

November 17, 2016

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Tularemia Confirmed Among Rabbits in Southwestern Oklahoma: Recommendations for Clinicians

Background

The Oklahoma State Department of Health (OSDH) was recently advised by the Oklahoma Animal Disease Diagnostic Laboratory of two laboratory-confirmed outbreaks of tularemia among rabbits in Jackson and McClain counties. Tularemia, also known as “rabbit fever”, is an endemic zoonotic disease in Oklahoma. From 2010 through 2015, there has been an average of 16 cases of tularemia among Oklahoma residents per year. Eight cases have been reported during 2016 to date. Although no human cases have yet been confirmed in the southwestern area of the state this year, clinicians are recommended to consider tularemia in patients with a consistent clinical presentation and history of a potential exposure.

Tularemia

Tularemia is a disease caused by the bacteria *Francisella tularensis* (*F. tularensis*). The reservoir is wild animals, especially rabbits, but can also be found in other small mammals such as muskrats, beavers, voles, some domesticated animals (dogs and cats) and exotic animals (monkeys and prairie dogs). Humans typically become infected with *F. tularensis* following the bite of an infected tick, and less commonly from the deer fly. In addition, humans may also develop the disease following unprotected exposure to the tissues or fluids from infected wild animals. Other less common means of spread are drinking contaminated water; inhaling contaminated dust; bites from infected cats; handling contaminated pelts or paws of animals; or laboratory exposure.

Symptoms of tularemia usually begin 3-5 days (range 1-14 days) after exposure. Persons with tularemia often experience acute fever, chills, body aches, nausea, headache, and fatigue. A person with illness due to tularemia may experience one of several syndromes depending on route of exposure, including:

- Ulceroglandular - characterized by a skin ulcer and regional lymphadenopathy;
- Oculoglandular – purulent conjunctivitis, punctate palpebral ulcers, and periauricular lymphadenopathy;
- Oropharyngeal – painful pharyngitis, with or without ulceration, and marked cervical lymphadenopathy;
- Intestinal - abdominal pain, vomiting or diarrhea;
- Pneumonic – pneumonia accompanied by a transudative pleural effusion; and
- Typhoidal – septicemia and no localizing symptoms.

The diagnosis of tularemia is based upon symptoms and laboratory testing. Identification by culture is confirmatory, but laboratory personnel should be specifically notified of any specimens submitted for culture when *F. tularensis* infection is suspected to ensure appropriate biosafety precautions are taken. The organism can be cultured from a skin ulcer site, lymph node aspirate, blood or other specimen. Serological testing for antibodies to *F. tularensis* is available from commercial laboratories, but paired sera testing may be required for diagnosis. Aminoglycosides (streptomycin or gentamycin) are the drugs of choice for treatment. Tetracyclines are also a treatment option, although are associated with higher relapse rates.

Tularemia can be prevented by avoiding tick bites, minimizing contact with pets that may have ticks, and wearing gloves when skinning or handling wild game, especially rabbits. Persons should take precautions when handling any sick or dead animals. Wild rabbit and other game meat should be cooked thoroughly before eating. Avoid drinking untreated water.

Recommendations

Oklahoma clinicians are advised to consider testing patients for tularemia if they present for care with symptoms consistent with *F. tularensis infection*, especially if they report high-risk exposures such as hunting or skinning rabbits, consumption of wild rabbit or other game meat, recent tick bites, contact with pets that may have ticks, and recent animal bites from infected animals. Tularemia is an immediately notifiable disease.

Laboratory-confirmed cases should be immediately reported to the OSDH Acute Disease Service (ADS) by contacting the ADS epidemiologist-on-call at (405) 271-4060 (24/7/365 availability), or via the Public Health Investigation and Disease Detection of Oklahoma (PHIDDO) system.

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Categories of Health Alert messages

Health Alert - highest level of notification that the Oklahoma State Department of Health will send out. This usually refers to an immediate threat to the OSDH community and requires immediate action.

Health Advisory - advises medical providers of a condition in the area. These are usually not medical emergencies. These may not require immediate action.

Health Update - provides updates on previous alerts or advisories. These are unlikely to require immediate action.

This advisory has been distributed to Primary Care and Infectious Disease Physicians, Advance Practice Nurses, Infection Preventionists, Laboratorians, Emergency Departments and State and Local Health Officials

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You have received this message based upon the information contained within our emergency notification database. If you have a different or additional e-mail or fax address that you would like us to use please contact the OSDH Acute Disease Service at (405) 271-4060.

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