

03147: Improving Treatment of Canine Blastomycosis through Therapeutic Drug Monitoring

Grant Status: Open

Grant Amount: \$31,500; DCAF Grant: \$5,000 – August 2023

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Sponsor(s):

Breed(s): -All Dogs

Research Program Area: Immunology and Infectious Disease

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One Health: Yes

ABSTRACT

Blastomycosis is a severe fungal infection that affects in dogs in the Midwest. Itraconazole is the drug of choice for this infection. Although it is generally effective, blood levels of itraconazole vary significantly from dog to dog. If drug levels are too low, then the infection may not be cleared and, if drug levels are too high, serious side effects can occur. One way to overcome this problem is therapeutic drug monitoring (TDM), which means measuring drug blood levels and adjusting the drug dose to achieve ideal blood concentrations. TDM is available for itraconazole in dogs. However, it is not used consistently because we don't know how frequently it should be performed. Therefore, the purpose of this study is to establish a protocol for itraconazole TDM in dogs. In this study, investigators will monitor blood levels of itraconazole in 12 dogs with blastomycosis and adjust their drug dose to maintain ideal blood levels throughout treatment, which takes several months or longer. If blood levels are stable once ideal concentrations are reached, then TDM should be performed only at the beginning of treatment. This would mean fewer blood draws for patients and lower costs for owners. However, if blood levels fluctuate, then TDM should be checked regularly throughout treatment. The study data will help determine how frequently those checks should be performed. Either way, the results of this study will establish a protocol for itraconazole TDM in dogs, which will improve the treatment of blastomycosis in canine medicine.

PUBLICATION(S)

None to date.