



Communicable Diseases Intelligence

Bulletin number 80/5

Issue date: 13 March 1980

Virus reports this period - 732. Points of interest include:

- Ross River Virus - 18 reports, 12 of which were from South Australia. There have been a total of 29 new cases identified as Ross River Virus infection since 1 January 1980, (as based on date of collection of sample) and two of Arbovirus group A. Of the 29, 20 were reported by South Australia (one of which was a case from Alice Springs) and nine from the rest of Australia.

State Health authorities in Victoria report that there have been two confirmed cases in that State this year, and one additional suspected case. Both the confirmed cases came from the country outside Swan Hill. In Victoria, intensive mosquito control measures are maintained around high population centres in the Murray Valley region during the warmer months of the year. However these measures cannot be expected to prevent the infection of country dwellers or those who visit the country for recreational activities such as fishing or hunting, particularly during mosquito biting times.
- Rubella - 25 reports - similar in number to the previous two reporting periods (24,21). This indicates a slight decrease from the December/January period, when between 35 and 45 reports were being received each period. Three of the isolations reported this period were from products of conception following abortions. One, a spontaneous abortion, occurred at the 11th week of pregnancy following suspected contact with rubella. The others had clinical rubella early in pregnancy.
- Echovirus - Reports of Echovirus type 11 isolations continue to decrease, with the fortnightly number now only 20-25% of the incidence over the New Year period. The isolations in one case, reported by the State Health Laboratory, Brisbane, were from the lung, liver, kidney and cardiac blood of an infant which died at one week of age from a fulminating viral infection.
- Notification has recently been received from the W.H.O. office in Fiji that an outbreak of dengue is occurring in Western Samoa. Confirmation has been obtained in five out of 12 sera by the Viral Research Unit, Dunedin, N.Z. Information on the type is not yet available.

GENERAL RECOMMENDATIONS ON IMMUNIZATION

(Recommendation of the United States "Immunization Practices Advisory Committee" (ACIP) - Source: MMWR February 22, 1980)

Certain basic principles underlie the immunization practices recommended for infants, children, and adults. Most of these principles depend on scientific knowledge about active and passive immunization. Others represent judgments of public health officials and specialists in clinical and preventive medicine. Thus, recommendations on immunization practices represent a balancing of scientific evidence of benefits and risks in order to achieve optimal levels of protection against infectious or communicable diseases.

Multiple-dose vaccines

Some vaccines must be given in more than 1 dose for full protection. In recommending the times and intervals for multiple doses, the Committee takes into account current risks from disease and the objective of inducing satisfactory clinical immunity. Intervals between doses that are longer than those recommended do not usually lead to a reduction in final antibody levels. Therefore, it is not necessary to restart an interrupted series of vaccinations or to add extra doses.

Simultaneous administration of certain vaccines

Experimental evidence and extensive clinical experience are strengthening the scientific basis for giving certain vaccines at the same time. Most of the widely used antigens can safely and effectively be given simultaneously. This knowledge is particularly helpful when circumstances call for giving several vaccines at the same time - such as imminent exposure to several infectious diseases, preparation for foreign travel, or uncertainty that the patient will return for future vaccinations.

In general, inactivated vaccines can be administered simultaneously at separate sites. It should be noted, however, that when vaccines commonly associated with local or systemic side effects - such as cholera, typhoid, and plague vaccines - are given simultaneously, the side effects theoretically could be accentuated. Generally, persons known to experience such side effects should be given these vaccines on separate occasions.

An inactivated vaccine and a live, attenuated virus vaccine can be administered simultaneously at separate sites, with the precautions that apply to the individual vaccines.

Previously it has been recommended that individual live-virus vaccines be given at least 1 month apart whenever possible. The reason for this was the theoretical concern that more frequent or severe side effects as well as diminished antibody responses might otherwise result. Field observations indicate, however, that simultaneous administration

of the most widely used live virus vaccines has not resulted in impaired antibody response or increased rates of adverse reactions.

Observation of children indicates that antibody responses to trivalent oral polio vaccine (OPV) given simultaneously with licensed combination measles-mumps-rubella vaccine (not available or recommended in Australia : Ed.) are compatible to those obtained when the same vaccines are given at different times. It is reasonable to expect equivalently good immunologic responses when other licensed, combination, live attenuated-virus vaccines or their component antigens are given simultaneously with OPV.

