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NATIONAL MICROBIOLOGICAL LABORATORY REPORTING SERVICE

BULLETIN 10

6 May - 19 May 1977

The opportunity was taken at the Annual Scientific Meeting of the Australian Society for Microbiology in Melbourne on 20 May to hold informal discussions with representatives of contributing laboratories on this Reporting Service. The matters raised included both technical problems being experienced in providing the information (e.g. categorisation of isolates, etc.) and the general aims and potential of the Service in the future.

In the next bulletin, a report will be provided on the major points discussed in Melbourne. Other contributors to the Service, however, are invited to offer their comments on any problems they are experiencing or any suggestions they may have for the scheme. The Service is an evolving one and we are keen to receive suggestions from contributors. These can be directed to either Dr John Donovan or Mr Geoff Noonan of the Department of Health, P.O. Box 100, Woden A.C.T. 2606.

Typhoid outbreak in Melbourne (continued)

(compiled by the staff of Fairfield Hospital, Microbiological Diagnostic Unit, and the Commission of Public Health)

Phase 2, the isolation and treatment of cases of this outbreak, continues. 111 patients have been admitted to Fairfield Hospital. 69 of these have been discharged for follow up. 37 patients are at present undergoing treatment, and 35 of these have been confirmed bacteriologically to be infected with *S. typhi*.

About 150 family contacts of patients have been screened at the Microbiological Diagnostic Unit (M.D.U.), and 22 members of staff at a hospital attended by one of the confirmed cases in the infective stage have been screened. A total of 98 members of staff and their families of the source-restaurant have also been screened. In all cases this has included the examination of 3 samples of faeces and urine, by Widal and Vi-haemagglutination. The M.D.U. is also continuing to examine faeces from patients discharged from hospital. 34 of the 35 isolates of *S. typhi* have been shown to belong to phage type E 1. A sample of scrains are sensitive to: ampicillin, chloramphenicol and trimethoprim (0.25, 2.0 and 0.1 micrograms per ml respectively).

Arrangements have already been made to re-examine, 28 days after discharge, the Widal reaction of all those patients who were admitted to hospital and subsequently discharged.

Q fever (supplied by ICPMR)

Previous reports have mentioned the incidence of Q fever among employees of the Forbes abattoir, and this continues to be a problem.

Seventy personnel out of a total of approximately 300 have been infected. Investigations have shown that this abattoir kills approximately 25,000 wild goats per annum. These goats are captured in the far west of N.S.W. taken to Cobar and then transported to Forbes. No other abattoir in N.S.W. kills goats on a large scale as far as can be determined. A serological survey of these animals is being organised in an attempt to determine the incidence of Q fever.

Herpes simplex encephalitis (contributed by Fairfield)

Herpes simplex virus type 1 was isolated from frontal and temporal lobes of a 39 year old man, who died of encephalitis. He had been well until 10 days before admission when he complained of rhinorrhoea, a week later he developed headache and fever, became confused and was noted to be behaving strangely. On admission to hospital he was comatose and investigations (CAT scan) supported the diagnosis of viral encephalitis. He died in 4 days, at post mortem the macroscopic findings were non-specific and specimens from temporal and frontal lobes were taken for viral culture. Herpes simplex antibody titres (CFT) in sera taken on admission and four days later were stationary at 1 : 64.

This patient was included in a trial of adenine arabinoside.

Gastroenteritis outbreak in nursery (further report)
(contributed by Fairfield)

In Bulletin 8 we reported finding Rotavirus in the faeces of 7 babies who developed mild diarrhoea while in the neonatal nursery of a city hospital. Faecal specimens from 9 asymptomatic neonates in the same nursery, during that time, were examined, and 6 of the 9 were found to be positive for Rotavirus by EM.

"Advances in viral hepatitis"

A report of the WHO Expert Committee on Viral Hepatitis may be of interest to readers. Further information is attached.

Advances in viral hepatitis. Report of the WHO Expert Committee on Viral Hepatitis. World Health Organization Technical Report Series, 1977, No. 602 (ISBN 92 4 120602 0). 62 pages. Price: Sw.fr. 8.--, US\$ 3.20. French, Russian and Spanish editions in preparation.

To keep pace with the rapid progress in hepatitis research that has been made since the discovery in the late 1960s that the Australia antigen is an indicator of infection by hepatitis B virus, the World Health Organization has convened several meetings of international groups of experts to review the latest advances and recommend lines for research and action. WHO has just published the report of the most recent meeting, held in October 1976.

In this report, the WHO Expert Committee on Viral Hepatitis reviews the biochemical and biophysical properties of the viruses, antigens, and antibodies of hepatitis A and B and indicates the relative merits and sensitivity of the serological techniques that have been developed for their detection. Significant improvement in the specific diagnosis of viral hepatitis has led to the recognition of a new type of hepatitis that is antigenically unrelated to hepatitis A or B virus. This type, which cannot be readily distinguished from hepatitis B on clinical grounds, is now the commonest form of hepatitis to occur after blood transfusion in some parts of the world, and the implications of this fact are examined in the report.

Animal models of infection with hepatitis A and B viruses, discussed in the report, make it possible to study the infectivity of both agents in the laboratory and to evaluate the safety and effectiveness of experimental hepatitis B vaccines before they are tested in man. The Committee considers the preliminary studies that have been conducted to develop such vaccines; and, as different laboratories may be expected to use varying techniques to prepare a number of experimental vaccines, the Committee proposes minimum criteria and guidelines for their preparation and testing. The guidelines emphasize the need to ensure that experimental vaccines are free from contaminants and to perform safety testing first in chimpanzees before instituting stepwise small trials in volunteers capable of giving informed consent. Passive hepatitis B immunization with various immunoglobulin preparations is also reviewed and, again, guidelines are put forward.

