

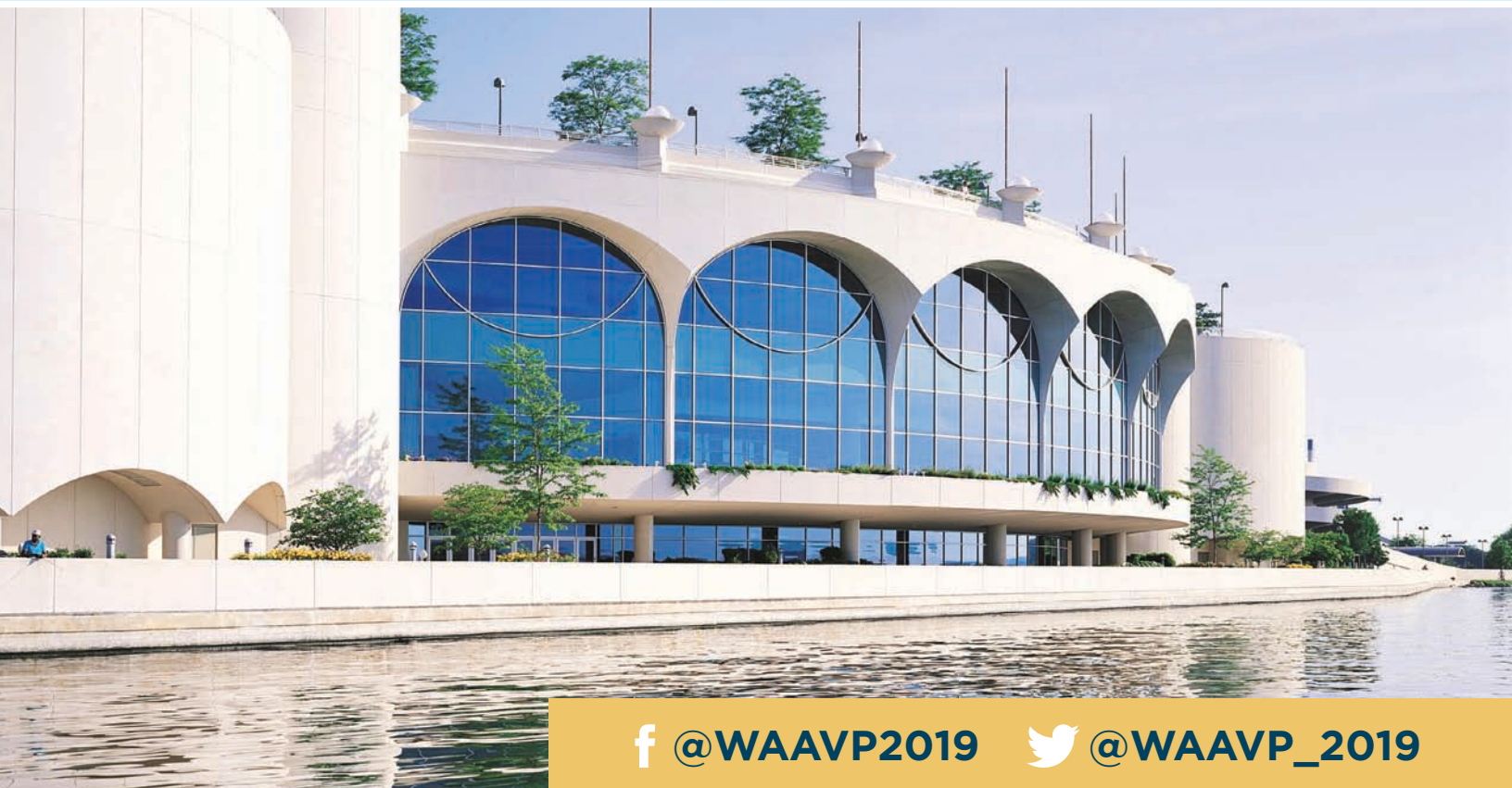
WAAVP

27th Conference of the World Association for
the Advancement of Veterinary Parasitology