Direct evidence on the response to simultaneous administration of diphtheria and tetanus toxoid and pertussis vaccine (DTP), OPV, and measles-mumps-rubella vaccines is lacking. However, field experience and antibody data regarding simultaneous administration of either DTP and measles vaccine or DTP and OPV indicate that the protective response is satisfactory and that the incidence of side effects is not increased. Therefore, simultaneous administration of all of these antigens is feasible, particularly if there is doubt that the recipient will return to receive further doses of vaccine.

There is no evidence to indicate that simultaneous administration of individual measles, mumps, or rubella antigens at different sites will yield different results from administration of the combined vaccines in a single site.

Simultaneous administration of pneumococcal polysaccharide vaccine (currently approved only for use in splenectomised patients in Australia : Ed.) and whole-virus influenza vaccine (the CSL influenza vaccine is a split-virus vaccine : Ed.) has been found to give satisfactory antibody response without increasing the incidence of side effects. Although not yet studied, simultaneous administration of the pneumococcal vaccine and split-virus influenza vaccine may also be expected to yield satisfactory results.

Hypersensitivity to vaccine components

Vaccine antigens produced in systems or with substrates that contain allergenic substances - for example, those antigens derived from growing microorganisms in the embryonated eggs of chickens or ducks - may cause hypersensitivity reactions. These may possibly include anaphylaxis, when the final vaccine contains a significant amount of the allergen. Such antigens include those grown in eggs and used against typhus, rabies (duck embryo vaccine), and yellow fever. (The rabies vaccine currently in use in Australia is the human diploid cell vaccine - Ed.) Vaccines with such characteristics should not be given to persons known to be hypersensitive to components of the substrates. Contrary to this generalization, influenza vaccine antigens, although prepared from viruses grown in embryonated eggs, are highly purified during preparation and have only very rarely been reported to be associated with hypersensitivity reactions. Screening

persons by history of ability to eat eggs without adverse effects is a reasonable way to identify those possibly at risk from influenza vaccination. Individuals with anaphylactic hypersensitivity to eggs should not be given influenza vaccine. This would include persons who, upon ingestion of eggs, develop swelling of the lips or tongue or who experience acute respiratory distress or collapse.

Live-virus vaccines prepared by growing viruses in cell cultures are essentially devoid of potentially allergenic substances related to host tissue. No severe hypersensitivity reactions have been reported with the live, attenuated measles, mumps, or rubella vaccines prepared from viruses grown in cell cultures. These vaccines can be given safely regardless of a history of allergy to eggs or egg protein.

Vaccines, such as cholera, DTP, plague, and typhoid, that are derived from organisms grown in simple bacteriologic media, are frequently associated with local, and occasionally systemic, side effects, but they do not appear to be allergenic per se. They should not be given, however, to individuals who have experienced any serious side effects from them.

Some vaccines contain preservatives or trace amounts of antibiotics to which patients may be hypersensitive. Those giving vaccines should review carefully the information provided with the package insert before deciding whether the rare patients with known hypersensitivity to such preservatives or antibiotics can be vaccinated safely.

Altered immunity

Virus replication after administration of live, attenuated-virus vaccines may be enhanced in persons with immune deficiency diseases, and in those with suppressed capability for immune response, as occurs with leukemia, lymphoma, generalized malignancy, or therapy with corticosteroids, alkylating agents, antimetabolites, or radiation. Patients with such conditions should not be given live, attenuated-virus vaccines. Similarly, individuals residing in the household of a susceptible immunocompromised individual should not receive OPV because vaccine viruses are excreted by the recipient of the vaccine and are communicable to other persons.

Severe febrile illnesses

Vaccination of persons with severe febrile illnesses should generally be deferred until these persons have recovered. This precaution is to avoid superimposing adverse side effects from the vaccine on the underlying illness or mistakenly identifying a manifestation of the underlying illness as having been caused by the vaccine. The presence of minor illnesses such as mild upper-respiratory infections should not preclude vaccination.

Live vaccines and pregnancy

On grounds of a theoretical risk to the developing fœtus, live

attenuated-virus vaccines are not generally given to pregnant women or to those likely to become pregnant within 3 months after vaccination. With some of these antigens, particularly rubella, measles, and mumps vaccines, pregnancy is a contraindication to the vaccination. With OPV and yellow fever vaccine, however, vaccine should be given if there is a substantial risk of exposure to natural infection. There is no convincing evidence of risk to the foetus from vaccination of pregnant women with inactivated viral vaccines, bacterial vaccines, or toxoids.

