Meningococcal disease, invasive

REPORTABLE DISEASES TOOLKIT

Information for Health Care Professionals

Reporting Obligations

Individuals who have or may have IMD shall be reported **immediately** to the local Health Unit.

REPORTING FORM

Epidemiology

Aetiologic Agent:

Neisseria meningitidis, (meningococcus) is a Gram-negative diplococcus bacterium with multiple serogroups; serogroups A, B, C, Y, and W-135 are most commonly known to cause invasive disease.

Clinical Presentation:

Clinical illness usually manifests as meningitis, meningococcemia or both. Less common presentations are pneumonia with bacteremia, septic arthritis and pericarditis.

Meningococcal meningitis presents as sudden onset of fever, headache, stiff neck, nausea and often vomiting, photophobia, and an altered mental state. In infants, clinical findings include fever, irritability, difficulty waking, difficulty feeding, vomiting, stiff neck, and bulging fontanelle.

Meningococcemia (meningococcal sepsis or bloodstream infection) is the most severe form of infection characterized by sudden onset of fever, chills, malaise, myalgia, limb pain, prostration, and a macular, maculopapular, petechial, or purpuric rash.

Modes of transmission:

Direct contact with the nose and throat secretions of an infected person, and often with an asymptomatic carrier or by respiratory droplets.

IMD is also spread by oral secretion during close and direct contact through activities such as kissing or sharing drinking bottles.

Incubation Period:

Variable; 2-10 days, commonly 3-4 days.

Period of Communicability:

Usually 7 days prior to onset of symptoms to 24 hours after the initiation of appropriate antibiotic therapy. A person who is untreated or a carrier can spread the bacteria until meningococci are no longer present in discharge from the nose and mouth.

Additional Resources

1. PHAC. "Canadian Immunization Guide, Meningococcal Vaccine."
2. PHAC. "Invasive Meningococcal Disease."
3. OHA. "Meningococcal Disease Surveillance Protocol for Ontario Hospitals."
4. MOHLTC. "Publicly Funded Immunization Schedule for Ontario", December 2016.
5. Simcoe Muskoka HealthSTATS: Meningococcal disease, invasive
6. PHO Invasive Meningococcal Disease

References

1. Ministry of Health and Long Term Care, Infectious Diseases Protocol, 2014

Risk Factors/Susceptibility

Susceptibility decreases with age; incidences are highest in infants, adolescence and young adults. There is an increased risk of secondary infections in close contacts of cases, particularly in household contacts.

Other risk factors include:

- Communal residency
- Inhalation/injection drug use
- Immunocompromised
- Receipt of cochlear implant
- Recent upper respiratory tract infection (<2 weeks)

Diagnosis & Laboratory Testing

Isolation of ***Neisseria meningitidis*** from a normally sterile site (blood, cerebrospinal fluid, joint, pleural or pericardial fluid). The following will constitute a confirmed case:

- Positive culture
- Positive NAT for *N. meningitidis*

TESTING INFORMATION & REQUISITION

Treatment & Case Management

Treatment with antibiotics and follow up is under the direction of the attending health care provider. To ensure eradication of *N. meningitides* nasopharyngeal carriage, cases who did not receive treatment using ceftriaxone or other third-generation cephalosporins should also receive chemoprophylactic antibiotics prior to discharge from hospital. Chemoprophylaxis using rifampin, ciprofloxacin, or ceftriaxone is between 90% - 95% effective in decreasing nasopharyngeal carriage.

Hospitalized persons should be placed on droplet precautions for 24 hours after initiation of antibiotic therapy.

Close contacts of an IMD case will be identified and followed by Public Health staff to determine eligibility for chemoprophylaxis. Household contacts are at particularly high risk of secondary transmission. Antimicrobial chemoprophylaxis should be given to eligible close contacts as soon as possible, preferably within 24 hours of the case being identified. See Chemoprophylaxis for contacts of Meningococcal Disease p. 6-7, MOHLTC.

Chemoprophylaxis is not recommended for casual contacts such as school, work or transportation contacts, social contacts, persons without direct contact with the case, and HCWs without direct exposure to a case's nasal/oral secretions.

Patient Information

PATIENT FACT SHEET