AUSTRALIA

Communicable Diseases Intelligence

Bulletin number 80/9
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Contents:

VIRUS REPORTING SCHEME - Total 709 new reports this period.

No major changes in disease patterns were indicated by the reports received. The outbreak of Ross River virus infections is continuing in Queensland with 41 reports having been received from that State.

Reports of interest include:

- Cytomegalovirus infections - continue to be reported from all States at an average of 45 isolations per period. Many are from patients on immunosuppressive therapy. Amongst the reports this period are a baby with hydrocephalus, another with developmental delay, and an infected family in which the virus was isolated from a nine month old baby's urine and saliva, the mother's breast milk and father's urine.

- Two isolations of herpes simplex virus (untyped) from brain biopsies have been reported recently. One, identified at the Prince Henry Hospital Sydney in human lung fibroblasts, was from a 35 year old male who subsequently died. The other, reported by the State Health Laboratory Brisbane four weeks ago, in foetal fibroblasts, was from a 10 year old boy. Both cases had suspected encephalitis complicated by localized intracerebral haemorrhage.

ARBOVIRAL INFECTIONS - PACIFIC ISLANDS

The WHO Regional Office in Fiji has reported laboratory confirmation of the following arboviral infections in the Southern Pacific:

Fiji	-	dengue - 6 cases; Ross River virus - 12 cases
Tonga	-	dengue - 3 cases; Ross River virus - 1 case
Tuvalu	-	dengue - 3 cases
New Hebrides	-	dengue - 4 cases

The dengue outbreaks in Niue, Samoa and Tuvalu are reported to have subsided. The Ross River case in Tonga is the first reported from that island. Previous reports of this infection in the Pacific Islands in recent months have been from Fiji, Samoa and the Cook Islands.

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.

RIFT VALLEY FEVER

On 29 January 1979, a 41 year old woman on safari in Kenya, became ill with fever, myalgia, dizziness, fatigue, severe headache and neck rigidity which lasted two to three days. The woman, a Canadian working in Jeddah, Saudi Arabia, had travelled from Jeddah with her son and husband on 25 January to Nairobi, Kenya, where they set out on safari to Mombasa. The family returned to Jeddah at the beginning of February, but the woman did not feel well and began to note a blurring and impairment of her vision early in February. Because her vision did not improve she was referred to an ophthalmologist in Jeddah on 4 March; he diagnosed her illness as Rift Valley Fever (RVF).

The diagnosis was confirmed on her return to Canada in March when ophthalmological examinations showed retinal haemorrhages and white exudative lesions near the fovea in both eyes, the left being considerably more seriously affected than the right.

Examination of serum specimens collected on 8 March, 18 March and 29 June showed antibody titres of 1:320 by the HAI test to RVF antigen. Plaque reduction neutralisation tests showed neutralising antibody titres of 1:5,120 and 1:10,240 (in the sera collected on 8 and 18 March) respectively. The patient had no detectable antibodies to many other arboviral antigens when tested by HAI and CF tests. No antibodies were detected to cytomegalovirus and toxoplasmosis by complement fixation and immunofluorescence testing.

(Source - Canada Diseases Weekly Report 20 October 1979)

Editorial Comment

Rift Valley Fever is an acute febrile illness of cattle, sheep and man, which until recently has occurred only in central and southern Africa. It was first reported in the Rift Valley area of Kenya in 1930[1].

It is an arbovirus infection spread through bites by infected insects, chiefly mosquitoes, but can also be transmitted by means of infected aerosols or contact with infected animals or their products.

In animals it is characterised by hepatitis in the young, with a high mortality, and by abortions in adult animals.

In man it usually presents as an acute influenza-like illness characterised by fever, severe myalgia, headache and anorexia lasting four to seven days, followed by a complete recovery. In an epidemic in South Africa in 1950/51, seven cases with macular exudates and loss of central visual acuity were reported (2,3) and in a more severe epidemic in 1975, additional complications comprising encephalitis, diffuse focal necrosis of the liver and haemorrhagic manifestations were reported for the first time, with four fatalities.[4]

More recently, towards the end of 1977 and in 1978, outbreaks in both man and animals occurred in Egypt. Human cases exhibited an

unusually high number of haemorrhagic and hepatic complications and mortality.[5] Whether the apparently increased severity of the infection was due to an increased virulence of the virus or to a host population compromised by a high prevalence of sub-acute liver disease due to schistosomiasis, has not been determined.