Recent administration of immune serum globulin or hyperimmune globulin

Passively acquired antibody can interfere with the response to live, attenuated-virus vaccines. Therefore, administration of such vaccines should be deferred until approximately 3 months after passive immunization. By the same token, immunoglobulins should not be administered for at least 2 weeks after a vaccine has been given, if possible. Inactivated vaccines are sometimes administered concurrently with passive antibody to induce active immunity, as is done for postexposure rabies prophylaxis.

Reporting adverse reactions

All vaccines have been reported to cause some adverse effects. These range from minor local reactions to severe systemic illness such as paralysis associated with OPV. To improve knowledge about adverse effects, all severe reactions should be evaluated and reported in detail to the Secretary, Australian Drug Evaluation Committee, Commonwealth Department of Health, Canberra.

BOTULISM IN A N.S.W. BREAST-FED INFANT

(Contributed by W.G. Murrell and B.J. Stewart, CSIRO Food Research Laboratory, North Ryde, and R.A. Ouvrier and D.C. Dorman, Royal Alexandra Hospital for Children, Camperdown.)

A 16 week old infant boy was admitted suffering from a history of generalised muscle weakness including bilateral ptosis. Needle electromyography showed many brief small action potentials consistent with the diagnosis of botulism. A high titre of type A toxin was present in the faeces at 7 days, and Clostridium botulinum type A were present at over 10^6 /g. Both the toxin titre and the C. botulinum count declined in later faecal samples. The infant was being raised on a large sheep property 115 kilometres from Nyngan. The baby had not been given any solid foods or honey on a dummy and had only been rarely outside the home. He has a 4 year old brother.

C. botulinum type A was isolated from a soil sample taken from near the house and from vacuum cleaner house dust but not from a soil sample from near the shearing shed. Environmental factors affecting contamination are being investigated. The baby's health is improving and he has been moved to Dubbo Hospital.

WOUND BOTULISM IN U.S.A.

(Based on MMWR 1980 29(3):34)

Since 1943, 21 cases of wound botulism are recorded in the U.S.A., three recently - a 35 year old man with a crush injury to his hand, a six year old boy with a compound fracture of his arm, and a 29 year old man with a partially severed hand. Antibiotic treatment in these cases was initially with cephalosporin.

The three patients subsequently developed neurological symptoms which included dysarthria, dysphagia, diplopia and progressive weakness and all eventually required ventilatory support.

Cultures and serology indicated Clostridium botulinum type A and type B with one presumed mixed infection.

The editor of MMWR notes that wound botulism is a rare disease, but with the widespread distribution of botulinum spores in the environment the diagnosis should always be considered in wound cases in which there is development of characteristic neurological signs and symptoms.

The period of time from injury to onset of symptoms in the 21 reported cases in the United States has ranged from 4 to 18 days. The median age for all cases has been 19 years, with a range of 6-44 years; wound botulism in a neonate (resulting from infection of the umbilical stump) has never been reported, although it is theoretically possible. Antibiotic therapy does not preclude development of the disease, as is demonstrated in the three cases reported here.

CDC considers wound botulism to be confirmed in a person with symptoms of botulism when C. botulinum is cultured from the wound or when toxin is detected in the patient's serum.

HUMAN TO HUMAN RABIES TRANSMISSION VIA A CORNEAL TRANSPLANT - FRANCE

(Based on WER 55(9) and MMWR 29(3))

A second case of rabies transmitted by a corneal transplant has been reported, this time from France. The recipient, a 36 year old man, died 41 days after receiving the graft. The donor, a 57 year old woman, had died following a flaccid quadriplegic syndrome. As with the previous case (CDI 79(6)), rabies was not suspected prior to the donor's death because of an atypical clinical presentation and the lack of a clear history of animal exposure.

These cases and the association of Creutzfeldt-Jakob disease with corneal transplants draw attention to the potential risk of transmission of infectious agents with this procedure. Persons with a neurological illness of unknown aetiology are not appropriate donors for transplant tissue.

