

Info-MADO

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Outbreak of Type A *Haemophilus influenzae*

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STATUS REPORT

Since 1990, when the vaccine against type B *Haemophilus influenzae* (Hib) was introduced into the vaccination schedule for newborns in Nunavik, the incidence of invasive Hib infections has dropped considerably. However, since 2010, we have noted in the region, as elsewhere in North American Arctic regions, notably Alaska and Nunavut, the emergence of invasive type A *Haemophilus influenzae* infections.

Since 2010, 23 cases of invasive *H. influenzae* infection have been reported in Nunavik. Those cases are concentrated on the Hudson coast (20/23) and more specifically in Puvirnituk (n=11). Among those 23 cases, 21 were Type A.

Compared to the 2010-2012 period, during which an average of 4 cases of *H. influenzae* was reported per year, 2013 has already seen 11 cases of invasive type A *H. influenzae* infection as of November 22, and the year is not yet over. For the period from January 2010 to November 22, 2013, Nunavik accounted for 64% (21/33) of the reported cases of invasive serotype A *H. influenzae* infections in Québec.

Profile of type A H. influenza

The age of the cases varies from 6 months to 79 years, with an average age of 13.1 years and a median age of 2 years. A proportion of 76% of the cases occurred among children under the age of 10 years (n=16). Two cases, among children under 2 years, occurred within an interval of a few days and within the same household. Reports have been received of cases of meningitis (n=4), pneumonia (n=6), septic arthritis (n=7) and septicemia (n=4). Of those cases, 2 children under one year died.

INFORMATION ON HAEMOPHILUS INFLUENZAE

Invasive *Haemophilus influenzae* infection is a disease caused by a Gram-negative bacillus divided into capsulated and encapsulated strains. Capsulated strains are classified by serotype from a to f.

Clinical signs

- Meningitis
- Cellulitis
- Pneumonia
- Epiglottitis
- Septic arthritis
- Septicemia

Method of transmission

Through contact with nasal and throat secretions of infected individuals, whether symptomatic or asymptomatic.

Period of communicability

As long as the bacteria are present in the respiratory tract. Unlike type B *H. influenzae*, there is no vaccine against the serotype A strain.

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INTERVENTION BY THE NUNAVIK DEPARTMENT OF PUBLIC HEALTH

Given the recent (October 2013) and localized on Hudson Coast, primarily Puvirnituk, rise in cases of serotype A *H. influenzae*, the Department of Public Health informed the MSSS of the situation and requested support from the *Institut national de santé publique* du Québec (*INSPQ*) [Québec Public-Health Institute] to better document the outbreak and specify the recommended approach for prevention and control.

Knowledge on the impacts of chemoprophylaxis on contacts of cases of *H. influenzae* other than type B is relatively nonexistent, such that, in general, chemoprophylaxis is not recommended for contacts of a case of type A *H. influenzae*. However, given the epidemic profile in question, interim recommendations on prophylaxis to be recommended for case contacts are being proposed.

RECOMMENDATION FOR CLINICIANS AND LABORATORIES

- Rapidly report, by telephone, any cases of *Haemophilus influenzae* (MADO) to the physician on duty at the Nunavik DPH (see Physician on-duty list).
- Fill out the form on invasive *Haemophilus influenzae* infection for the index case and send it by fax to the MADO number: **1-866-867-8026**, or **(819) 964-2814**.
- Recommend prevention for family and other close contacts identified according to the recommendations listed on the investigative form (section 17). A contact is defined as any individual living in the same household as the index case or exposed to that person for 4 hours or more per day for at least 5 days (total 20 hours or more) within the seven days preceding the date of onset of symptoms until 24 hours after the start of antibiotic therapy.
- On an interim basis, nasal and throat specimens before prophylaxis and three to seven days after completion of antibiotic therapy are indicated in order to better document the duration of the carrier state and evaluate the effectiveness (short term) of the measure.
- Consult your laboratory for the type or types of swab as well as details on preservation and shipping of specimens.
- Ensure that the contacts for whom this measure is indicated (see Québec immunization protocol, or *PIQ*) are adequately vaccinated against serotype B *H. influenzae*.

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