It has been suggested that the virus might have been introduced into Egypt by means of camels or similar transport animals coming from Sudan, as over 30% of the camels sampled at the southern Egypt border were serologically positive for antibodies to RVF.[6] In retrospective serological studies the earliest indication of RVF infection in animals was found in sheep, cow and buffalo sera in the southern regions approximately eight months prior to the major human epidemic.

The Egyptian epidemic was the first occasion in which this previously sub-Saharan disease had broken through into northern Africa. The whole of the Mediterranean littoral must therefore now be considered to be at risk to RVF.[5]

The case reported from Canada illustrates the necessity of bearing in mind not only late sequelae of the disease in travellers returning from Africa, but also the potential for the importation of the virus in patients during the viraemic stage of the disease.

There is little information concerning the incubation period of the disease. During the Egyptian outbreak all six of the investigators who were present in a small hut during the slaughter of infected sheep developed the disease three days later; apparently from aerosol rather than by direct contact with blood. The seventh member of the team did not enter the hut and did not develop the disease.[6] Although this incubation time is short, it is conceivable that incoming infected travellers could be viraemic after arrival in Australia. The virus has been isolated from patient's sera four to five days after the onset of the disease when the patient had become afebrile.[5] In Egypt human viraemias over 10^8 infant mouse LD_{50}/ml were recorded, which can be assumed is sufficient to infect mosquito vectors. This very high viraemia also raises the problem of safe diagnosis in Australia. As serum taken during the acute phase of the disease is almost certain to contain virus, blood should be taken and handled with extreme caution. Subsequent testing should be carried out within adequate containment facilities. Inactivated antigen and positive sheep serum are held in Canberra by the Bureau of Animal Health for use in the characterization of virus recovered from acute phase sera and for the detection of antibody in convalescent sera.

In view of Australia's strict animal quarantine requirements it is unlikely that the virus would be introduced through importation of infected animals or their products. However should this occur either by means of animal or human carriers of the virus, there is a potential for spread because of the large number of mosquito species reported as possible vectors of the virus. Although no studies have

been undertaken on Australian mosquitoes, African studies have implicated at least 18 mosquito species of the Aedes, Culex, Anopheles, Mansonia and Eretmapodites genera.(6) It is therefore possible that some of the Australian species would prove equally capable of transmitting the virus, and a large variety of both domestic and wild animals is available throughout the country to facilitate its spread.

As there is no vaccine commercially available for the immunization of humans against RVF, travellers to endemic areas can reduce the risk of infection by the avoidance of mosquito bites and minimising their contact with livestock.

References

1. East African J. of Path. and Bact. (1931) 34: 545-579
2. South African Med. J. (1951) 25: 926-930
3. - ibid: 930-932
4. South African Med. J. (1977) 51: 867-871
5. Tr. Roy. Soc. Trop. Med. & Hyg. (1979) 73(6): 630-633
6. - ibid: 624-629

CAMPYLOBACTER SPECIES: HIGH FREQUENCY OF ISOLATION FROM PATIENTS WITH ENTERITIS REQUIRING HOSPITALISATION

Nine of eleven patients with enteritis acquired in Sydney who were admitted to the Infectious Diseases ward of the Prince Henry Hospital, from August to December 1979, had infection with Campylobacter spp. as the sole pathogens (Table 1). In contrast only one of thirteen patients with enteritis acquired overseas had infection with a Campylobacter spp.

The clinical features of the patients with campylobacter enteritis were similar to those previously described[1,2]. There were seven men and three women with ages ranging from 17 to 58 years (Table 2). The illness started with fever, colicky abdominal pain and diarrhoea. Five had headache, one severe enough to be referred as a possible case of meningitis. Three reported macroscopic blood in the stools and two had acute colitis on sigmoidoscopy.

Six patients were still febrile on admission with temperatures up to $39.5^{0}C$.

One patient suffered severe muscular cramps with a serum CPK of 3,490 and renal failure (creatinine 0.51 mmol/l) which recovered.

Another young man who had taken Lomotil had marked right iliac fossa tenderness and quiet bowel sounds.

Five patients were treated with fluids only, with return to formed bowel motions in 3 to 7 days after onset of diarrhoea.

Five received erythromycin because they still had diarrhoea at the time of bacteriological diagnosis. All but one of these patients' diarrhoea subsided within two days of starting oral erythromycin, 500 mg q.i.d., though they were already being treated with intravenous fluids or oral fluid replacement therapy, with cessation of solid foods.

Three patients had stool cultures after finishing treatment with erythromycin, none of which grew Campylobacter spp.

None of the patients had contact with anyone with diarrhoea and their families were all well. Six patients had eaten away from home shortly before their illness.

