

Tularemia

Information for Healthcare Facilities

Adapted with permission from the Kansas Poison Control.

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Causative Agent

Bacterium called *Francisella tularensis*.

Hospital Precautions

Standard Precautions

Transmission

A zoonotic disease typically transmitted from contact with fluids from infected animals, bite of infected ticks or flies, or inhalation of contaminated material. Human-to-human transmission is rare.

Decontamination

Clothing or linens contaminated with body fluids of patients with tularemia should be disinfected per standard hospital procedure. Organisms can remain viable for long periods in water, mud, and animal carcasses even if frozen. Heat and disinfectants easily inactivate the organism.

Mechanism

Acute bacterial infection resulting in either ulceroglandular tularemia with local, lymphatic, and systemic symptoms; inhalation results in typhoidal tularemia with systemic and pulmonary symptoms.

Routes

Ingestion, dermal, inhalation.

Symptoms/ Onset

- Incubation period varies from 1-21 days (averaging 3-6 days) depending on route of exposure. Duration of illness may last >2 weeks in some cases.
- Typhoidal tularemia presents abruptly with fever, chills, headache, malaise, a non-productive cough, and chest discomfort. Patients may have nausea, vomiting or abdominal pain.
- Ulceroglandular tularemia presents with similar symptoms but includes an obvious point of entry from a local ulcer or wound. Oculoglandular can occur if the bacteria enter the eye and symptoms include photophobia, excessive lacrimation, conjunctivitis, lymphadenopathy around the head and neck.
- Pneumonic tularemia occurs after aerosol exposure or secondary to untreated other forms of tularemia. Additional symptoms include cough, substernal tightness, pleuritic chest pain and infiltrates or pleural effusion may be present.

Treatment

- Ciprofloxacin, levofloxacin, doxycycline, streptomycin, and gentamicin are first-line antibiotics for adults and children. For pulmonary and typhoidal tularemia, use parenteral aminoglycoside first. For mild/moderate symptoms, oral therapy is appropriate.
- Confirmed cases must be reported to MDH: 651-201-5414 or 877-676-5414.
- Ciprofloxacin: 400mg q8 hrs IV or 750 mg every 12 hrs PO for adults or 10 mg/kg q8-12 hrs IV or 15 mg/kg q8-12 hrs PO for pediatrics x 10 days
- Levofloxacin: 750 mg q24 hrs IV or PO for adults or 10 mg/kg q12-24 hours IV or PO for pediatrics x 10 days
- Doxycycline: 200 mg load, then 100mg q12 hrs IV or PO in adults or 4.4 mg/kg load then 2.2 mg/kg q12 hrs IV or PO in peds x 14-21 days
- Gentamicin: 6 mg/kg q24 hrs IV or IM x 10 days for adults or peds.
- Should ideally begin within 24h of exposure and continue >7-14 days based on the agent used.
- Doxycycline dosing: PO at 100 mg twice daily for adults or 5/mg/kg/day in two divided doses in peds x10-14 days
- Ciprofloxacin dosing: PO at 500 mg twice daily in adults or 15-20 mg/kg/dose twice daily for peds x 7 days

REFERENCES

Medical Management of Biological Casualties Handbook. 9th ed. U.S. Army Medical Research Institute of Infectious Diseases. Fort Detrick Frederick, Maryland. September 2020.
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Tularemia for Clinicians. Centers for Disease Control and Prevention. December 13, 2018. Available from: <https://www.cdc.gov/tularemia/clinicians/index.html>.