



ABOUT THE DISEASE

Blastomycosis is a severe systemic fungal infection caused by the fungus *Blastomyces dermatitidis* that primarily affects canine patients. **Blastomycosis** is only present in certain geographic areas throughout North America (Wisconsin, Mississippi, Ohio, Missouri, Tennessee, Mid-Atlantic states, Quebec, Ontario, Manitoba, and along the southern Great Lakes). Fungal growth is supported by wet, sandy, acidic soils rich in organic matter, so it is found most frequently near bodies of water.

Infection occurs when fungal spores are inhaled from the environment into the lungs. Signs are delayed, showing up 5-12 weeks after contact. Infected animals are typically not contagious to other animals and people. Canine patients are ten times more likely to contract the disease than humans, and 100 times more likely than feline patients.

The signs of illness depend upon what organs are infected, but the most common are:

- Lungs – Fungal pneumonia is the most common manifestation and is often life threatening.
 - Patients will exhibit coughing, labored breath and exercise intolerance.
- Eyes – Infection of the eye is often severe, rapid in onset, and difficult to treat.
 - Patients often require the infected eye to be removed, as it persists as a source of infection for the body.
- Skin – Single or multi-site abscesses will develop and rupture, draining pus.
- Bone – Will appear as lameness, pain, and with a fever.
 - Often mimics the appearance of tick-borne diseases, but will not improve with antibiotics.

OBTAINING A DIAGNOSIS

The preferred choice for diagnosis is a specialty urine test available through an off-site reference laboratory, although other body fluids may be sent as well (plasma, eye fluid, etc.).

Other tests are often used to determine severity of affected organ, including chest x-rays (radiographs), needle aspirates with microscopic examination, or blood testing to show severity of systemic involvement.

TREATMENT

Several different antifungal medications exist on the market today (fluconazole, itraconazole, etc). Once an ideal antifungal is selected by the veterinarian, patients will often require many months of treatment to clear the organism from the system. However, this does not prevent patients from being re-exposed again in the future.

In less severe cases, most patients are treated easily at home, but may take several weeks to show improvement.

In more severe cases, patients with respiratory involvement will require hospitalization with intravenous (IV) fluids, oxygen therapy, anti-inflammatory or steroid therapy, and pain medications. Prognosis is poor for patients with severe lung involvement. If the patient can survive the first 7-10 days, then the prognosis improves.

Patients with eye involvement often require eye removal, as most antifungal medications do not penetrate eye tissues.

Close monitoring of all patients starting treatment should be done for at least the first two weeks, along with regular rechecks on a monthly basis.

TIPS FOR SUCCESS

- There is no way to prevent environmental exposure other than by preventing access to water beds.
 - There is no way to test the soil for the organism.
 - There is no way to treat the soil where the source is suspected.
- If a patient develops **blastomycosis**, all humans should be cautious of the surrounding environment, as they too are at risk for contracting the disease.
- Patients with lung involvement need to be treated aggressively.
- Patients with eye involvement need to have their affected eye removed to prevent persistent re-infection.