



Bulletin No. 8

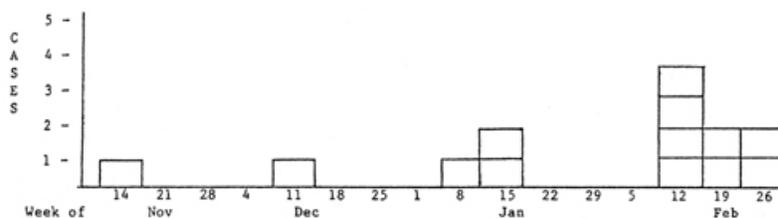
April 6, 1984

## The Manokotak Hepatitis A Outbreak

February 23, Jan Housman, PHN, Dillingham, notified the Epidemiology Office of an outbreak of hepatitis A in the Bristol Bay area village of Manokotak.

Manokotak (population 350) is a village of Yupik speakers, 25 air miles from Dillingham and without road access to it. All 62 homes in the village receive chlorinated piped water and are connected to the village sewage system. The Manokotak school, with a program from pre-school to grade 12, has an enrollment of 116 students.

Beginning in November 1983, 13 Manokotak residents have suffered illness characterized by nausea and vomiting, fever, abdominal pain, and jaundice. The diagnosis of hepatitis A was confirmed in each case by HAV-IgM (acute phase) antibody. The first noted to be ill was a Caucasian school teacher. Six weeks later, the teenage babysitter of the teacher's infant became ill with hepatitis. Subsequent cases have occurred primarily in young children.



Because the epidemic pattern indicated that the number of cases was increasing, our control program involved testing all Manokotak residents for antibodies to hepatitis A and treating those susceptible to hepatitis A with immune globulin (IG). Tests for hepatitis A IgG antibody were performed on serum drawn during the Hepatitis B Control Program in September 1983. The program was made more efficient because hepatitis A IgG (long-term) antibody was found in all Manokotak natives born before October 1964, and in none born after.

February 28-29, we drew serum on 137 Manokotak residents who lacked hepatitis A antibody on the September 1983 sample. We found that 25 persons had developed hepatitis A (based on the presence of new IgM or both IgM and IgG antibody) since September 1983. Twelve of the 25 claimed not to have had prolonged flu-like symptoms, vomiting, abdominal pain, nor jaundice since November 1983. The proportion of Manokotak residents with symptomatic and asymptomatic confirmed cases of hepatitis A by age group is shown below:

### Hepatitis A IgM antibody in Manototak residents with and without hepatitis symptoms

Ages	Susceptible Persons	Cases with Symptoms	Lab with out symptoms	Total Cases	% Affected	Ratio of Symptomatic Total Cases
3-4	9	2	1	3	33	0.67
5-6	14	2	3	5	36	0.40
7-8	19	3	3	6	32	0.50
9-10	8	0	0	0	0	(-)
11-12	10	2	0	2	20	0
13-14	14	0	1	1	7	0
15-16	15	1	0	1	7	1.00
17-18	18	1	1	2	11	0.50
19-20	18	1	1	2	11	0.50
21-30	5	1	1	2	40	0.50
31-40	7	0	1	1	14	0
Total	137	13	12	25	18	0.48

The 25 patients found to have new hepatitis A antibody were members of 13 of the 62 Manokotak households. Data indicates that while cases of hepatitis A occurred throughout many different households, there was some clustering of cases by family, with 7 cases in 2 families and 15 cases in 6. It also appears that there was a cluster of cases among children aged 3-8. These observations point to person-to-person spread of hepatitis A virus among young children and between siblings. Water samples taken from the households of 5 hepatitis A patients were, as suspected, negative for enteric bacteria.

Control measures implemented February 28-29 included treating with immune globulin the Manokotak residents identified as

susceptible to hepatitis A through initial screening of blood collected in September 1983 as part of the Hepatitis B Control Program. Of the 137 residents negative for hepatitis A antibody, 13 individuals with clinical hepatitis were not treated with immune globulin. Blood drawn on February 28-29 subsequently identified the 12 additional asymptomatic cases among those who did receive immune globulin. IG was also administered to 10 children and teenagers, non-Manokotak residents, who in February had lodged with Manokotak families where cases of hepatitis A were occurring. Surveillance efforts included the active search for new cases throughout the Bristol Bay area.

The Manokotak hepatitis A outbreak illustrates the potential for spread of this illness even with universal piped water and sewer. Serologic results indicate that the last epidemic of hepatitis A in Manokotak occurred in 1964. We found that all Manokotak natives born before 1964 had hepatitis A antibody, indicating the widespread extent of the outbreak then. Hopefully, our control efforts have limited this outbreak to just under 20% of those susceptible now. The current outbreak also indicates that both children and adults can have asymptomatic hepatitis A. Asymptomatic persons can be important in the spread of hepatitis A virus during an outbreak.

Hepatitis A can be associated with appreciable morbidity and occasional mortality. It is a significant disease in terms of days lost from work and school, and days of hospitalization. The recent experience of Manokotak residents shows that hepatitis A can spread rapidly through a village. We urge those involved in patient care to use specific serologic tests for the diagnosis of hepatitis A, hepatitis B, and non-A non-B hepatitis and to report all acute cases through the Rapid Telephonic Reporting System.

(We wish to thank the following individuals for their assistance in investigating and controlling this outbreak: Anuska Niketa, Lucy Gloko, Community Health Aides, Manokotak; Jan Housman, Jeanne Timmerman, PHN's, Dillingham; Linda Green, PHN, Anchorage; Jerry Cogan, Don Ritter, Northern Regional Laboratory, Fairbanks.)

### **HEPATITIS B CONTROL PROGRAM**

Serologic screening for hepatitis B antigen and antibody continues to be available free of charge at the Northern Regional Laboratory in Fairbanks and is strongly recommended early in pregnancy for women in high risk groups; including Asians, persons with occupational exposure to blood products, and those with a history of intravenous drug use, in addition to Alaskan natives.

Women whose serum shows antibody indicative of immunity to HBV need no further screening; however, screening of other household members, particularly young children, may reveal the presence of carriers likely to infect the newborn. Since Heptavax immunization is now approved for administration at any time following birth, early immunization of infants born into such households may prevent the development of additional Hepatitis B carriers. Heptavax is provided free of charge, through the Immunization Office, 3601 "C" Street, Anchorage.

(Contributed by Elizabeth Tower, M.D., Hepatitis B Coordinator, Section of Communicable Disease Control, 561-4235, to whom all inquires about the Hepatitis B Control Program should be directed.)