

Listeriosis

Listeria monocytogenes

Listeria monocytogenes are morphologically short gram positive rods, occurring singly or in short chains. They are aerobic or facultatively anaerobic, mobile (whips), non-sporulating, non-capsulated, relatively undemanding in culture and capable of long-term survival. They form β -hemolytic colonies on blood agar and blue-green translucent colonies on colorless solid media. After infection of the cell (macrophages, parenchymal cells), the listeria escapes from the host vacuole (or phagosome) and rapidly divides in the cytoplasm of the cell before becoming encapsulated by short actin filaments.

Epidemiology and symptoms

Listeria monocytogenes is a ubiquitous organism found in soil, plants, water or the gastrointestinal tract of animals.

Human exposure to listeria can lead to asymptomatic carriers or disease. The most endangered groups for the disease include: fetus, newborn, cancer and immunosuppressed patients.

The source of the infection is not reliably identified, but according to current knowledge, the passage of environmental strains through the mammalian digestive tract significantly contributes to the pathogenicity of the bacterium. Pathogenic listeria then often contaminate food (listeria can survive and multiply even at lower temperatures) or are a common part of it (unpasteurized milk).

We distinguish 2 categories of listeriosis:

1. neonatal disease
2. adult diseases

Diseases of the newborn

It can take two forms. On the one hand, as an disease with early onset (acquired transplacentally in utero) and a disease with late onset (acquired at birth or soon after birth). The first type (granulomatous infantisepsis) causes microabscesses and granulomatous inflammations in many organs and often leads to miscarriage.

Diseases of the adult

In adults, various diseases (endometritis, conjunctivitis, skin infections, influenza, meningoencephalitis) usually cause a milder course. Infection with immunosuppressed individuals is serious. There is even a hypothesis that exposure to listeria may contribute to Crohn's disease.

Pathogenesis

β -hemolysin Listeriolysin O is similar to streptolysin and pneumolysin. It disrupts the phagocytic vacuole and is an instrument of intercellular listeria transmission.

Diagnosis

The diagnosis is based on the isolation of the microbe. A condition where monocytosis appears in the blood and CSF is suspected. *Listeria* can be isolated on most laboratory media.

Therapy

Among antibiotics, it is possible to administer, for example, cotrimoxazole or aminopenicillins in combination with aminoglycosides.

Links

Related articles

- *Listeria monocytogenes*
- Congenital listeriosis
- Bacteria
- Infectious brain disease

External Links

- Listeri3za - Medicína pro praxi (<https://www.medicinapropraxi.cz/pdfs/med/2008/09/03.pdf>)
- Listeriosis-CDC (<https://www.cdc.gov/listeria/>,)

References

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- BERAN, GW and KB BAMFORD. *Handbook of Zoonoses, Section A: Bacterial, Rickettsial, Chlamydial and Mycotic*. 2nd edition. Florida: CRC Press, 1994. ISBN 978-0849332050 .
- University of South Carolina. *Microbiology and immunology online* [online]. © 2007. Last revision 2009, [cited. November 29, 2009]. <http://www.sc.edu/study/colleges_schools/medicine/education/basic_science_departments/pathology_microbiology_and_immunology/index.php>.,>.

Notes

1. Gray MJ, Freitag NE, Boor KJ .: How the bacterial pathogen *Listeria monocytogenes* mediates the switch from environmental Dr. Mr. Jekyll to pathogenic Hyde. Infect Immun. 2006; 74 (5): 2505-12.