				1							
1021 ECHOVIRUS TYPE 21.....										1	
1022 ECHOVIRUS TYPE 22.....		1		1			1				
1101 POLIOVIRUS TYPE 1.....		2									
1102 POLIOVIRUS TYPE 2.....		1									1
1104 POLIOVIRUS-VACCINAL STRAIN....		1									
1200 MUMPS VIRUS.....	1	1	1	2							
1301 HERPES SIMPLEX VIRUS NOT-TYPED		1								3	
1302 EPSTEIN-BARR VIRUS (EB VIRUS).	4	3						2	2		
1303 VARICELLA-ZOSTER VIRUS.....	1	1									1
1306 HERPES SIMPLEX TYPE 1.....	2	5					1				35
1307 HERPES SIMPLEX TYPE 2.....	16										47
1401 COXIELLA BURNETI.....	4	1									1
1521 MEASLES VIRUS.....		2		1		2					4
1522 RUBELLA VIRUS.....											5
1532 HEPATITIS B ANTIGEN.....	29							27			
1535 HEPATITIS A ANTIBODY.....	3							36			
1541 CHLAMYDIA A - C.TRACHOMATIS...	1										
1556 CMV - CYTOMEGALOVIRUS.....	6	13		1		1		3		7	1
1564 ROTAVIRUS.....							58				
1571 ENTEROVIRUS TYPE 71 (BRCR)....		1		2							1
9992 ROSS RIVER VIRUS.....	6	2									12
9993 ASTROVIRUS.....							1				
9994 SMALL VIRUS (LIKE) PARTICLE...							2				
9996 PARAMYXOVIRUS.....		1									
Total.....	109	355	2	15		5	77	68	5	11	114

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

PERIOD : 23/6/83 to 6/7/83 ... 83/14
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
0101 ADENOVIRUS TYPE 1.....							1			
0102 ADENOVIRUS TYPE 2.....					1			1		
0108 ADENOVIRUS TYPE 8.....	1									
0119 ADENOVIRUS TYPE 19.....	4	1								
0135 ADENOVIRUS TYPE 35.....								1		
0201 INFLUENZA A VIRUS.....					1				1	
0202 INFLUENZA A VIRUS SUBTYPE H3N2								1		
0301 PARAINFLUENZA VIRUS TYPE 1....									1	
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....	1							6	5	
0500 RHINOVIRUS (ALL TYPES).....										1
0600 MYCOPLASMA PNEUMONIAE.....					1		2	5	3	
0700 ORNITHOSIS-PSITTACOSIS.....							1			
1005 ECHOVIRUS TYPE 5.....								1		
1009 ECHOVIRUS TYPE 9.....								1		
1011 ECHOVIRUS TYPE 11.....	1				1			2		
1022 ECHOVIRUS TYPE 22.....							1			
1102 POLIOVIRUS TYPE 2.....							1			
1104 POLIOVIRUS-VACCINAL STRAIN....									1	1
1200 MUMPS VIRUS.....			4	1				1		
1301 HERPES SIMPLEX VIRUS NOT-TYPED		2						1	1	
1302 EPSTEIN-BARR VIRUS (EB VIRUS).			8	1			1	1	2	
1306 HERPES SIMPLEX TYPE 1.....	6	35						1	2	
1307 HERPES SIMPLEX TYPE 2.....		301								
1401 COXIELLA BURNETI.....							1	6	1	
1521 MEASLES VIRUS.....									2	
1522 RUBELLA VIRUS.....					4	2	1	2	1	
1532 HEPATITIS B ANTIGEN.....									10	
1535 HEPATITIS A ANTIBODY.....							1		2	
1541 CHLAMYDIA A - C.TRACHOMATIS...		67								
1556 CMV - CYTOMEGALOVIRUS.....		3	1	2		5	3	8	8	2
9992 ROSS RIVER VIRUS.....					24			12		
Total.....	13	409	13	4	32	7	13	50	40	4