

First Report Of *Dirofilaria repens* In Dogs From Southeast Serbia

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Introduction. Companion animal cardiopulmonary and subcutaneous dirofilarioses are mosquito-borne zoonoses, caused by *Dirofilara immitis* and *Dirofilaria repens*, respectively. *D. repens* infections are more common so increased number of human cases has been reported in several last years in Europe and Serbia.

Aim. Since north part of Serbia is an endemic area where *D. repens* is most prevalent in canine reservoirs, the aim of this study was to investigate presence of *Dirofilaria spp.* in dogs from southeast part of the country.

Materials and methods. Study area was municipality of Leskovac (42,59°N; 21,56°E), abundant with natural waterflows and floodable area, with mean annual temperature of 12,2°C.

In June 2011, forty one dogs older than two years, were clinically examined and blood sampled. Dogs were born in study area and have never left it, nor treated with any antiparasitic drugs. Circulating microfilariae (mf) were detected and quantified with the modified Knott technique, and number was expressed as mf/ ml of blood. After quantification, blood smears were magnified 200 and

400 X on Leica DMLB, Germany, imaged, and analyzed using the free UTHSCSA Image Tool program. Identification of species was based on morphological and morphometric features.

Positive samples were serologically tested to adult female *D. immitis* circulating antigens with commercial kit (SNAP® HTWM RT test, IDEXX, USA).

Statistical analysis was performed by Statgraphics Centurion XV.

Results. No clinical signs of dirofilariosis were observed. Microfilariae were detected in blood of 7.3% dogs (3/41; CI 95%: 1.5%-19.9%). Mean body length and width was (in $\mu\text{m}\pm\text{SD}$): $353.2\pm 15.9 \times 7.66\pm 0.92$ (N=30). Anterior end of microfilariae was rounded; posterior showed straight, umbrella handle-like or slightly curved shape. Serological test was negative.

Upon these results, we have identified microfilariae as *D. repens* in all three cases.

Infected hunting dogs, 3 to 6 years old, all from the same village near Leskovac, had 100, 580 and 210 mf/ ml, respectively. Near village, there is a small river and surrounding flood area.

Conclusion. *D. repens* is present in resident dogs in southeast Serbia, which are potential reservoirs to human infections.

We assume that dogs have been infected in previous years. Asymptomatic character of most *D. repens* infection enables unnoticed spread of the parasite, so further investigation and control measures must be undertaken for human and pet protection.

Keywords: *Dirofilaria repens*, dogs, southeast Serbia