It appears that Campylobacter spp. are a common cause of severe enteritis in Sydney. The source of these infections is not clear. Treatment with erythromycin may have a role.

TABLE 1.

Frequency of Campylobacter spp isolations among locally acquired and imported cases of enteritis.

	Acquired in Australia	Acquired Overseas
Campylobacter	9	1
Others	2≠	12*
TOTAL	11	13

≠ Other infections locally acquired were due to a reovirus like agent and to Salmonella newport.

* Others acquired overseas were:

Shigella dysenteriae	: 1	Salmonella group C1	: 1
Shigella flexneri	: 2	Giardia lamblia	: 1
Non agglutinating Vibrio	: 1	No pathogens	: 6

(Five of these, including three with no pathogens, had mild diarrhoea and were admitted as contacts of a patient with cholera.)

TABLE 2.

Clinical features of patients with campylobacter enteritis

AGE	SEX	TEMPERATURE MAXIMUM	MICROSCOPIC BLOOD	DURATION OF DIARRHOEA	TREATMENT	COMPLICATIONS
17	M	39.5	-	7 days	IV fluids	Abdominal tenderness
17	M	37.7	++	10 days	IV fluids Erythromycin	Acute proctitis
22	M	37.1	-	2 days	Nil	-
32	F	39.4	-	3 weeks	Erythromycin after 3 weeks	Proctitis

TABLE 2.

Clinical features of patients with camplobacter enteritis (cont'd)

AGE	SEX	TEMPERATURE MAXIMUM	MICROSCOPIC BLOOD	DURATION OF DIARRHOEA	TREATMENT	COMPLICATIONS
42	M	37.1	-	4 days	Oral fluids	Renal failure cramps
47	M	38.4	++	6 days	IV fluids	-
52	F	37.0	-	14 days	Erythromycin on 9th day	-
54	M	38.4	++	4 days	IV fluids Erythromycin	Meningismus
58	F	37.2	-	8 days	Erythromycin	Renal transplant
65	M	38.4	-	7 days	Ampicillin Tobramycin	Radiotherapy Carcinoma of bladder

References

1. Annals of Internal Medicine (1979) 91: 197
2. Clinics in Gastroenterology (1979) 3: 737

(Contributed by G. Williams, recently of the Infectious Diseases Unit, Prince Henry Hospital, Sydney; now Microbiology Registrar, Royal Prince Alfred Hospital, Sydney.)

METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS

Fairfield Hospital, Melbourne, reports the recent admission of four patients harbouring methicillin-resistant strains of Staph. aureus One died due to renal failure and the other three have now been discharged from hospital. The strain from the patient who died was resistant to all antibiotics except gentamicin and vancomycin by di testing; this organism was isolated from the patient's nose, sputum and nephrectomy wound. A second multiply-resistant strain was isolated from sputum and a vesicle swab of a 43 year old renal transplant recipient. Subsequently this strain was also isolated from blood cultures of this patient. The two other methicillin-resistant strains of Staph. aureus were sensitive to gentamicin, chloramphenicol and fusidic acid; one was isolated from the catheter of an 82 year old woman and the other from a hip sinus of a 22 year old man.

ERRATA - CDI 80/8

Page 1 - The issue date should have read 25 April 1980.
Page 4 - The Fansidar dosage for children "1-4 years" should read "1-3 years".
Virus tables - The dates of the reporting period and bulletin number were omitted. They should have read "3.4.80-16.4.80 - bulletin number 80/8".

