

LISTERIOSIS

Clinical Definition:

A bacterial infection, caused by *Listeria monocytogenes*, ranging from mild (gastroenteritis) to severe (meningoencephalitis and/or septicemia).

- ◆ Newborns, persons with cancer, diabetes or kidney disease, individuals taking corticosteroids and/or antacids, and organ transplant recipients are at increased risk.

Listeria is killed by pasteurization and cooking; however, in certain ready-to-eat foods such as hot dogs and deli meats, contamination may occur after cooking but before packaging.

Source of Infection and Transmission:

- ◆ *Listeria monocytogenes* is ubiquitous. It has been isolated in soil, dust, water, and foods. The primary reservoirs are soil and decomposing organic matter. Other reservoirs include the intestinal tract of domestic and wild mammals, fowl, and, on occasion, humans.
- ◆ Vegetables and fruit may become contaminated from the soil or from manure used as a fertilizer.
- ◆ Raw foods, processed foods infected after processing, unpasteurized milk.
- ◆ Taking antacids may promote infection.
- ◆ In neonates, transmission may occur from mother to fetus in utero or during passage through the infected birth canal.
- ◆ Sexual contact and inhalation of the organism is possible.
- ◆ Person to person transmission rarely occurs.

Incubation Period:

- ◆ 3 to 70 days, median three weeks.

Symptoms:

- ◆ Typical symptoms include fever, muscle aches, and on occasion, nausea and vomiting.
- ◆ Direct contact with infectious material or soil contaminated with infected animal feces can result in papular lesions on hands and arms.
- ◆ The bacteria may infect the brain and the membrane lining the brain causing meningoencephalitis. The onset of meningoencephalitis may be sudden with fever, intense headache, nausea, and vomiting.

- ◆ Infected pregnant women may have minimal symptoms typically characterized by a mild flu-like illness. She may unknowingly pass the illness to her unborn child. Infection during pregnancy may lead to premature delivery, infection of the newborn or stillbirth. The infant may develop meningitis. Thirty percent of newborn infections are fatal. The case-fatality rate is 50% if the onset of illness occurs within the first four days of life.

Major Complications:

- ◆ Endocarditis, and internal and external abscesses.
- ◆ Meningoencephalitis and/or septicemia in newborns and adults, and abortion in pregnant women.

Diagnosis and Treatment:

- ◆ The diagnosis is confirmed by isolation of the bacteria from CSF, blood, amniotic fluid, placenta, meconium, lochia, gastric washings, and other sites of infection.
- ◆ Immediate treatment is essential.
- ◆ Ampicillin and Gentamicin are the antibiotics of choice given alone or together with aminoglycosides.
- ◆ TMP-SMX may be used in cases of penicillin allergy.

Public Health Measures:

- ◆ Travel history should be reviewed with each case.
- ◆ Refer to Enteric Diseases section in this manual.

Reporting and Follow-Up:

- ◆ Any suspected cases are to be reported to the Office of the Chief Medical Health Officer (OCMHO) and the Environmental Health Officer (EHO).

Public Education: (Key Messages)

- ◆ Thoroughly cook raw food from animal sources (e.g., beef, pork, and poultry).
- ◆ Cook hotdogs until steaming.
- ◆ Thoroughly wash raw vegetables and fruit before eating.
- ◆ Avoid consumption of unpasteurized milk or foods made from unpasteurized milk, such as soft cheese.
- ◆ Wash hands, knives, and cutting boards after handling uncooked foods.
- ◆ Processed foods have been found to be contaminated with *Listeria monocytogenes*.

Epidemiology

Pregnant women are about 17 times more likely than other healthy adults to get listeriosis.

In non-pregnant adults, infection occurs mainly after age 40. Asymptomatic infections probably occur at all ages.

Persons with AIDS are almost 300 times more likely to get listeriosis than persons with normal immune function.

1989 – 2000

One case of Listeriosis reported in 2002 in a pregnant women in the NWT.