



CLINICAL DISEASE: *HAEMOPHILUS INFLUENZAE* TYPE B DISEASE



The bacterium *Haemophilus influenzae* type B (Hib) is an important cause of invasive infections in infants and young children. It is an exclusively human parasite residing in the upper respiratory tract. About 25-80% of healthy people carry noncapsulate organisms in the nasopharynx and throat, and 5-10% carries capsulate strains of which 1-5% are type b. The bacteria enter through the respiratory route but can invade many parts of the human body as its sequelae include pneumonia, epiglottitis and also have the potential to cause permanent brain damage.

- **Meningitis**

Hib meningitis is primarily a disease of infancy. The disease is characterised by fever, vomiting, marked irritability, convulsions, somnolence, and excessive crying. A significant physical finding is a tense, bulging fontanelle, 2 to 3 days after therapy has been initiated. This is more often accompanied by seizures, haemiparesis or neurologic deterioration. Because the highest incidence of meningitis occurs between 6 and 12 months of age, any unexplained, persistent febrile illness in an infant should prompt suspicion of central nervous system involvement.

In neonates and pre-mature infants meningitis is difficult to diagnose. However, refusal to feed, excessive irritability, irregular respirations, and jaundice are commonly associated with meningitis. At later stages, the fontanelle may be full, tense or bulging in approximately one third of the cases.

- **Pneumonia**

Before the introduction of Hib conjugate vaccines, Hib was the major cause of bacterial pneumonia accounting for up to 90% of all cases. The disease is characterised by a sudden onset of high fever and non-specific symptoms including vomiting, loose stools, headache or pleuritic chest pain. However, primary pneumonia accompanied by evidence of infection elsewhere, eg. meningitis or epiglottitis may be indicative of Hib pneumonia.

- **Epiglottitis**

Inflammation of the epiglottis presenting with sore throat, upper-airway obstruction, and fever. The disease develops rapidly with high fever, severe throat pain, swelling and tenderness of the neck and hyoid region, and difficulty in swallowing. As epiglottic swelling increases, there is drooling of saliva from the mouth and the infant develops stridor (noisy inspiration). The infant deteriorates rapidly and in the absence of adequate treatment, death is the end result.

Hib disease can also lead to complications such as hearing loss (as a result of otitis media), vision impairment, mental retardation, and cerebral palsy.

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