

capsules

THE CURRENT LITERATURE IN BRIEF

New Treatment for Babesiosis in Dogs

Common in areas where tick transmission occurs, canine babesiosis is not eliminated by any therapy tested to date, and pets that survive the acute stage of infection are at risk for recurrence and for becoming reservoir hosts. Most *Babesia gibsoni* organisms reported in the United States have been of the Asian or California genotype; infections of the Asian genotype are increasing. The antibabesial atovaquone has produced excellent activity against 2 other *Babesia* organisms, *B. microti* and *B. divergens*. When this drug was combined with the antibiotic azithromycin, parasitemia has been safely eliminated in both humans and hamsters. The purpose of this pilot study was to determine whether this treatment is effective against *B. gibsoni* (Asian genotype) and safe in dogs. The mechanism of action of either atovaquone or azithromycin against *Babesia* species is unknown, and there is no information about the pharmacokinetics of atovaquone or its safety in dogs. Both drugs have a long half-life, but the safety of azithromycin in dogs has been documented. The 22 dogs selected for this study had remained persistently infected with *B. gibsoni* after traditional treatment with imidocarb dipropionate and/or diminazine aceturate. Dogs were randomly divided into 2 groups: 1 group was treated with combined atovaquone/azithromycin and 1 with placebo. Of dogs in the treatment group, 8 of 10 had no *B. gibsoni* (Asian) DNA as determined by sensitive PCR assay in any of their posttreatment samples. (Of the remaining 2 dogs in this group, 1 was positive 60 and 90 days after treatment, and 1 was positive 90 days after treatment.) No adverse effects were noted. In contrast, 11 of the 12 placebo-treated dogs had *B. gibsoni* (Asian) DNA in their posttreatment samples (1 dog was lost to follow-up). Based on the results, this treatment either eliminated the parasite or suppressed the parasitemia below the limit of detection in most of the treated dogs.

COMMENTARY: Infection with *Babesia gibsoni* (Asian genotype) is an emerging disease in the United States—one that has limited treatment options with drugs that do not eliminate the organism. The therapeutic drug most commonly used (diminazine aceturate) in other regions of the world is not approved or commercially available in the United States and is largely ineffective in eliminating parasitemia. The therapeutic combination described in this article is a significant breakthrough for future success in treating this often-frustrating disease.—Bess Brosey, MZS, DVM, Diplomate ABVP & ACVIM

Efficacy of combined atovaquone and azithromycin for therapy of chronic Babesia gibsoni (Asian genotype) infection in dogs. Birkenheuer AJ, Levy MG, Breitschwerdt EB. J VET INTERN MED 18:494-498, 2004.