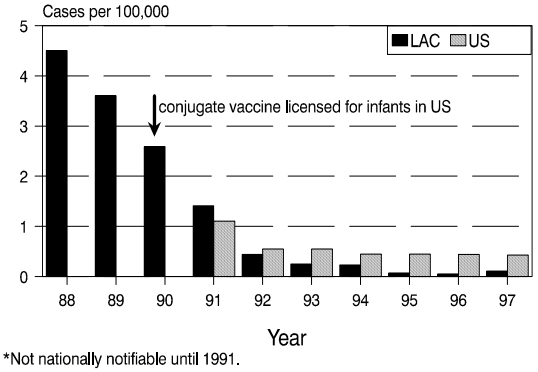
HAEMOPHILUS INFLUENZAE TYPE B DISEASE

CRUDE DATA	
Number of Cases	*10*
Annual Incidence[a]	
LA County	*0.1*
California	*0.1*
United States	*0.4*
Age at Onset	
Mean	*31 yrs*
Median	*3 yrs*
Range	*<1 mo-84 yrs*
Case Fatality	
LA County	*10%*
United States	*N/A*

[a] *Cases per 100,000 population.*

Figure 35

H. influenzae type b Disease
Incidence Rates By Year
LAC and US,* 1988-1997



*Not nationally notifiable until 1991.

ETIOLOGY

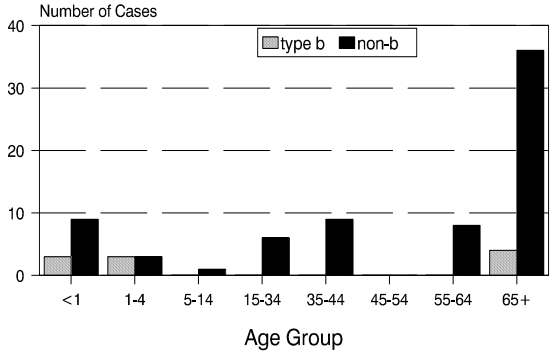
Haemophilus influenzae is a gram-negative coccobacillus. Several other serotypes, apart from H. influenzae, type b, may also cause invasive disease.

DISEASE ABSTRACT

Before the introduction of effective vaccines, H. influenzae, type b (Hib) was the leading cause of bacterial meningitis and other invasive bacterial disease among children less than 5 years of age. In 1997, ten confirmed cases of invasive disease caused by the serotype b strain of H. influenzae were reported. This is the first year that the number of cases increased since the conjugate vaccine for infants was introduced in 1990.

Figure 36

H. influenzae Invasive Disease
Number of Cases by Age Group
Los Angeles County, 1997



STRATIFIED DATA

Trends: *The incidence rate of 0.1 cases per 100,000 was twice the previous year's rate of 0.05 cases per 100,000. The incidence of disease has fallen dramatically in the past 10 years primarily due to the use of Hib vaccine (Figure 35).*

Age: *Invasive infection with H. influenzae type b occurs primarily in infants, young children and the elderly. This was reflected in the age distribution seen this year: infants (3 cases), children aged 1-4 years old (3 cases), adults over the age of 65 (4 cases) (Figure 36).*

COMMENTS

Half of the cases presented with sepsis only, demonstrated by positive blood culture. Overall, 80% of the cases had sepsis with or without another symptom. Thirty percent of the cases had culture-confirmed meningitis (Figure 37). One death occurred in a 79-year-old man with sepsis.

The widespread use of conjugate Hib vaccines has dramatically reduced invasive disease caused by this organism. More than ninety-five percent of infants will develop protective antibody levels after a primary series of three doses. However, unvaccinated and some vaccinated persons may continue to become infected. Of the cases among children who were old enough to be fully vaccinated, one child was fully vaccinated, one was not vaccinated due to philosophical exemption, and one child's vaccine history was unknown. Children with underlying conditions appear to be more susceptible to the disease. Two of the pediatric cases had underlying chronic medical conditions that affect immunity: Down's syndrome and trisomy 18.

Figure 37

H. influenzae type b
Disease Presentation (N=10)
Los Angeles County, 1997

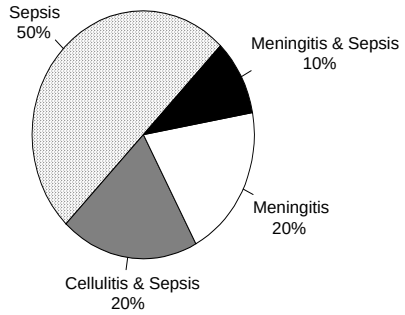
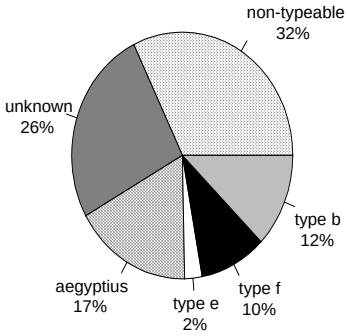


Figure 38

H. influenzae Invasive Disease
by Serotype (N = 81)
Los Angeles County, 1997



Contact investigation is conducted and chemoprophylaxis is administered to contacts of H. influenzae type b cases. There is no evidence that these measures are effective in controlling non-b serotypes. Present Hib vaccines offer no protection against other H. influenzae serotypes.

Non-invasive disease, such as conjunctivitis and respiratory infections, are not investigated or reported, regardless of serotype.

HAEMOPHILUS INFLUENZAE DISEASE
DUE TO SEROTYPES OTHER THAN B

Seventy-one cases of invasive disease caused by non-b and unknown serotypes of H. influenzae were reported in 1997 (Figure 38). The most frequent H. influenzae serotype (32%) was non-typeable. This serotype made up 37% of the non-b serotypes. Mean age at onset for invasive non-b Haemophilus disease was 55 years (range: birth to 96 years), with a median of 64 years. There were 36 cases in the over-65-year-old age group and nine cases in infants (Figure 36).

Most cases (92%) had sepsis. Fourteen cases with sepsis also had pneumonia, and 2 additional cases of pneumonia without sepsis occurred. There were 5 cases of culture-confirmed meningitis, 2 of which also had sepsis. One joint infection occurred in conjunction with sepsis. Three perinatal infections (sepsis) occurred where the mother was not confirmed with infection. All these infants were born prematurely, and one died a few hours after birth. Four cases overall were known to have died: two were elderly, one was 3 months old, and one was a newborn.