EDITORIAL

Canine leishmaniosis and kidney disease: Q&A for an overall management in clinical practice

Canine leishmaniosis (CanL) is a systemic zoonotic disease caused by the protozoan *Leishmania infantum* that is endemic in more than 70 countries. The infection is spreading to traditionally non-endemic areas such as North America and northern European countries like the UK (Maia, & Cardoso 2015). This is especially relevant in the UK, since recent years have seen an increased importation of dogs from other countries, often involving dogs rescued from southern or eastern Europe (Norman, Stavisky, & Westgarth, 2020).

Despite the increasing spread of CanL around the world and growing concern reading its effect on dog health, still there are many doubts among practitioners on the management of this disease. CanL is a common cause of glomerulonephritis, and this renal lesion causes proteinuria and may progress to renal failure. Classically, azotaemia due to kidney impairment has been described frequently in dogs with leishmaniosis, and severe renal failure leading to death can be the only clinical sign observed in some affected dogs. However, more recently, renal azotaemia has been reported to be a rare clinical finding, while proteinuria is more commonly recognised at the time of diagnosis in dogs with leishmaniosis (Meléndez-Lazo et al. 2018).

All of the above concerns explain why there is increased attention being paid globally to CanL and kidney disease by veterinary practitioners. This is attributable to several factors including: the rapid increase in prevalence of CanL; the importance of proteinuria in the diagnosis and progression of kidney disease; doubts and concerns about the best approach to diagnose and treat CanL-associated renal disease; the high cost and long duration of treatment; the generally poor prognosis related to CanL-associated renal disease and the description of effective measures to prevent the progression of canine kidney disease (Roura et al. 2013).

Therefore, the Canine Leishmaniosis Working Group (CLWG) Nephrology Study Subgroup has produced a new set of guidelines for veterinary clinicians to produce a consensus approach to CanL kidney disease. The current manuscript discusses the relationship between *Leishmania* spp. infection and kidney disease in dogs, and is structured as a series of questions and answers regarding controversial aspects of this topic and based on a thorough review of the international scientific literature and, when data were inadequate or incomplete, expert opinions.

Example questions include: How do we diagnose leishmaniosis in dogs? Do all dogs with leishmaniosis have renal disease? How can we diagnose renal disease in dogs with leishmaniosis? How should CanL be classified from a clinical perspective? How is proteinuria associated with CanL treated? Is there any benefit of using glucocorticoids in the management of dogs with leishmaniosis and kidney disease? How should dogs with leishmaniosis and kidney disease be treated?

This manuscript is intended to assist veterinary practitioners around the world by addressing questions that arise when challenged with dogs with leishmaniosis and kidney disease. So, these guidelines mainly focus on the pathophysiology, diagnosis, treatment, clinical management and prognosis of kidney disease in CanL. Further discussion of other important topics that involve leishmaniosis and dogs is beyond the scope of this review.

We wish to dedicate this review to Prof. Michael J. Day, a colleague and friend who was involved in this project from the beginning, but sadly passed away before its completion. It is an honour to have worked with such a great scientist; he will always be in our hearts.

Acknowledgements

We thank Ecuphar Italia srl for its supports to scientific activity of CLWG.

Conflict of interest

No conflicts of interest have been declared.

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