

3.3 *Haemophilus influenzae*, non-b, invasive disease

Case Definition

Confirmed Case

Clinical evidence of invasive disease¹ with laboratory confirmation of infection:

- isolation of *Haemophilus influenzae* (*Hi*) (serotypes a, c, d, e, f, undifferentiated and non-typeable isolates) from a normally sterile state

OR

- isolation of *H. influenzae* (serotypes a, c, d, e, f, undifferentiated and non-typable isolates) from the epiglottis in a person with epiglottitis

Clinical Presentation

Invasive non-type b encapsulated strains rarely cause disease. Symptoms are similar to those in type b infections. Invasive nontypable strains frequently cause respiratory tract infections, including conjunctivitis, otitis media, pneumonia, and sinusitis. Less commonly observed symptoms include bacteremia, chorioamnionitis, meningitis, and neonatal septicemia.

Diagnosis

Clinical signs and symptoms must be confirmed by laboratory findings.

Epidemiology

Occurrence

A European study reported in *Emerging Infectious Diseases*, March 2010², encompassing 14 countries demonstrated that invasive *Hi* non-type b encapsulated strains are much less prevalent than invasive *Hi* type b (*Hib*; 0.036 cases per 100,000 versus 0.15 cases per 100,000). Invasive nontypable *Hi* was found to be nearly twice as prevalent as invasive *Hib* (0.28 cases per 100,000 versus 0.15 cases per 100,000). The introduction of the *Hib* vaccine has not decreased the prevalence and incidence of invasive *Hi* non-b infections.

Invasive non-typeable and non-type b strains of *Hi* were not under national surveillance until 2009. There is no available data on the prevalence and incidence of this disease for the province.

Reservoir

The natural habitat of the organism is in the upper respiratory tract of humans.

Incubation Period

The incubation period is unknown but believed to be short (2–4 days).

¹Clinical disease associated with invasive disease due to *Haemophilus influenzae* (*Hi*) includes meningitis, bacteremia, epiglottitis, pneumonia, pericarditis, septic arthritis, and empyema

Period of Communicability

Seven days prior to the onset of symptoms until the case has been on effective antibiotic therapy for 24 hours.

Control Measures

Management of Case

General procedures for managing cases include close monitoring, supportive care, and prompt therapeutic measures. The patient should be on droplet precautions until 24 hours of effective antibiotic therapy has been completed.

Management of Contacts

Provide information to close contacts on the signs and symptoms of infection. Advise to seek medical attention if symptoms occur.

Management of Outbreaks

An outbreak management team should be established to address infection prevention and control measures.

Education and Preventive Measures

This is an ideal time to ensure that vaccination of contacts of Hib cases has been completed. Immunization with Hib is recommended for all children less than 5 years of age. Provide further information available at <http://www.phac-aspc.gc.ca/im/vpd-mev/hib-eng.php>

Reporting Requirements and Procedures

- Physicians, laboratories and communicable disease control nurses (CDCNs), and infection control practitioners (ICPs) must immediately report probable or confirmed cases to the Regional Medical Officer of Health (RMOH)
- RMOH office will notify local physicians, nurse practitioners, environmental health officers, community health nurses, CDCNs, and ICPs, in the particular region as required for surveillance
- RMOH reports to provincial office as per list A
- CDCN enters the case into the electronic reporting system and completes an outbreak report form if indicated
- Provincial Disease Control
 - Reports the aggregate case data to Public Health Agency of Canada
 - Provides an analysis of the case/s with reports in the Communicable Disease Report (CDR)