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ANNUAL REPORT OF THE HEPATITIS GROUP, COMMISSION ON  
VIRAL INFECTIONS, A.F.E.B.

1 March 1961 to 28 February 1962

Members:        Dr. John R. Paul, Chairman

Dr. F.B. Bang	Dr. R.W. McCollum
Dr. W. P. Havens, Jr.	Dr. G. S. Mirick
Dr. W. Henle	Dr. R. Murray
Dr. S. Krugman	Dr. R. Ward

During the period covered by this report the Hepatitis Group has met twice: a special meeting held on 14 June, 1961 at the New York University College of Medicine, and during the fall meeting of the V.I. Commission, held at WRAIR on 28 October, 1961. Frequent smaller conferences among some of its members have also been held during the past year. Drs. Havens and McCollum, by invitation, attended the meeting of the SGO Advisory Committee on Liver held in Chicago on 1 November, 1961. Dr. McCollum attended an unofficial meeting concerning chimpanzee-associated hepatitis sponsored by the Florida State Department of Health in Jacksonville on 19 September, 1961.

Research activities of various members of the group have continued in the same general areas as during the previous year. Details may be found in the Annual Reports of individual members of the group. Only brief summaries will be presented in this report.

Dr. Krugman, with the able assistance of Dr. Joan Giles, has continued to provide a wealth of basic information as a result of the long term studies being carried out at the Willowbrook State School in New York. Of major interest are the studies of gamma globulin dosage in the prevention of icteric hepatitis in both patient subjects and adult attendants. The duration of protection is directly related to the dosage of gamma globulin administered. However, the attack rate for icteric and anicteric hepatitis combined is essentially the same in both inoculated and uninoculated groups, adding further support to the passive-active immunization concept. An attempt to demonstrate virus in stools of patients 19-33 days after onset of jaundice yielded negative results even though one stool donor still had abnormal liver function tests on day 32. Studies on second attack rates yielded a figure of 4.6 per cent among the institutional population with a previously documented attack of icteric hepatitis. A somewhat higher figure (8%) was noted for those who had had experimentally induced hepatitis prior to admission to the general wards of the institution. Direct challenge of previously infected subjects gave a similar figure.

Dr. Mirick has been engaged in summarizing the results of his, Dr. Ward's and Dr. McCollum's post-transfusional gamma globulin study. The results of the total project reveal that gamma globulin (10 ml within the first week after transfusion and again one month later) has a definite effect in reducing the incidence of post-transfusional hepatitis. Drs. Mirick and McCollum have discontinued patient intake in their studies. Dr. Ward's work continues with the hope of changing the method of gamma globulin administration, i.e. mixed with the transfusion. He now has observed three patients who have received gamma globulin in this fashion (in blood or plasma) without recognized untoward effects.

Dr. Bang has pursued studies on various aspects of tissue culture methods in relation to hepatitis, including work on macrophages (obtained by peritoneal washing), buffy coat (obtained from Willowbrook study subjects), embryonic liver tissue, and biopsies from patients with hepatitis. Several other members of the group have continued trying various tissue culture techniques for the isolation and propagation of hepatitis viruses, but without notable success. Dr. Henle has carried out studies concerned with the development of antibodies to the O'Malley A-1 agent in volunteers inoculated with a variety of hepatitis materials many years ago. The results were disappointing. Dr. McCollum is currently carrying out similar studies with the same agent and serial serum specimens from another group of volunteers inoculated with serum hepatitis material over ten years ago, as well as serial serum specimens from the patients in the gamma globulin-post-transfusion hepatitis study.

Dr. Havens has continued his investigations of chick-cell agglutinins in sera from hepatitis patients. Differential absorption studies suggest that the agglutinin is a heterophile substance, but differs from that appearing in patients with infectious mononucleosis. He has also noted these agglutinins in 33% of maternal sera obtained immediately postpartum. Dr. McCollum, in an attempt to simplify the extraction technique, has compared results obtained by a single overnight distilled water method with those obtained by Havens' acetone-ether method and has found excellent agreement. Havens has confirmed these results noting, however, that the level of agreement is dependent upon the freshness of the specimens tested, i.e., 93% with fresh sera as compared with only 70% in sera stored from 2-7 years at dry-ice box temperatures.

Interest in chimpanzee-associated human hepatitis has continued and has been stimulated by several newly observed episodes of such associations during the past year. After one suggestive and one negative study in New Haven Dr. McCollum has recently inoculated a small group of chimpanzees at the Yerkes Laboratories in Orange Park, Florida in collaboration with Dr. Arthur Riopelle, Director of the laboratories.

All members of the Group have been watching with interest the various reports of hepatitis virus isolations which have appeared in published form or have been presented at scientific meetings during the past year. Although our hopes have been raised by such reports it is impossible to form any definite conclusions until more complete information is presented and the agents are available for independent study by other investigators. A number of laboratories represented by members of this group stand ready to carry out such studies at the earliest opportunity.

