

Coccidioidomycosis

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BASIC INFORMATION

Description

Coccidioidomycosis is a systemic (affecting the whole body) fungal infection that typically originates in the lungs and may spread to the lymph glands, bones, and other organs. It has also been called *valley fever* and *San Joaquin Valley fever*.

Cause

Coccidioidomycosis is acquired from the environment. The fungus *Coccidioides immitis* is found most commonly in sandy, alkaline soil. Distribution in the United States is considered to be limited to the southwest desert regions. Coccidioidomycosis also occurs in Mexico, Central America, and some areas of South America. Outbreaks of disease can occur when drought is followed by conditions that allow the release and spread of fungal elements into the air.

Infection occurs via inhalation of the organism from the environment into the lungs or, rarely, from direct inoculation of the organism into the skin. Infection can spread from the lungs to other tissues.

Clinical Signs

Any tissue may be affected. In dogs, sites commonly affected include the lungs, bones, liver, spleen, kidneys, heart, reproductive tract, eyes, and central nervous system (especially brain). In cats, the skin is affected more commonly. Skin lesions may appear as draining tracts and abscesses.

Systemic (widespread) infection probably occurs more commonly in dogs than in cats. Infected cats and dogs may cough. Nonspecific signs, such as decreased appetite, lethargy, and weight loss, are also common. Other signs depend on the tissue affected. Lameness occurs in animals with bone or joint involvement, and seizures or behavioral changes may occur in animals with brain infection.

Diagnostic Tests

Finding the organism in infected tissues is the best diagnostic test. Procedures such as needle aspiration or biopsy of lymph nodes or other affected tissue may be done. Tracheal wash or bronchoscopy (examination of the airways through a small fiberoptic viewing scope) for collection of fluid from the lungs may be needed. Potential additional tests include the following:

- X-rays of the lungs may reveal abnormalities compatible with fungal infection. If lameness is present, x-rays of affected limbs are also indicated.

- Routine blood and urine tests help determine how the infection is affecting various organ systems.
- If neurologic signs are present, cerebrospinal fluid collection (spinal tap) and analysis may be recommended.
- Blood tests for serum antibodies to *Coccidioides* may be useful.

TREATMENT AND FOLLOW-UP

Treatment Options

The antifungal drugs, itraconazole and fluconazole, are generally effective. These drugs must be given for prolonged periods (months), and the response to treatment should be regularly evaluated by a veterinarian. Severely affected animals often initially require hospitalization and intensive care, sometimes for 1-2 weeks. Treatment is continued for at least 1 month beyond resolution of all clinical signs. Another drug, amphotericin B, may be given to animals with severe disease. It is not used in many cases because it is potentially toxic to the kidneys and must be given by injection. Some forms are less toxic than others.

Follow-up Care

Blood tests are commonly done before and 2 weeks after beginning treatment, and then monthly during treatment to monitor for possible adverse effects. Other monitoring tests (x-rays, eye examinations, others) are also performed at regular intervals to assess response to treatment. Animals are often re-evaluated at 1, 3, and 6 months after treatment is discontinued to look for evidence of relapse. Notify your veterinarian if any signs return after treatment is stopped.

Prognosis

Prognosis is variable, depending on the extent of disease, severity of clinical signs, and initial response to treatment. Prognosis is best in animals with less severe involvement and clinical signs limited to one organ system. Prognosis is guarded (uncertain) to poor in animals with widespread disease, central nervous system infection, or very severe involvement of any organ system.

Strict adherence to treatment protocols is needed for the best response. Treatment of systemic fungal infections requires a commitment to months of medication and follow-up evaluations with your veterinarian. Relapses occur, and follow-up visits (after treatment is completed) are important to help recognize signs of possible relapse.