

Angiostrongylus vasorum intraocular infestation in a dog

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Angiostrongylus vasorum (Nematoda, Metastrongyloidea) is widespread in the world in isolated endemic areas in North America, Great Britain, Denmark, France, or Germany but in recent years, autochthonous cases of infection are increasingly diagnosed in countries where the parasite previously did not occur, including Slovakia. Canids as definitive hosts become infected after ingestion of infected intermediate or paratenic host (slugs, snails and frogs). The spectrum of clinical signs varies from subclinical infection to fatal outcomes. The disease is most frequently presented as cardiorespiratory distress, blood abnormalities, coagulopathy, neurological symptoms, general malaise, uveitis, depression, and anorexia are also described. Occasionally, cases of aberrant migration of *A. vasorum* have been observed.

Herein we present an atypical case of *A. vasorum* localisation in the anterior chamber of the right eye of an 18-month-old beagle from Slovakia (Figure 1). Apart from the infestation, the eye appeared ophthalmologically normal. Clinical examination revealed no evidence of a systemic disease. The faeces were investigated by the flotation method and Baermann technique with negative results. Surgical removal of the parasite was performed under general anaesthesia by paracentesis of anterior chamber of the eye. Postoperative medication consisted of topical treatment with steroid solution, antibiotic instillation, and atropine sulphate. A follow up at day 4 revealed complete resolution without observable ophthalmologic after-effects seen in the right eye. Specific anthelmintic treatment of angiostrongylosis consisted of single topical application of imidacloprid 250 mg/ moxidectin 62.5 mg (Advocate®, Bayer, Germany). The telephonic follow-up was performed six months post operation and the owner reported no evidence of systemic or ocular clinical signs.

The extracted nematode was identified based on morphometric and characteristic morphological features as an adult female of *A. vasorum*. Conventional PCR assay using *A. vasorum*-specific primer set confirmed the morphological findings. Sequencing of 156 bp long overlapped fragment of *A. vasorum* revealed 99% similarity with the isolate obtained from a dog from Italy (KF270683).

To the best of our knowledge, this is the first reported case where any ocular pathology and any other clinical signs associated with *A. vasorum* infection were absent. The ocular localisation of the parasite has to date been reported several times from different parts of the world with the majority of reported cases originating from endemic countries as France, Great Britain, and Denmark. In Slovakia, the first causes of canine angiostrongylosis were reported in 2012 and 2013 from eastern Slovakia and on the present the reported prevalence is 4.13 % in dogs and 5.43 % in red foxes. The case of ocular localisation of *A. vasorum* in the dog from Bardejov, north-eastern Slovakia confirms the complex clinical manifestation of the infection and shows

that angiostrongylosis should be included in the differential diagnosis not only of unexplained respiratory, haematological and neurological signs, but also ophthalmological illness in dogs. Moreover, the occurrence of larva migrans indicates the zoonotic potential of angiostrongylosis, representing the risk of infection also for humans.



Figure 1. *Angiostrongylus vasorum* in the anterior chamber of the dog's eye.

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