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 1

REPORTING PERIOD - 17-4-80 . 30-4-80 BULLETIN NUMBER 80/9

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		11	1	1	2	5		29
0101 ADENOVIRUS TYPE 1		1			2				3
0102 ADENOVIRUS TYPE 2			1			6			7
0105 ADENOVIRUS TYPE 5					1	1			2
0107 ADENOVIRUS TYPE 7	3		2						5
0115 ADENOVIRUS TYPE 15		1							1
0119 ADENOVIRUS TYPE 19	5								5
0131 ADENOVIRUS TYPE 31						2			2
0199 ADENOVIRUS TYPING PENDING			1		6	4			11
0201 INFLUENZA A VIRUS	2								2
0203 INFLUENZA B VIRUS	1			1			3		5
0302 PARAINFLUENZA VIRUS TYPE 2	3		1	2	6		2		14
0303 PARAINFLUENZA VIRUS TYPE 3		2			1	1	1		5
0399 PARAINFLUENZA VIRUS TYPING PENDING						1			1
0400 RESPIRATORY SYNCYTIAL VIRUS (RS)		1				2	1		4
0500 RHINOVIRUS (ALL TYPES)					6		3		9
0600 MYCOPLASMA PNEUMONIAE	7		1			1	3	2	14
0700 ORNITHOSIS-PSITTACOSIS			1	3		4			8
0800 COXSACKIEVIRUSES GROUP A - NOT TYPED							2		2
0809 COXSACKIEVIRUS A9	1								1
0902 COXSACKIEVIRUS B2	1								1
0904 COXSACKIEVIRUS B4							2		2
0905 COXSACKIEVIRUS B5								1	1
1000 ECHOVIRUS NOT TYPED				2					2
1009 ECHOVIRUS TYPE 9	1							1	2
1011 ECHOVIRUS TYPE 11		2	3	1		1			7
1014 ECHOVIRUS TYPE 14			1						1
1016 ECHOVIRUS TYPE 16							1		1
1021 ECHOVIRUS TYPE 21	1								1
1022 ECHOVIRUS TYPE 22					3				3
1025 ECHOVIRUS TYPE 25					1				1

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 2

REPORTING PERIOD - 17-4-80 .30.4.80 BULLETIN NUMBER 80/9

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
1030 ECHOVIRUS TYPE 30	1	1		1	1				4
1034 ECHOVIRUS TYPE 34						1			1
1101 POLIOVIRUS TYPE 1						1	2	2	5
1102 POLIOVIRUS TYPE 2						1			1
1103 POLIOVIRUS TYPE 3		1					1		2
1200 MUMPS VIRUS	1		4	3		1	2		11
1300 HERPES VIRUS GROUP-NOT TYPED						3		1	4
1301 HERPES SIMPLEX VIRUS-NOT TYPED	13	3	3	1		1	30	44	95
1303 VARICELLA-ZOSTER VIRUS	3	1	1	2			1		8
1306 HERPES SIMPLEX TYPE 1	4		5	11		7			27
1307 HERPES SIMPLEX TYPE 2	51		1	13		16			81
1399 HERPES VIRUS TYPING PENDING			7						7
1401 COXIELLA BURNETI	13		1	2		1	4		21
1502 PICORNA VIRUS-NOT TYPED								5	5
1515 CONTAGIOUS PUSTULAR DERMATITIS (ORF VIRUS)						2			2
1521 MEASLES VIRUS	1								1
1522 RUBELLA VIRUS	2			1		1	1	2	7
1530 HEPATITIS A VIRUS								16	16
1532 HEPATITIS B ANTIGEN	12		8	32		13	8	5	78
1535 HEPATITIS A ANTIBODY						6			6
1541 CHLAMYDIA A - TRIC TYPE	10		3					28	41
1555 PAPOVAVIRUS GROUP (PAPILLOMA-HUMAN WART)	6								6
1556 CMV - CYTOMEGALOVIRUS	9	2	3	11	4	3	3	11	46
1564 ROTAVIRUS	2		6	5	1	7			21
1599 ENTEROVIRUS TYPING PENDING			3		11	2			16
ROSS RIVER VIRUS						1	41		42
ASTROVIRUS								1	1
SMALL VIRUS (LIKE) PARTICLE					2				2
Total	162	15	67	92	46	92	116	119	709

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 3

PERIOD : 17/4/80 **to** 30/4/80 .... 80/9
Viral Identifications by Clinical Information Table 1.
Code 00,99 -No ill or data; 01,02,11,12 -Respiratory; 83 -Enceph-alitis; 43 -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.....	4	7					7				
0101 ADENOVIRUS TYPE 1.....		1					2				
0102 ADENOVIRUS TYPE 2.....	1	1					5				
0105 ADENOVIRUS TYPE 5.....		1					1				
0107 ADENOVIRUS TYPE 7.....		3					2				
0115 ADENOVIRUS TYPE 15.....		1									
0131 ADENOVIRUS TYPE 31.....							2				
0201 INFLUENZA A VIRUS.....		1							1		
0203 INFLUENZA B VIRUS.....		4									
0302 PARAINFLUENZA VIRUS TYPE 2....		15									
0303 PARAINFLUENZA VIRUS TYPE 3....	1	4									
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....		4									
0500 RHINOVIRUS (ALL TYPES).....		4									
0600 MYCOPLASMA PNEUMONIAE.....	3	10									
0700 ORNITHOSIS-PSITTACOSIS.....		6									
0800 COXSACKIEVIRUSES GROUP A - NOT TYPED.....							1				
0809 COXSACKIEVIRUS A9.....				1							
0902 COXSACKIEVIRUS B2.....							1				
0904 COXSACKIEVIRUS B4.....		1		1							
0905 COXSACKIEVIRUS B5.....			1								
1000 ECHOVIRUS NOT TYPED.....				1			1				
1009 ECHOVIRUS TYPE 9.....						1			1		
1011 ECHOVIRUS TYPE 11.....		1		3			2				
1014 ECHOVIRUS TYPE 14.....				1							
1021 ECHOVIRUS TYPE 21.....							1				
1022 ECHOVIRUS TYPE 22.....	1	1					2				

