Listeria monocytogenes
Listeria monocytogenes

- causes the illness listeriosis
- uncommonly diagnosed infection that occurs worldwide
- an estimated 2,500 persons become seriously ill with listeriosis each year in the U.S.
  - approximately 500 of these cases are fatal
- pregnant women, newborns, and immunocompromised individuals are at greatest risk
  - healthy adults and children occasionally get infected but rarely become seriously ill

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The Organism

- gram-positive
- rod-shaped
- non-spore forming
- motile
  - by means of flagella
- hardy
  - resistant to the harmful effects of temperature (freezing and heating) and desiccation
Reservoir/Sources

- soil and water
- forage, silage and mud
- infected domesticated and wild mammals and fowl
- infected humans
  - asymptomatic fecal carriage is common among humans (up to 10%)
Mode of Transmission

- ingestion of foods contaminated with the organism
- outbreaks and sporadic cases linked to:
  - milk
  - soft cheeses
  - vegetables
  - ready-to-eat meats (e.g. paté)
- neonatal infections
  - organism can be transmitted from mother to fetus in utero or during passage through the infected birth canal
Signs and Symptoms

- healthy adults
  - acute mild febrile illness
  - gastrointestinal symptoms such as nausea, vomiting, and diarrhea

- immunocompromised adults and newborns
  - septicemia or meningoencephalitis
  - case-fatality rate in newborns is 30%

- pregnant women
  - fever
  - spontaneous abortion (2nd/3rd trimester) or stillbirth

- influenza-like symptoms including persistent fever and gastrointestinal symptoms may precede more serious manifestations of the disease
Incubation Period

- variable
- cases have occurred 3 – 70 days following exposure
- estimated median incubation period is 21 days
Diagnosis and Treatment

- diagnosis is confirmed after isolation of the organism from:
  - cerebrospinal fluid
  - blood or stool
  - amniotic fluid or placenta
  - other sites of infection
- antibiotics are the treatment of choice
  - must be started intravenously when diagnosis is suspected or confirmed
  - antibiotics given promptly to an infected pregnant woman can often prevent infection of the fetus or newborn
Prevention

- thoroughly cook raw meats such as beef, pork, and poultry
- keep raw meats separate from vegetables, cooked foods, and ready-to-eat foods
- wash raw vegetables thoroughly before consuming
- avoid unpasteurized milk or foods made from unpasteurized milk
- wash hands, knives, and cutting boards after handling uncooked foods
- consume perishable and ready-to-eat foods as soon as possible
- pregnant women and immunocompromised individuals should cook leftovers or foods such as hot dogs until steaming hot