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

REPORTING PERIOD - 21-2-80 . 5-3-80 BULLETIN NUMBER 80. 5. (1)
VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES

VIRUS OR VIRAL ANTIGEN	ICPMR (NSW) WVB (ACT)	RAHC (NSW)	PHH/ POW (NSW)	FAIR- FIELD (VIC)	RCH (VIC)	IMVS (SA)	STATE LAB (QLD)	STATE LAB (WA)	Total
0100 ADENOVIRUS NOT TYPED.....	5	2	10	1		2	7		27
0101 ADENOVIRUS TYPE 1.....		1			4	1			6
0102 ADENOVIRUS TYPE 2.....			1	1	2				4
0103 ADENOVIRUS TYPE 3.....						2			2
0105 ADENOVIRUS TYPE 5.....						3			3
0107 ADENOVIRUS TYPE 7.....	2		1	1					4
0108 ADENOVIRUS TYPE 8.....								3	3
0111 ADENOVIRUS TYPE 11.....								1	1
0115 ADENOVIRUS TYPE 15.....	1								1
0119 ADENOVIRUS TYPE 19.....						1		3	4
0131 ADENOVIRUS TYPE 31.....					4				4
0199 ADENOVIRUS TYPING PENDING.....			1		3	7			11
0201 INFLUENZA A VIRUS.....			1	1					2
0203 INFLUENZA B VIRUS.....						1			1
0301 PARAINFLUENZA VIRUS TYPE 1.....					1			2	3
0302 PARAINFLUENZA VIRUS TYPE 2.....		2			10		1		13
0303 PARAINFLUENZA VIRUS TYPE 3.....	2	1		1	1	1		1	7
0399 PARAINFLUENZA VIRUS TYPING PENDING.....							2		2
0400 RESPIRATORY SYNCYTIAL VIRUS (RS)....	2				1		2		5
0500 RHINOVIRUS (ALL TYPES).....					10	2	3		15
0600 MYCOPLASMA PNEUMONIAE.....	1	2	4	1			10	1	19
0700 ORNITHOSIS-PSITTACOSIS.....	3		1	1		1			6
0809 COXSACKIEVIRUS A9.....				1					1
0902 COXSACKIEVIRUS B2.....							2		2
0903 COXSACKIEVIRUS B3.....						1			1
0904 COXSACKIEVIRUS B4.....						1	2	1	5
1006 ECHOVIRUS TYPE 6.....						2			2
1009 ECHOVIRUS TYPE 9.....				1					1
1011 ECHOVIRUS TYPE 11.....	1	1	4	1	4	6	4		21
1020 ECHOVIRUS TYPE 20.....							1		1
1022 ECHOVIRUS TYPE 22.....							1		1
1025 ECHOVIRUS TYPE 25.....		1							1

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

REPORTING PERIOD - 21-2-80 . 5-3-80 BULLETIN NUMBER 80-5 (2)
 VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES-CONTINUED

VIRUS OR VIRAL ANTIGEN	ICPMR (NSW)/ WVH (ACT)	RAHC (NSW)	PBH/ POW (NSW)	FAIR- FIELD (VIC)	RCH (VIC)	IMVS (SA)	STATE LAB (QLD)	STATE LAB (WA)	Total
1030 ECHOVIRUS TYPE 30.....				1					1
1101 POLIOVIRUS TYPE 1.....						1			1
1102 POLIOVIRUS TYPE 2.....						1			1
1103 POLIOVIRUS TYPE 3.....						2			2
1104 POLIOVIRUS-VACCINAL STRAIN.....					2				2
1200 MOMPUS VIRUS.....	6		4	1	1	2	5	4	23
1300 HERPES VIRUS GROUP-NOT TYPED.....	2				1			1	4
1301 HERPES SIMPLEX VIRUS-NOT TYPED.....	13	4	2	3	5	2	29	41	99
1302 EPSTEIN-BARR VIRUS (EB VIRUS).....				2					2
1303 VARICELLA-ZOSTER VIRUS.....	2		1	1		2	2	4	12
1306 HERPES SIMPLEX TYPE 1.....	10		6	8		6			32
1307 HERPES SIMPLEX TYPE 2.....	47		4	10		14			75
1399 HERPES VIRUS TYPING PENDING.....			2			3			5
1401 COXIELLA BURNETI.....	13					3	17		33
1521 MEASLES VIRUS.....			1	1			3		5
1522 RUBELLA VIRUS.....	1		3	7		5	5	4	25
1530 HEPATITIS A VIRUS.....								1	1
1532 HEPATITIS B ANTIGEN.....	7		6	24		15	6	9	67
1541 CHLAMYDIA A - TRIC TYPE.....	12		4					37	53
1556 CMV - CYTOMEGALOVIRUS.....	5	1	7	21	2	2	10	15	63
1564 ROTAVIRUS.....					4	4		3	11
1565 CALICI VIRUS.....	1								1
1599 ENTEROVIRUS TYPING PENDING.....		3	2		7		1		13
ARBO. GROUP A.				1					1
ROSS RIVER VIRUS						12	6		18
SMALL VIRUS (LIKE) PARTICLE	1								1
DENGUE							1		1
ARBO. GROUP B.				1					1
Total.....	137	18	65	91	64	106	120	131	732

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

PERIOD : 21/2/80 to 5/3/80 (80/5)

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.

