

LISTERIOSIS-INVASIVE

Case definition

Confirmed case

Laboratory confirmation of infection with symptoms:

- isolation of *Listeria monocytogenes* from a normally sterile site (e.g. blood, cerebral spinal fluid, joint, pleural or pericardial fluid)

OR

- in the setting of miscarriage or stillbirth, isolation of *L. monocytogenes* from placental or fetal tissue (including amniotic fluid and meconium)

Causative agent

Listeria monocytogenes, a gram-positive, rod-shaped bacterium.

Source

Listeria is found in soil, water, mud, forage, animal feed and silage. Reservoirs include domestic and wild animals, fowl and humans.

Incubation

Incubation may be from 1 to 70 days; typically, 1-14 days for nonpregnancy-associated cases and 2-4 weeks for pregnancy associated cases.

Transmission

Listeria is primarily food-borne and is transmitted by ingesting the bacterium in raw, unpasteurized or contaminated milk, soft cheeses, raw vegetables, cantaloupe and ready-to-eat meats [e.g. deli meats]. Listeria can be spread by contact with an infected product or surface, such as hands or countertops, during food preparation. It is often found in the environment and unlike most other harmful bacteria, it can grow slowly on food stored in a refrigerator. Vertical transmission is also possible from an infected mother to fetus in utero or during passage through the infected birth canal.

Communicability

None

Symptoms

Often asymptomatic in otherwise healthy individuals but may cause acute febrile gastroenteritis. Immunocompromised and elderly persons usually present with manifestations of meningitis symptoms (i.e. fever, intense headache, nausea, vomiting, and signs of meningeal irritation) or bacteremia. Delirium and coma may appear early. Occasionally there is collapse and shock. Pregnant women may be asymptomatic or have non-specific symptoms; such as, fever, headache, myalgia, or gastrointestinal symptoms. However, placental invasion can lead to fetal infection resulting in stillbirth, preterm delivery, or neonatal illness or death.

Diagnostic testing

- Specimens of the affected sterile fluid, cerebral spinal fluid (CSF), or blood are drawn for culture. The fluid should be collected in an appropriately labeled dry, sterile container (as used for urine cultures) and sent promptly to the laboratory with clinical details on the requisition. Stool cultures are not usually recommended. Consultation with the lab is required if, in the rare circumstance, a stool specimen is being considered.
- Isolates will be sent to the Public Health Agency of Canada's National Microbiology Laboratory (NML) for surveillance typing testing.

Treatment

Intravenous penicillin or ampicillin alone or together with an aminoglycoside. For penicillin-allergic patients, trimethoprim-sulfamethoxazole or erythromycin is preferred. Cephalosporins, including third-generation cephalosporins, are not effective. Tetracycline resistance has been observed. Health care providers should consult their drug reference guidelines for appropriate dosing of the medication.

PUBLIC HEALTH MANAGEMENT & CONTROL

Case management

- Contact the primary care provider to obtain clinical information about the case.
- Interview the case, review clinical information, determine food history, potential source of exposure and identify any contacts who may require investigation.
- Educate the case and/or family about listeriosis and prevention measures (see "Education" section).
- If the case has reported a food establishment (including an institutional setting) as a potential source of exposure, contact Nova Scotia Environment.

- Document the required case management information in the public health electronic information system [Panorama].

Exclusion

None.

Education

- Consume only pasteurized dairy foods.
- Special risk groups, including pregnant women and immunocompromised individuals, should avoid soft cheeses such as brie, camembert and Mexican style cheeses, refrigerated pâtés, smoked fish and processed, ready-to-eat meats. All meats, including hot dogs, should be properly cooked. Contact with potentially infected materials [such as aborted fetuses of farm animals] should be avoided.
- Thoroughly wash raw vegetables and fruit before eating.
- Wash hands, knives and cutting boards after handling uncooked foods.

OUTBREAK RESPONSE

Consult the [*Guidelines for Communicable Disease Prevention and Control for Child Care Settings*](#) if an outbreak is suspected in a child care setting.

Surveillance forms

http://novascotia.ca/dhw/populationhealth/surveillanceguidelines/NS_Notifiable_Disease_Surveillance_Case_Report_Form.docx

novascotia.ca/dhw/populationhealth/surveillanceguidelines/Enteric_Case_Report_Form.pdf

novascotia.ca/dhw/populationhealth/surveillanceguidelines/Listeriosis_Case_Report_Form.pdf

novascotia.ca/dhw/populationhealth/surveillanceguidelines/Listeriosis_PHAC_Questionnaire.pdf

https://novascotia.ca/dhw/populationhealth/surveillanceguidelines/Sporadic_Com_Dis_in_Ret_Trav.pdf

General Information Sheet

REFERENCES

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Control of Communicable Diseases Manual, 18th edition. 2015. David L. Heymann, editor. American Public Health Association.

Red Book: 2015 Report of the Committee on Infectious Diseases, 30th edition. American Academy of Pediatrics.