→ *Commiss. Viral Infection*  
*March 1962 meeting*

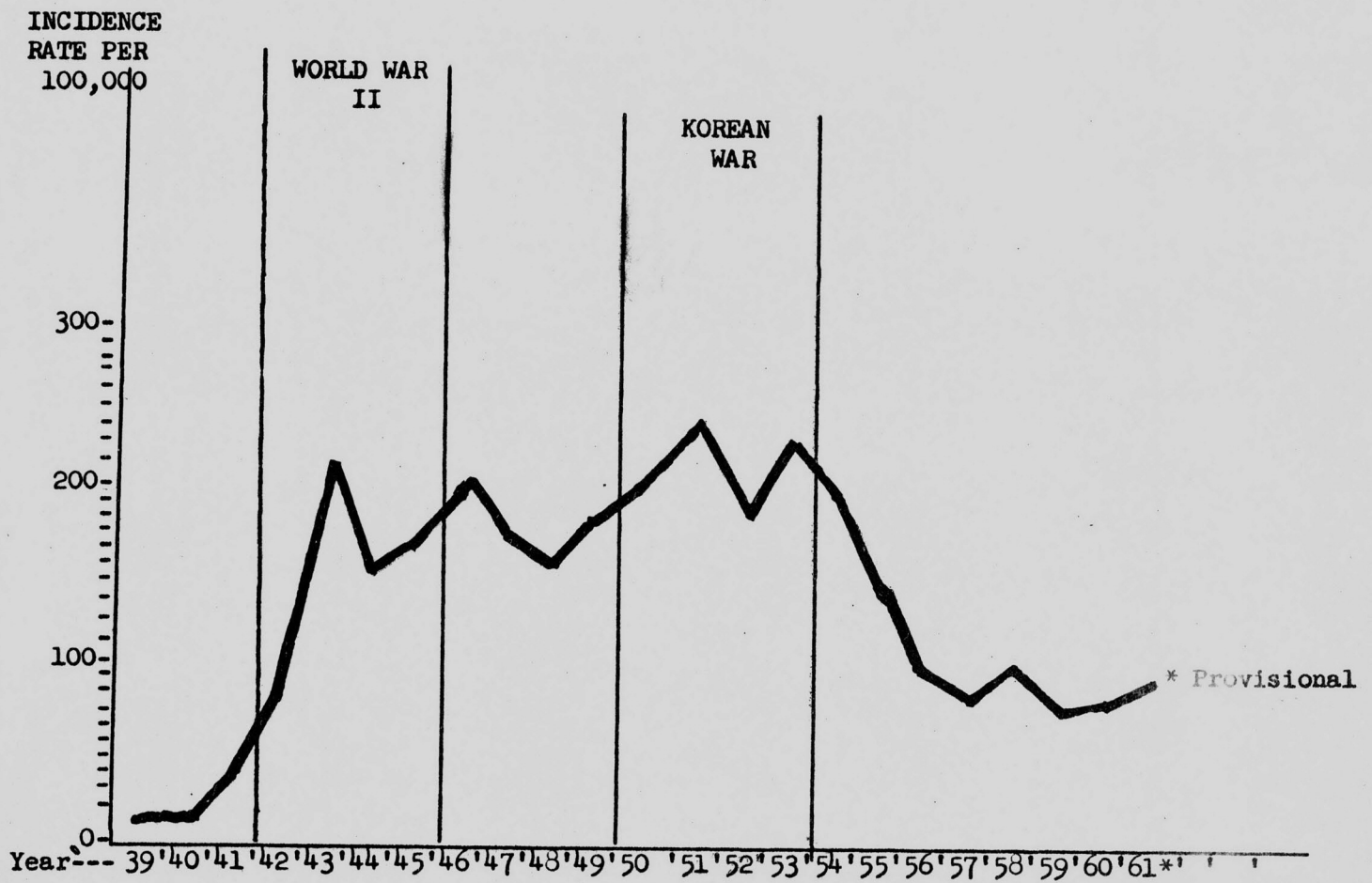
INFECTIOUS HEPATITIS  
NAVY AND MARINE CORPS, 1939 - 1961

Year	INCIDENCE		Sick Days per New Case
	Number	Rate per 100,000	
1961*	665	92.8	
1960	729	89.3	52
1959	728	88.2	52
1958	795	94.5	56
1957	741	84.3	58
1956	906	102.6	60
1955	1,337	151.0	68
1954	1,965	204.4	69
1953	2,423	230.3	67
1952	2,050	194.8	68
1951	2,214	242.0	60
1950	1,128	209.6	59
1949	1,054	196.8	55
1948	826	162.6	43
1947	1,066	181.5	42
1946	2,740	206.7	44
1945	6,385	173.8	29
1944	5,158	154.0	23
1943	4,537	215.2	28
1942	681	81.6	22
1941	133	38.0	18
1940	34	17.0	21
1939	25	17.0	21

\* Provisional, January-November 1961 (inclusive).

Source: Annual Reports of the Surgeon General, USN  
and Statistics of Navy Medicine.

INFECTIOUS HEPATITIS  
NAVY AND MARINE CORPS, 1939 - 1961



Japanese B Virus Neutralization Index  
Following Intramuscular Administration  
of Japanese Gamma Globulin\*

Interval after administration of Japanese G. G.	Volunteer		
	S.M.**	B.C.**	B.L.***
0	0.5	-0.1	-0.4
24 hrs	1.05	1.9	0.5
48 hrs	1.9	>1.5 <3.5	1.3
72 hrs	1.9	-	2.4
96 hrs	-	-	2.6
6 days	2.6	-	-
7 days	-	2.8	-
8 days	-	-	2.8
13 days	2.9	-	-
14 days	-	3.4	-
15 days	-	-	1.3
21 days	2.1	2.4	-
22 days	-	-	2.2
28 days	2.1	-	-
29 days	-	-	2.5
35 days	1.8, 1.3	2.2	-
36 days	-	-	1.6
43 days	-	-	1.4
46 days	2.3	-	-
50 days	-	-	1.2
59 days	-	-	0.5
12-13 wks	<0.4 <0.4	0.0	0.4

2/28/62

\* Cutter Lot # EX 1659  
 NI: diluted 1/10 = 4.1  
 " 1/100 = 2.8  
 " 1/1000 = <1.5

\*\* 0.2 ml/kgm body weight

\*\*\* 0.13 ml/kgm body weight