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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.....		13				1					
0101 ADENOVIRUS TYPE 1.....	1	1					3				
0102 ADENOVIRUS TYPE 2.....		1					2				
0103 ADENOVIRUS TYPE 3.....		1					1				
0105 ADENOVIRUS TYPE 5.....	1						2				
0107 ADENOVIRUS TYPE 7.....		1					2				
0119 ADENOVIRUS TYPE 19.....	2										
0131 ADENOVIRUS TYPE 31.....	2						1				1
0201 INFLUENZA A VIRUS.....		1									
0203 INFLUENZA B VIRUS.....		1									
0301 PARAINFLUENZA VIRUS TYPE 1....	2	1									
0302 PARAINFLUENZA VIRUS TYPE 2....	1	11									1
0303 PARAINFLUENZA VIRUS TYPE 3....		6									
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....		2	1					1			1
0500 RHINOVIRUS (ALL TYPES).....	1	4									
0600 MYCOPLASMA PNEUMONIAE.....		13									1
0700 ORNITHOSIS-PSITTACOSIS.....	2	3	1								
0809 COXSACKIEVIRUS A9.....				1							
0902 COXSACKIEVIRUS B2.....		1		1							
0903 COXSACKIEVIRUS B3.....				1							
0904 COXSACKIEVIRUS B4.....	2	1					1				1
1006 ECHOVIRUS TYPE 6.....							1				
1011 ECHOVIRUS TYPE 11.....	3				5	2	10	1			
1022 ECHOVIRUS TYPE 22.....							1				
1025 ECHOVIRUS TYPE 25.....					1						
1030 ECHOVIRUS TYPE 30.....					1						
1101 POLIOVIRUS TYPE 1.....							1				

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

PERIOD : 2/2/80 to 5/3/80(80/5)

(4)

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	Respir atory	Enceph alitis	Mening -itis	Para- lysis	CNS other unspec	GI	Hepa -tic	CVS	Urin -ary	Skin/ muc memb
1102 POLIOVIRUS TYPE 2.....		1									
1103 POLIOVIRUS TYPE 3.....							2				
1104 POLIOVIRUS-VACCINAL STRAIN....	1						1				
1200 MUMPS VIRUS.....	3	1	1	7		1					2
1300 HERPES VIRUS GROUP-NOT TYPED..		1									3
1301 HERPES SIMPLEX VIRUS-NOT TYPED	17	4	2	1							58
1303 VARICELLA-ZOSTER VIRUS.....	1		1	1	1						7
1306 HERPES SIMPLEX TYPE 1.....		1								2	19
1307 HERPES SIMPLEX TYPE 2.....											2
1401 COXIELLA BURNETI.....	11	2						2			
1521 MEASLES VIRUS.....		1	1			1					2
1522 RUBELLA VIRUS.....	4										20
1530 HEPATITIS A VIRUS.....	1										
1532 HEPATITIS B ANTIGEN.....	27							40			
1541 CHLAMYDIA A - TRIC TYPE.....	37										
1556 CMV - CYTOMEGALOVIRUS.....	29	5				1	1			5	1
1564 ROTAVIRUS.....	4						7				
1565 CALICI VIRUS.....							1				
ARBO. GROUP A											1
ROSS RIVER VIRUS	3										4
SMALL VIRUS (LIKE) PARTICLE							1				
DENGUE (TYPE 3)	1										
Total.....	156	77	7	19	1	6	38	44		7	124

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

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PERIOD : 2/2/80 to 5/3/80 ... (80/5)
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	Gen-ital	Endo/sal gland	RES	Muscle/joint	Con-genital	PUO	Fever/malaise	Other	SIDS
1522 RUBELLA VIRUS.....			1		1	1		2		
1541 CHLAMYDIA A - TRIC TYPE.....	1	15								
1556 CMV - CYTOMEGALOVIRUS.....	1		2	1		3	5	4	11	
ROSS RIVER VIRUS					14			1		
ARBO. GROUP B.								1		
Total.....	16	111	14	1	16	4	30	34	16	1