



# LISTERIOSIS

1. **Agent:** *Listeria monocytogenes*, a gram-positive rod-shaped bacterium; serotypes 1/2a, 1/2b, and 4b are most frequently isolated.
2. **Identification:**
  - a. **Symptoms:** A bacterial disease manifested as septicemia and/or acute meningoencephalitis. The most susceptible persons are neonates, the elderly, pregnant women, and immunocompromised individuals. Onset of meningoencephalitis may be sudden with fever, headache, nausea, vomiting, and signs of meningeal irritation. Endocarditis, granulomatous lesions in liver and other organs, localized internal or external abscesses, and pustular or papular cutaneous lesions may also occur.
  - b. **Differential Diagnosis:** In the normal host, listeriosis may be an acute, mild, febrile illness with influenza-like symptoms. In the pregnant woman, infection of the fetus is likely with severe consequences such as abortion, stillbirth, premature delivery or sepsis. The postpartum course in the mother is uneventful. Case fatality rate is approximately 30% in newborns and other immunocompromised hosts.
  - c. **Diagnosis:** Isolation of the organism from cerebrospinal fluid, blood, amniotic fluid or other sterile sites of infection; detection of *Listeria* DNA by Culture-independent diagnostic tests (CIDT). Care must be taken to distinguish *L. monocytogenes* from other gram-positive rods, particularly diphtheroids.
3. **Incubation:** 3 days to 3 months, average 31 days. The fetus is usually infected in utero within several days (average 5 days) after maternal disease, as in group B streptococcal disease.
4. **Reservoir:** Mud, silage, water, domestic and wild mammals, fowl, and humans. Asymptomatic fecal carriage exists in man and animals.
5. **Source:** Ingestion of contaminated vegetables, raw or contaminated milk, soft cheese, seafood, or undercooked meat, and direct contact with infectious material or soil contaminated with infected animal feces.
6. **Transmission:** Nearly all cases result from foodborne transmission. Infection is transmitted from mother to fetus in utero or during passage through a contaminated birth canal. Person-to-person transmission is possible through sexual contact, and infection from inhalation of the organism has been reported. Papular lesions on hands and arms may occur from direct contact with infectious material; nosocomial transmission has occurred.
7. **Communicability:** Mothers of infected infants may shed the agent in vaginal discharge or urine for 7-10 days after delivery; fecal carriage can last for months. Period of person-to-person communicability is unknown.
8. **Specific Treatment:** One of the following:

Penicillin or ampicillin together with aminoglycosides; ampicillin alone; tetracycline; chloramphenicol; or erythromycin.

Ampicillin is recommended for maternal-fetal listeriosis.

Tetracycline is contraindicated for children less than 8 years of age.
9. **Immunity:** None.

## REPORTING PROCEDURES

1. **Reportable.** *California Code of Regulations*, Section 2500.
2. **Report Form:** **CDC LISTERIA INITIATIVE CASE REPORT FORM (CDC OMB 0920-0728)**. ACDC will interview the patient using the CDC's Listeria Initiative (LI) form.
3. **Epidemiologic Data:**
  - a. Food history with particular emphasis on ingestion of soft cheeses, unpasteurized



dairy products, raw fruits and vegetables, undercooked meat, or seafood and food from delicatessens.

- b. History of underlying immune deficiency or immunosuppressive medications.

### **CONTROL OF CASE, CONTACTS & CARRIERS**

Investigate all cases within 3 days. (Delay for 1 week is acceptable where fetal/neonatal death has occurred.)

#### **CASE:**

**Precautions:** Enteric precautions, especially around immunocompromised persons, the elderly, and pregnant women.

**CONTACTS:** No restrictions

### **PREVENTION-EDUCATION**

1. High risk individuals should avoid raw dairy products, soft cheeses, food from delicatessens, and undercooked or raw meat or seafood.
2. Veterinarians and farmers that handle aborted fetuses should take proper precautions.
3. Human or animal excrement should not be used for fertilizer.

### **DIAGNOSTIC PROCEDURES**

1. Submit specimens for isolation of infectious agent. Call the Bacteriology Section of the Public Health Laboratory.
2. Food: Must be submitted by a Wholesale Food and Safety Sanitarian. See section on **FOOD POISONING**.