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 4

PERIOD : 17/4/80 to 30/4/80 .... 80/9
Viral Identifications by Clinical Information Table 1.
Code 00,99 -No ill or data; 01,02,11,12 -Respiratory; 03 -Enceph-
alitis; 03 -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	Respir atory	Enceph alitis	Mening -itis	Para- lysis	CNS other unspec	GI	Hepa -tic	CVS	Urin -ary	Skin/ mucs memb
1025 ECHOVIRUS TYPE 25	1										
1030 ECHOVIRUS TYPE 30				3			1				
1034 ECHOVIRUS TYPE 34				1							
1101 POLIOVIRUS TYPE 1	1	1					1				
1102 POLIOVIRUS TYPE 2							1				
1200 MUMPS VIRUS	2			4		1					
1300 HERPES VIRUS GROUP-NOT TYPED											1
1301 HERPES SIMPLEX VIRUS-NOT TYPED	16	2	1	1		1					50
1303 VARICELLA-ZOSTER VIRUS	1										6
1306 HERPES SIMPLEX TYPE 1	1	3					1				14
1401 COXIELLA BURNETI	10										
1502 PICORNA VIRUS-NOT TYPED	1	2									
1515 CONTAGIOUS PUSTULAR DERMATITIS (ORF VIRUS)						1					1
1521 MEASLES VIRUS											1
1522 RUBELLA VIRUS	1										5
1530 HEPATITIS A VIRUS	4							14			
1532 HEPATITIS B ANTIGEN	42							36			
1535 HEPATITIS A ANTIBODY								6			
1541 CHLAMYDIA A - TRIC TYPE	28										
1555 PAPOVAVIRUS GROUP (PAPILLOMA-HUMAN WART)											6
1556 CMV - CYTOMEGALOVIRUS	17	6						3		2	3
1564 ROTAVIRUS							21				
ROSS RIVER VIRUS											10
ASTROVIRUS							1				
SMALL VIRUS (LIKE) PARTICLE	1						1				
Total	136	79	2	16		4	54	59	2	2	97

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 5

PERIOD : 17/4/80 **to** 30/4/80 **...** 80/9
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
0100 ADENOVIRUS NOT TYPED.....	1		1	1			2	2	2	
0101 ADENOVIRUS TYPE 1.....								1		
0107 ADENOVIRUS TYPE 7.....	1						1			
0119 ADENOVIRUS TYPE 19.....	5									
0203 INFLUENZA B VIRUS.....								3		
0600 MYCOPLASMA PNEUMONIAE.....									1	
0700 ORNITHOSIS-PSITTACOSIS.....					2					
0800 COXSACKIEVIRUSES GROUP A - NOT TYPED.....										1
1000 ECHOVIRUS NOT TYPED.....								1		
1009 ECHOVIRUS TYPE 9.....							1			
1011 ECHOVIRUS TYPE 11.....									1	
1016 ECHOVIRUS TYPE 16.....								1		
1101 POLIOVIRUS TYPE 1.....								1		1
1103 POLIOVIRUS TYPE 3.....								1		1
1200 MUMPS VIRUS.....			2		1			1	1	
1301 HERPES SIMPLEX VIRUS-NOT TYPED		22		1					1	
1303 VARICELLA-ZOSTER VIRUS.....	1						1			
1306 HERPES SIMPLEX TYPE 1.....	2	4						2	1	
1307 HERPES SIMPLEX TYPE 2.....		81								
1401 COXIELLA BURNETI.....		1			1		3	6		
1502 PICORNA VIRUS-NOT TYPED.....				1			1	1		
1522 RUBELLA VIRUS.....					1	1				
1541 CHLAMYDIA A - TRIC TYPE.....		13								
1556 CMV - CYTOMEGALOVIRUS.....			3	1		3	4	4	6	
ROSS RIVER VIRUS					40					
Total.....	10	121	6	4	45	4	13	24	13	3