

# Legionellosis

Legionellosis or legionnaires' disease is an acute febrile illness caused by G– bacteria of the *Legionellaceae* family , most often the *Legionella pneumophila* bacterium , which mainly affects the respiratory tract. The most serious and at the same time the most common manifestation is pneumonia ( "legionnaires' disease" ). Other manifestations of the infection may be a mild flu disease with headaches and muscle aches without lung involvement ( "Pontiac fever" ).

Legionella are commonly found in water and soil. It is transmitted by air conditioning, air conditioning, nebulizers, water supply networks, but also fountains, etc. The infection occurs mainly by inhalation of a contaminated aerosol. Human-to-human transmission has not been demonstrated.

The disease was first described by members of the American Legion (hence the name) in Philadelphia in 1976. Retrospective research later found cases of Legionnaires' disease as early as 1943.

## Etiology

G– rod, most often *Legionella pneumophila* , has more serotypes, the natural environment for it is water and humid environment (swamps and muscles), it requires moisture.

## Epidemiology

Found in lakes, rivers, air conditioning, showers. Infection - aerosol inhalation with legionella. Human-to-human transmission not proven. The elderly, patients with immunodeficiency or chronic lung disease are more often affected. Mortality - 25%

## Clinical picture

It may resemble pneumococcal pneumonia with myalgia, headache, fever and dry cough. Progressive, often symptoms from other systems - diarrhea, abdominal pain, confusion , ataxia , often renal insufficiency - proteinuria and hematuria . Rarely, it can occur without pneumonia, more often in smokers, alcoholics.

## Diagnosis

The antigen is not from the lungs, but from the urine.

History - stay in air-conditioned facilities (hotels, restaurants) abroad.

An X- ray finding is initially a unilateral speckled segmental or lobar infiltrate. Subsequently, it progresses bilaterally, often pleural effusion or abscess, mild leukocytosis , increased liver enzymes.

Detection of *Legionella pneumophila* antigen in urine. Cultivation of material from bronchoalveolar lavage or tracheal aspirate on BCYE agar or PCR .

## Therapy

- Pontiac fever - only symptomatic treatment.
- Legionnaires' disease - ATB therapy; most often parenterally macrolides (clarithromycin, azithromycin ) or fluoroquinolones (ofloxacin, ciprofloxacin). Bacteria often produce  $\beta$ -lactamase, it is not appropriate to use penicillin derivatives

## Prevention

Technical inspections of wiring, membrane filters, chlorination of water, superheat to 70 ° C

## Links

### related articles

- Pneumonia

### External links

- Legionella.cz (<https://legionella.cz/>) – Czech information project
- Legionela - hot water and air conditioning disinfection (commercial website)

## Source

- BENEŠ, Jiří. *Study materials* [online]. [feeling. 2010]. < <http://jirben.wz.cz> >.

## References

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- LOBOVSKÁ, Alena. *Infectious diseases*. 1st edition. Prague: Karolinum, 2001. 263 pp. ISBN 80-246-0116-8 .
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