



Bulletin No. 23

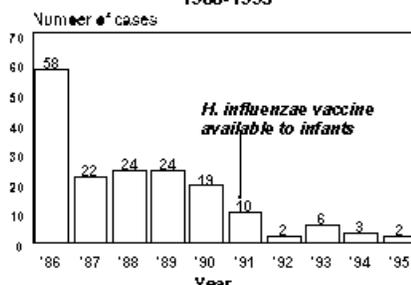
July 9, 1996

Haemophilus influenzae type b Meningitis - a Vaccine Preventable Disease

In 1991, the Alaska Division of Public Health recommended that all infants be vaccinated against *H. influenzae* type b (Hib) and provided PedvaxHIB® for this purpose. In 1996, TETRAMUNE®, a combination DTP/Hib vaccine containing HibTITER® as the Hib component, replaced PedvaxHIB®. TETRAMUNE® requires a primary series at ages 2, 4, 6 months and a booster at 12-15 months.

During the years 1986 through 1990, an average of 29 cases of Hib meningitis were reported yearly. From 1991 through 1995, after statewide Hib vaccine became available, an average of 4.6 cases were reported each year. This represents a six-fold decline in Hib meningitis. (Figure 1)

**Figure 1: *H. influenzae* Meningitis in Alaska
1986-1995**



During May 1996, 4 cases of Hib meningitis were reported in infants less than 7 months old, raising concerns about the reappearance of this disease.

Case Reports: (Table 1)

Case 1: On 5/7/96, a 6-month-old male infant was admitted to Manilq Medical Center with fever and seizure activity. CSF exam was consistent with bacterial meningitis, and *H. influenzae* type b was isolated from culture. He was treated for 15 days and discharged on 5/22/96. At birth, he received hepatitis B vaccine, but no additional vaccinations were given.

Case 2: On 5/11/96, a 6½-month-old male infant from Anchorage was admitted to Alaska Native Medical Center (ANMC). He had recurrent seizures, lethargy and vomiting. CSF exam was diagnostic for bacterial meningitis and grew *H. influenzae* type b. He was treated for 11 days and discharged on 5/22/96. He received hepatitis B vaccine at birth; at 3½ months he was given HibTITER®, DPT, OPV and hepatitis B vaccines.

Case 3: On 5/11/96, a 4½-month-old female infant from Hooper Bay was transferred from Yukon-Kuskokwim Delta Regional Hospital (YKDRH) to Providence Hospital in Anchorage. She had right-sided seizures, lethargy and fever. Her CSF exam indicated bacterial meningitis, and *H. influenzae* type b was isolated from culture. She was treated and transferred back to Y-K Delta Hospital on 6/18/96. This child received hepatitis B vaccine at birth and TETRAMUNE®, OPV and hepatitis B vaccines at 2 months.

Case 4: On 5/17/96, a 5-month-old female infant was admitted to YKDRH with fever, irritability, hyper-extensibility, and vomiting. Her CSF exam was consistent with bacterial meningitis and subsequently grew *H. influenzae* type b. On 5/18/96, she was transferred to Providence Hospital because of her unstable condition. On 5/28/96, she continued to manifest severe neurologic abnormalities despite completion of therapy and was transferred to ANMC for long-term planning. She received TETRAMUNE®, hepatitis B and OPV at 6 weeks and TETRAMUNE® at 4½ months of age.

Table 1: Summary of four cases of Hib meningitis

Case	Age (mo.)	Location	Doses of Hib Vaccine received	Doses of Hib Vaccine missed
1	6	Kivalina	none	2-3
2	6½	Anchorage	1 (1½ mo. late)	2
3	4½	Hooper Bay	1	1
4	5	Quinahagak	2	0

Discussion:

These cases of Hib meningitis ranged from 4½ to 6½ months of age. All 4 cases occurred in May, 1996; no other cases had been reported during the first quarter of the year. Geographic clustering was not evident and no secondary cases were noted.

Three of the 4 infants were inadequately vaccinated. Case 1 received neither of the two recommended Hib immunizations prior to his illness. Case 2 received one of three recommended doses of Hib vaccine and his first dose was late. Case 3 received one of two recommended doses of Hib vaccine prior to her illness. Only Case 4, the child most seriously affected by Hib meningitis was vaccinated appropriately for her age at the time she developed meningitis.

Conclusions and Recommendations:

1. Four cases of Hib meningitis occurred during May, 1996. This does not represent a significant increase in disease occurrence when compared to the previous five years.
2. Three of the four cases were not adequately vaccinated against Hib. Appropriate vaccination might have prevented these three cases.
3. Children less than 2 years of age who have recovered from invasive Hib disease should be revaccinated with conjugate Hib vaccine according to the appropriate schedule for unvaccinated children.
4. Infants in Alaska remain highly vulnerable to Hib meningitis. Appropriate use of Hib vaccine is critical to protect children from this devastating disease.

**Report all cases of *H. influenzae* meningitis immediately to
the Section of Epidemiology
1-800-478-0084**

(Thanks to Dr. Rosalyn Singleton for reporting these cases to the Section of Epidemiology. Contributed by Beth Funk, MD, MPH)