Other sections of the report deal with the epidemiology of both types of hepatitis, including the geographical distribution of hepatitis B subtypes and with immune responses in hepatitis B and the pathogenesis of the disease. The report also covers the first promising attempts at therapy for hepatitis B, based on the use of interferon or interferon inducers, as well as current theories regarding the role of hepatitis B virus in primary liver carcinoma.

The report concludes with a number of recommendations concerning the establishment of reference preparations for hepatitis A and B, the selection of volunteer blood donors, the reporting of hepatitis cases, and the design and conduct of trials of prophylaxis and therapy. In addition, proposals for further research in both types of hepatitis are outlined. The Committee also recommends a simplified nomenclature for the viruses, antigens, and antibodies of hepatitis A and B that takes account of recent laboratory findings.

The publication provides important information of value to all health personnel and scientists concerned with various aspects of viral hepatitis.

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PERIOD 10
 DATES 6.5.77 - 19.5.77

LABORATORY

VIRUS OR VIRAL ANTIGEN	SYDNEY			MELBOURNE		ADELAIDE	PERTH	TOTAL
	ICPMR	RAHC	PHH/POW	FAIR-FIELD	RCH	IMVS	STATE LAB.	
0100 Adenovirus not typed	2					1	3	6
0101 Adenovirus type 1						1		1
0102 " " 2						2		2
0103 " " 3	2							2
0104 " " 4						1		1
0105 " " 5		1						1
0108 " " 8				5				5
0119 " " 19	1							1
0201 Inflenza A virus							1	1
0301 Parainfluenza virus type 1	1			6	27	21	7	62
0302 " " " 2				3	1	9	5	18
0303 " " " 3				1	1	1	12	15
0400 Respiratory syncytial virus (RS)		2			5		1	8
0500 Rhinovirus (all types)				3	5	3		11
0600 Mycoplasma pneumoniae	3			4	1	3		11
0700 Ornithosis - psittacosis				2		1		3
0809 Coxsackievirus A9		1					6	7
0903 Coxsackievirus B3				2				2
0905 " " B5				1			4	5
1006 Echovirus type 6			1	4	1	5		11
1009 " " 9	2			4			1	7
1011 " " 11	1							1
1014 " " 14			3					3
1017 " " 17				3				3
1018 " " 18	1	1		1	1			4

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LABORATORY

VIRUS OR VIRAL ANTIGEN	SYDNEY			MELBOURNE		ADELAIDE	PERTH	TOTAL
	ICPMR	RAHC	PHH/POW	FAIR-FIELD	RCH	IMVS	STATE LAB.	
1019 Echovirus type 19			1		2			3
1021 " " 21				1		1		1
1022 " " 22					1			1
1030 " " 30	1	8	26	77	52	59	31	1
1101 Poliovirus type 1						1		1
1102 " " 2						2	1	1
1103 " " 3				1	1		1	3
1104 Poliovirus - vaccinal strain			1					1
1105 Sabin poliovirus		1					10	1
1200 Mumps virus				3		5		8
1300 Herpes virus group - type unknown							1	1
1301 Herpes simplex virus - not typed	1		5		3		3	12
1303 Varicella - Zoster virus	3					1	1	5
1306 Herpes simplex type 1 (oral)	11			5		8		24
1307 " " 2 (genital)	18			2		12		32
1401 Coxiella burneti	17					1		18
1512 Vaccinia virus			1					1
1521 Measles virus	2	1		1				4
1532 Hepatitis B antigen			13	22		4	2	41
1533 Hepatitis B antibody						7	3	10
1534 Hepatitis B antigen and antibody							1	1
1541 TRIC - Trachoma - Inclusion conjunctivitis							4	4
1556 CMV - Cytomegalovirus		1	1	2	4	3	5	16
1562 Reovirus (all types)				1				1

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VIRUS OR VIRAL ANTIGEN	FA	BL	NA	CS	SK	EY	UR	GE	BR	OT	TOTAL
0100 Adenovirus not typed		5	1								6
0101 Adenovirus type 1	1										1
0102 " " 2	2										2
0103 " " 3			1			1					2
0104 " " 4			1								1
0105 " " 5			1								1
0108 " " 8						5					5
0119 " " 19						1					1
0201 Influenza A virus		1									1
0301 Parainfluenza virus type 1			62							1	63
0302 " " " 2		2	16								18
0303 " " " 3		2	12							1	15
0400 Respiratory syncytial virus (RS)		1	7								8
0500 Rhinovirus (all types)			11								11
0600 Mycoplasma pneumoniae		11									11
0700 Ornithosis - psittacosis		3									3
0809 Coxsackievirus A9	1		6							1	8
0903 Coxsackievirus B3		2									2
0905 " B5	2	1	2								5
1006 Echovirus type 6	4		6		1						11
1009 " " 9	2		5		3						10
1011 " " 11			1								1
1014 " " 14	3										3
1017 " " 17	2		1								3
1018 " " 18	1		3		1						5

VIRUS OR VIRAL ANTIGEN	FA	BL	NA	CS	SK	EY	UR	GE	BR	OT	TOTAL
1563 Coronavirus		1									1
1564 Roravirus	26										26
TOTAL TYPED VIRUSES	56	112	162	10	15	10	5	40	2	5	417
0199 Adenovirus type pending	4		1			1					5
0399 Parainfluenza virus type pending			6								6
1099 Echovirus type pending			6		1						7
1399 Herpes virus type pending			1		5			4			10