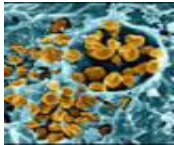


Tularemia

What is Tularemia

Tularemia is a rare infectious disease that can attack the skin, eyes, lymph nodes, lungs and, less often, other internal organs. Often called rabbit fever or deer fly fever, tularemia is caused by the bacterium *Francisella tularensis*. The disease mainly affects mammals, especially rodents, rabbits and hares, although it can also infect birds, reptiles and fish.

How is it Spread?



Tularemia doesn't occur naturally in humans and isn't known to pass from person to person. However, tularemia occurs worldwide, especially in rural areas, because many mammals, birds, insects and fish are infected with *F. tularensis*. The organism can live for weeks in soil, water and dead animals.

Unlike some infectious diseases that spread from animals to people through a single route, tularemia has several modes of transmission. How you get the disease usually determines the type and severity of symptoms. In general, you can get tularemia through:

- **Insect bites.** Although a number of insects carry tularemia, ticks and deer flies are most likely to transmit the disease to humans. Tick bites cause a large number of cases of ulceroglandular tularemia.
- **Exposure to sick or dead animals.** Ulceroglandular tularemia can also result from handling or being bitten by an infected animal, most often a rabbit or hare. Bacteria enter the skin through small cuts and abrasions or a bite, and an ulcer forms at the wound site. The ocular form of tularemia can occur when you rub your eyes after touching an infected animal.
- **Airborne bacteria.** Bacteria in the soil can become airborne during gardening, construction or other activities that disturb the earth. Inhaling the bacteria can lead to pneumonic tularemia. Laboratory workers who work with tularemia also are at risk of airborne infection.
- **Contaminated food or water.** Although uncommon, it's possible to get tularemia from eating undercooked meat of an infected animal or drinking contaminated water. The signs include vomiting, diarrhea and other digestive problems.

Signs and Symptoms

Symptoms usually appear 3 to 5 days after exposure to the bacteria, but can take as long as 14 days. Symptoms of tularemia could include:

- Sudden fever
- Chills
- Headaches
- Diarrhea
- Muscle aches
- Joint pain
- Dry cough
- Progressive weakness

People can also catch pneumonia and develop chest pain, bloody sputum and can have trouble breathing and even sometimes stop breathing.

Other symptoms of tularemia depend on how a person was exposed to the tularemia bacteria. These symptoms can include ulcers on the skin or mouth, swollen and painful lymph glands, swollen and painful eyes, and a sore throat.

Diagnosis



Because it's rare and because it shares symptoms with other diseases, tularemia may be difficult to diagnose. Doctors may check for *F. tularensis* in a blood or sputum sample that's cultured to encourage the growth of the bacteria. But the preferred way to diagnose tularemia usually is to identify antibodies to the bacteria in a sample of blood. You're also likely to have a chest X-ray to look for signs of pneumonia.

Treatment

Tularemia can be effectively treated with antibiotics which are given by injection directly into a muscle or vein. Depending on the type of tularemia being treated, doctors may prescribe oral antibiotics instead.

You'll also receive therapy for any complications such as meningitis or pneumonia. In general, you should be immune to tularemia after recovering from the disease, but some people may experience a recurrence or reinfection.

Prevention

Tularemia occurs naturally in many parts of the United States. Use insect repellent containing DEET on your skin, or treat clothing with repellent containing permethrin, to prevent insect bites. Wash your hands often, using soap and warm water, especially after handling animal carcasses. Be sure to cook your food thoroughly and that your water is from a safe source.

Note any change in the behavior of your pets (especially rodents, rabbits, and hares) or livestock, and consult a veterinarian if they develop unusual symptoms.



For more sources of information on this topic visit:

ST. CLAIR COUNTY HEALTH DEPARTMENT www.scchealth.co

MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES www.michigan.gov/mdhhs

CENTERS FOR DISEASE CONTROL AND PREVENTION www.cdc.gov

THE MAYO CLINIC www.mayoclinic.org