H. influenzae type B (Hib)

Traveler Summary

Key Points

- Hib disease, a serious bacterial infection occurring in developing countries worldwide, is transmitted from person to person through inhalation of respiratory droplets or direct contact with respiratory tract secretions from infected persons.
- Risk of serious illness is high for unvaccinated young children, certain immunocompromised persons, and certain ethnicities.
- Symptoms include high fever, headache, neck stiffness, or breathing difficulty.
- Consequences of severe Hib disease include brain damage, hearing loss, loss of limbs, or death (rare).
- Prevention includes observing respiratory hygiene (cough and sneeze etiquette) and hand hygiene (frequent, thorough handwashing).
- Hib vaccine is routinely given to children younger than 5 years but is not recommended for healthy, older individuals who were not vaccinated as children.
- Vaccine side effects are uncommon but can include injection-site reactions (lasting < 24 hours), fever, irritability, loss of appetite, drowsiness, and hives.
- Duration of vaccine protection following a completed series during infancy lasts until 5 years of age; no further booster dose is recommended for child travelers.

Introduction

Haemophilus influenzae type B (Hib) disease, a serious bacterial infection caused by ***Haemophilus influenzae*** bacteria, is acquired via inhalation of respiratory droplets or contact with respiratory secretions of infected persons. Hib is common in developing countries where Hib vaccination is not routine. Approximately two-thirds of all cases occur among children younger than 18 months. By age 5-6 years, both vaccinated and unvaccinated children have acquired natural immunity from exposure, usually without showing symptoms of the disease.

Risk Areas

Hib disease has been nearly eradicated in the US since the introduction of routine Hib vaccination in 1987. Worldwide occurrence is between 4 to 8 million cases of serious disease (mostly in developing countries where Hib vaccination is not routine), with hundreds of thousands of deaths annually.

Transmission

Hib disease is mainly transmitted from person to person via inhalation of respiratory droplets or direct contact with respiratory secretions of infected persons. Newborns can acquire Hib through aspiration of amniotic fluid or contact with genital tract secretions during delivery. The bacteria do not survive on environmental surfaces.

Risk Factors

Risk is highest for unvaccinated children younger than 5 years, older persons with certain conditions that weaken the immune system (e.g., missing or nonfunctional spleen, blood stem cell or solid organ transplant, HIV infection in persons younger than 19 years, chemotherapy, or radiation therapy), and certain ethnicities (African American, Hispanic, Native American, and Alaskan Native) in affected areas.

Risk of exposure is also increased for persons living in large households, individuals with low socioeconomic status or parental education, and children in childcare facilities or with school-age siblings.

Symptoms

Symptoms vary depending on what part of the body is affected and may include high fever, headache, neck stiffness, or breathing difficulty.

Consequences of Infection

Consequences of Hib infection include brain damage, arthritis, hearing loss, loss of limbs, or death (rare; 3%−6% of cases despite treatment).

Need for Medical Assistance

Persons who develop symptoms of Hib disease (e.g., trouble breathing, loss of alertness, or stiff neck) should seek immediate medical attention. Hospitalization is often required for severe illness.

Prevention

Nonvaccine

Observe respiratory hygiene (cough and sneeze etiquette) and hand hygiene (frequent, thorough handwashing).

Vaccine

Hib vaccine is given routinely as a childhood vaccination to children younger than 5 years and to persons at increased risk of disease. Combination vaccines are also available.

Side Effects

Side effects are rare but can include mild injection-site reactions lasting less than 24 hours. Fever, irritability, runny nose, loss of appetite, drowsiness, and hives can also occur.

Persons with underlying medical conditions or who have concerns about the vaccine should speak to their health care provider before vaccine administration.

Timing

Hib vaccines and Hib-combination vaccines are given as follows:

- Routine, regardless of travel, for children younger than 5 years: 3 or 4 doses, 1 dose each at ages 2, 4, 6, and 12-15 months (depending on the brand of Hib vaccine used, a child might not need the dose at age 6 months).
- If earlier protection is needed for travel: 3 doses at least 4 weeks apart; may start series as early as age 6 weeks.
- Unvaccinated persons 5 years and older (when indicated): 1 dose of Hib-only vaccine.

Duration of vaccine protection following a completed primary vaccination series during infancy lasts until at least the age of 5 years, which is the age at which natural immunity becomes prevalent. A booster dose is not recommended.

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