



Valley Fever

Valley Fever, Coccidioidomycosis, is caused by the by the fungus *coccidioides imminia*. This fungus exists as a mold in the soils of the desert areas of the southwestern United States, where the environmental conditions necessary for its survival are present: a warm, dry climate, low elevations with small amounts of rainfall, and relatively alkaline soil.

This fungus lives in a state of “hibernation” as a saprophyte in the soil. When weather and moisture conditions are appropriate, the fungus blooms and forms tiny arthrospores, which also lie dormant in the soil. These spores, when the soil is disturbed, are capable of floating in the air over long distances and for long periods of time.

Animals, as well as humans, can only get this disease if they inhale the arthrospores. Valley Fever is not contagious.

Most animals will develop the self-limiting form of the disease and have virtually no symptoms. They may have a low-grade fever and some listlessness. Following this brief infection, they will develop immunity.

In some animals, however, inhalation of the spores causes an infection in the lungs (pneumonia) and thoracic lymph nodes. This is the primary form of the disease and is characterized by symptoms that include fever, listlessness, loss of appetite, and cough. Generally, the greater the number of arthrospores inhaled, the more severe the infection.

In the lungs, the arthrospores develop into spherules, which eventually burst and discharge endospores, which may, in turn, develop into spherules. The disease will progress in the lungs in this manner until the host develops immunity to it or is treated with anti fungal medication.

If the endospores enter the blood stream and travel elsewhere in the body, the disseminated form of the disease occurs. Few animals with this form of the disease will recover without treatment. Symptoms vary, depending upon the organ(s) affected, but usually include weight loss and chronic cough. This disseminated form may target any site in the body, causing inflammation, lesions, abscesses, or nodules, which may result in even more serious illnesses.

Bones and joints are the most commonly affected dissemination site. Infected bones and joints are extremely painful, are characterized by limping and/or joint swelling, and may lead to diseases such as osteomyelitis. Other targets of the endospores may include the skin, eyes, liver, kidneys, heart, and brain, and can result in skin lesions/abscesses, corneal ulcers, carditis, or meningitis.

Both the treatment of and recovery from the disseminated form varies, depending upon the dissemination site and the severity of infection. Many animals will be cured while others will require medications for the rest of their lives to control the disease and its subsequent ailments. Still others, unfortunately, will die despite aggressive drug treatments.

The number of spores in the air is directly proportionate to how much soil is being disturbed. The more spores inhaled, the more likely it is that the animal will develop more advanced forms of the disease. The only known preventive of Valley Fever is to limit animals' exposure to desert soils and airborne dust as much as possible. Given the amount of land that is disturbed each day in the name of human "progress", this is difficult, if not impossible, for our wildlife.