**FOCUS**

**Leptospirosis Antibody Titers & Vaccination**

This prospective study sought to determine the antibody response of dogs to commercially available quadrivalent *Leptospira* vaccines containing the serovars *canicola*, *grippotyphosa*, *icterohemorragiae*, and *pomona*. Healthy client-owned dogs (*n* = 32) with known vaccination history and no *Leptospira* spp vaccination in the previous year were randomly assigned to receive 1 of the 4 commercially available quadrivalent vaccines at weeks 0 and 3. Booster vaccines were given to 25/32 dogs at week 52. Antibody titers to serovars *bratislava*, *canicola*, *grippotyphosa*, *hardjo*, *icterohemorragiae*, and *pomona* were determined by microscopic agglutination test (MAT) on weeks 0, 3, 4, 7, 15, 29, 52, and 56. MAT titers ≥1:100 were considered positive.

Highly variable antibody responses were detected between and within vaccine groups. Highest MAT titers (≥1:800) were detected at weeks 4 and 56. However, most dogs were seronegative for many serovars by week 15, and most were seronegative for all serovars at week 52. At week 56, only *canicola* was associated with MAT titers >1:100 in >50% of dogs, regardless of vaccine. Some dogs developed positive MAT titers to *bratislava* or *hardjo*, which were not contained in the vaccines. Previous challenge studies have demonstrated duration of immunity for commercial *Leptospira* vaccines to be ≥1 year, with vaccinated dogs protected from clinical disease and renal carrier state for 12 or 14 months, suggesting that MAT titers are not well-correlated with duration of immunity of vaccines against natural infection. Furthermore, MAT titers have poor specificity for distinguishing vaccine titers from natural infection. **Study funded by IDEXX Laboratories.**

**Commentary**

Leptospirosis diagnosis can be challenging because of our reliance on antibody titers. Intrinsically, antibody titers can (and should) be affected by vaccination. This paper aims to examine the MAT titers that result from vaccination. Unfortunately, because of study design, there are some shortcomings to this paper. It is unclear which dogs included in this population were vaccinated in the past (and whether that affected their titers). Also, 4 *different* vaccines were used in this relatively small sample size (*n* = 32), limiting our ability to discern intervaccine variability. Despite a small sample size, the paper was able to show marked MAT response to most serovars after initial booster vaccines. —Jonathan Dear, DVM, DACVIM

**Source**


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**Doramectin & Demodicosis**

Medical records of 400 privately owned pets diagnosed with generalized demodicosis and treated with doramectin (0.6 mg/kg SC once weekly) were reviewed. The mean age of the dogs was 11.25 months, and 51.1% were under 6 months of age; 232 fulfilled the study criteria. Remission, defined as 2 consecutive negative skin scrapings 2 weeks apart, was achieved in 220/232 dogs. Treatment duration ranged from 4 to 20 weeks (mean, 7.1 weeks). Two dogs had suspected adverse reactions to doramectin; 1 had neurological signs that resolved with discontinuation of treatment, and the other had a focal area of irritation at the injection site.

**Global Commentary**

This paper demonstrates a good efficacy of weekly injection of doramectin SC. Remission was achieved in a majority (94.8%) of dogs treated. However, 168 dogs (42%) did not complete the entire protocol and were not considered in the study results. The use of a drug not registered to treat demodicosis weekly SC remains questionable because of the neurotoxic potential of macrocyclic lactones in dogs with the ABCB1-1 gene defect (MDR1 mutation) and the risk of local reaction. However, in this paper, side effects appear rare. Recently, the use of fluralaner to treat canine demodicosis was reported. New protocol seems to be efficient; it is easy to use (1 oral tablet every 3 months), reasonably affordable, and safe.—Luc Beco, DVM, DECVD

**References**


**Source**