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Dedicated to the legacy of Professor Arlie C. Todd

Sifting and Winnowing the Evidence in Veterinary Parasitology



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Abstract Book

*Joint meeting with the 64th American Association of Veterinary Parasitologists
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consent 16 naturally infected dogs were confirmed positive for microfilariae and adult heartworm antigen (SNAP 4Dx Plus). Dogs were then administered SR-12 (0.5 mg/kg of injectable sustained release moxidectin) at the same time as they started daily administration of doxycycline (10 mg/kg BID) for 30 days (Day 0). All dogs received the same dosing schedule of both drugs every 6 months (modified from the approved 12 month dosing interval for SR-12 for heartworm prevention) until two negative adult heartworm antigen tests (SNAP 4Dx Plus) were obtained 6 months apart. Dogs had chest x-rays, echodopplercardiograms, Knott's tests and antigen testing done every 6 months. Microfilariae counts were performed on Days 0, 30 and 150. On Day 150, all dogs were amicrofilaremic. Eleven dogs became antigen negative at 6 months after the first dose and 5 dogs at 12 months of treatment. At 12 months of treatment 7 dogs were considered free of the infection and by July 2019, as the study is ongoing, 4 additional dogs will be tested to confirm their infection status at 12 months and the 5 remaining dogs at 18 months of treatment. All dogs tested 6 months after the first negative antigen test remained negative 6 months later. Preliminary disease evaluation suggests that lung and heart lesions tended to remain unchanged throughout the treatment.

PS03.81 Combined Use of Ivermectin and Levamisole to Control Resistant Nematodes in Cattle: Assessment of Pharmacokinetic Interactions and Therapeutic Responses

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Combination of anthelmintics with different mechanisms of action has been suggested as an effective strategy to delay the development of resistance. In this context, the current study evaluated the efficacy and the potential pharmacokinetic (PK) interactions occurring after the subcutaneous administration of ivermectin (IVM) and levamisole (LEV)

given both separately and co-administered to calves in two commercial farms (A and B). Sixty(60) male calves naturally infected with gastrointestinal nematodes were randomly allocated into four groups(n= 15): Control: animals did not receive anthelmintic treatment; IVM: treated with IVM (0.2 mg/kg); LEV: treated with LEV (8 mg/kg); IVM+LEV: simultaneously treated with IVM and LEV (at the same dose rates). Seven (7) animals from each treated group (Farm A) were randomly selected to perform the PK study. Drug concentrations were measured by HPLC. The efficacy was determined at 14 days after treatment by the FECRT. The IVM area under the concentration vs time curve (AUC) obtained after administration of IVM alone (274±65.1ng.d/mL) was similar to that obtained after IVM co-administered with LEV (295±111 ng.d/mL). Likewise, LEV AUC values were similar after LEV administration alone (8.90±2.69 µg.h/mL) or combined with IVM (9.11±1.82 µg.h/mL). No adverse PK interactions were observed after the combined treatment, with similar PK parameters (P>0.05) obtained between the single-drug and combination-based strategy. In Farm A, the overall efficacies were 54%(IVM), 99%(LEV) and 100%(IVM+LEV). While *Cooperia* spp. survived IVM treatment, *Ostertagia* spp. survived LEV treatment. In fact, the efficacy against *Cooperia* spp. was 41%(IVM), 100%(LEV) and 100%(IVM+LEV), and the efficacy against *Ostertagia* spp. was 91%(LEV), 100%(IVM) and 100%(IVM+LEV). Similarly, in Farm B, total efficacies were 55%(IVM), 99%(LEV) and 100%(IVM+LEV). Although LEV alone achieved high efficacy in both farms, the combination was the only treatment that achieved 100% efficacy against all genera (*Cooperia*, *Ostertagia* and *Haemonchus*). Further work is required to understand the advantages of nematocidal combinations in different commercial cattle farms.