Valley Fever Study Currently Being Conducted In Arizona

COCCIDIOIDOMYCOSIS OR "VALLEY FEVER" IN CANINES

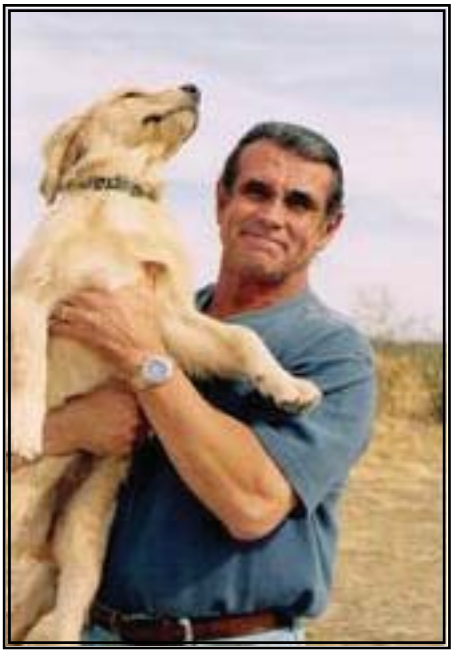
By Randall Thomason

Coccidioides immitis and the lesser seen coccidioides posadasii are soil-borne fungal spores found in the upper layer of soil in endemic regions of the Western Hemisphere including the semi-arid geography of southern Arizona, Texas, New Mexico, and much of central and southern California. Endemic areas are also prevalent in semiarid areas of Mexico, Central and South America. Often disturbed by harvesting, dust storms, construction and rainfall, the spores then become airborne and can be easily inhaled by animal or human hosts. Once inhaled, these saprophytic organisms form large spherules that eventually rupture and release hundreds of endospores into surrounding tissue, blood and/or lymphatic pathways. If not attacked by the host's immune system, each endospore will form an entirely new spherule to eventually rupture and release more endospores. Herein is the complexity of the disease. Depending on the immunological status of the host, the fungus is either attacked or it goes on to propagate.

Thus, it appears the desert might be waging its own war against urban sprawl and the population growth associated with it through a rapid increase in cases of coccidioidomycosis, or "Valley Fever" (VF) as it is known. To illuminate the scope of the coccidioides proliferation in humans, in Arizona between 1996 and 2006 reported cases skyrocketed from 2 % to 20% of total cases (655 to 5535.)

Canines have similar susceptibility as that of humans with subclinical infections, pulmonary and disseminated disease. As with humans exposure frequently resolves on its own with approximately 70% of canines that inhale cocci spores remaining asymptomatic. Yet the disease impacts the remainder in degrees from mild to fatal.[10] Dissemination, allows the fungus its own identity in each infected host. Though not contagious, the fungus typically begins in the lungs as a respiratory infection. From there, skeletal, lymphatic, hepatic, splenic, neurologic and (less frequently) ocular and cardio regions are all susceptible targets.

A recent study of canines indicated that titers for asymptomatic or healthy and subclinical dogs ranged from 1:2 to 1:16. The remainder of sick or clinically infected dogs had titers of < 1:2 to 1:32. Titers overlapped significantly among healthy and sick dogs. Localized versus systemic or disseminated disease generally occurs at serological titers of 1:16 to 1:32 or greater. Risk of infection in young dogs rises until later stages of adolescence when immunity to the fungus is thought to be a result of strengthened immunological defense.



"Maya" with Randall
Maya currently is being treated for Valley Fever

Medication regimens for both humans and canines vary greatly depending on individual response. The "azoles" (fluconazole,

itraconazole and ketoconazole) are considered less toxic however they are fungistatic and, therefore, relapses are common and success rates can be as low as 50%. In severe cases amphotericin B is typically used. Adverse side effects can also be a drawback. In humans some of these side effects consist of hepatotoxicity, diarrhea, nausea, vomiting, fatigue, impotence, constipation, adrenal insufficiency and menstrual irregularities. Canines tend to react with hepatotoxicity, diarrhea, vomiting, anorexia, lightening of the haircoat, depression and adrenal insufficiencies.

Tucson based, University of Arizona Valley Fever Center for Excellence is currently working on a vaccine for use to protect against Valley Fever. It is their position that any pets residing or traveling through endemic areas are at risk and these areas are among the fasted growing regions in the country right now. They suggest that to reduce the likelihood of a dog's exposure one would reduce activities that generate dust such as digging, sniffing in rodent holes and walking or roaming in the desert.

A study conducted by the University of California, Davis found that dogs at greatest risk for contracting Valley Fever were medium and large breeds that were primarily outdoor dogs as well as those dogs involved in hunting and herding.

Humans and animals possess very specific immunological blueprints that remain unique to their chemistry and physiology. Science and medicine have shown repeatedly that pathogenic invasions can occur opportunistically in compromised immunological environments. The cocci organism behaves as the ultimate opportunist, disrupting weakened immune systems in humans and animals, possibly impacted by illness, genetics, lifestyle, environment and diet (fast foods in humans and processed pet food in animals are two prevalent causes of malabsorption and malnutrition) and ultimately immune dysfunction.

Because of the opportunistic nature of the "cocci" organism it appears to have its greatest success in hosts whose immune defense has been compromised. As an alternative to standard antifungal compounds a holistic formula has been developed that offers not only fungistatic activity against the organism but the potential to fortify the immune system in a selectively toxic fashion that minimizes side effects often seen with accepted medications. In addition this design is structured to work outside of the cocci and fungal arena to address a variety of immune deficient disease processes such as cancer, arthritis, diabetes and a host of metabolic issues.

Currently this formula is being studied to observe its effects on canine subjects with varying backgrounds. Although the first round of blood work is not due for several weeks the results thus far have been positive.

For interested parties, a Group 2 study has been opened and more information, including an expanded version of this article, is available at:
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Randall Thomason, MS is a nutritional biochemist with 30 years of experience consulting on human and animal health issues. As an expert in drug and nutraceutical design and the former consulting biochemist for Pet Health Pharmacy, Thomason now works independently through his company Rogue Research.

Rogue Research LLC established in 2003 specializes in research on health and wellness issues and the design of custom and non-custom, health and performance products for equine, pet, and human application.

Rogue Research was named after "Junior" aka Greco's Rogue Junior an English Mastiff that had severe and terminal heart disease. "Junior" was an inspiration to all that knew him and was featured in the Vermont pet columns Dog's-eye-view by Junior and Ask Junior. A client of Randall's he lived for years on an alternative heart disease protocol.

As a research biochemist, Thomason developed a "patent pending" Biochemical Biomedical Identification Diagnostics (BBID) technique to more effectively evaluate biochemical status at the cell level as evidenced by routine biomarkers found in laboratory reports . His analysis addresses neurological, metabolic, immunological, endocrinological, musculoskeletal and genetic parameters to support his recommendations.