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**MICROFILARAEMIA AND ANTIGENEMIA IN DOGS WITH NATURAL
HEARTWORM INFECTION TREATED WITH COMBINATION OF DOXYCYCLIN
AND IVERMECTIN - PRELIMINARY RESULTS**

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Introduction

Canine heartworm disease is caused by infection with *Dirofilaria immitis*, a filarioid nematode that resides in the pulmonary arteries and occasionally in the right heart chambers of infected dogs. Specific adulticide therapy for heartworm is melarsomine dihydrochloride, but due to several reasons this therapy can be modified or completely replaced with alternative one, by using doxycycline and ivermectin in combination.

Objectives In this prospective uncontrolled clinical study we evaluated the effect of a combination of doxycycline and ivermectin on microfilaraemia and antigenemia in naturally infected dogs from Novi Sad, Serbia.

Material and methods

Thirteen dogs with natural heartworm infection were included in the study. Therapy protocol consisted of doxycycline (10mg/kg sid for 6weeks, then alternately 4 weeks without and 2 weeks with medication at the same dosage) and ivermectin (6-14µg/kg biweekly) until 2 consecutive negative results were reported on antigenemia, but not longer than 9 months. The dogs that had been still positive after 9 months were tested again 3 months later. General clinical examination, microfilaraemia (modified Knott test) and antigenemia (Canine Heartworm antigen test kit, Idexx Laboratories, Inc.) were evaluated in dogs monthly.

Results and discussion

Treatment was well-tolerated by all dogs. Clinical signs of illness were registered in 6/13 (46.15%) dogs. In all of these dogs the relief of clinical signs was registered on control examinations. At the time of diagnosing the infection with *D. immitis*, circulating microfilaria were present in 9/13 (69.23%) dogs. One hundred percent of dogs have become negative for circulating microfilariae by 90 day of study, while 2/13 (15,38%) dogs finished the therapy by 180 days and 3/13 (23.08%) dogs finished the therapy by 210days. By the end of studied period of therapy 7/11 dogs were antigen negative, because two dogs are still under treatment. Similar results are reported with doxycyclin and ivermectinin as medications in cases of both experimental and natural infection with *D. immitis*. Further studies are needed to evaluate the effect of this treatment protocol on morphological and functional status of respiratory and cardiovascular system in patients.

Conclusion

These results indicate that a combination of doxycycline and ivermectin is adulticide in dogs with *D. immitis*, with the therapeutic effect achieved in 63.64% of dogs.

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