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WSAVA Renal Study Exploits Cutting Edge Technology to Improve Recognition and Treatment of Canine Kidney Disease

A study underway by the Renal Standardisation Group (RSG) of the World Small Animal Veterinary Association (WSAVA) is using cutting edge technology to help the RSG achieve its goal to transform the diagnosis and treatment of kidney disease in dogs with within the next five years.

To realize these goals, the RSG has established two Diagnostic Renal Pathology Centres, the first at Texas A&M University and the second at Utrecht University. Thanks to the development of 'whole-slide' digital scanning techniques, the RSG is now building the first global database of renal biopsies based on light, immunofluorescent and electron microscopy to provide a truly unique resource for veterinarians and dog owners anywhere in the world.

The RSG, co-chaired by David Polzin, Professor of Small Animal Internal Medicine at the University of Minnesota and Larry Cowgill, Professor and Associate Dean at the University of California-Davis, aims to improve the treatment of dogs suffering from proteinuric kidney disease. The study is a key element as it provides a globally accessible evidence base to promote more accurate diagnosis. Moving forward, the RSG aims to develop best practice guidelines for the medical management of patients. It is currently analysing the biopsies entered into the database and will produce a prototype, lesion-based classification system to assist veterinarians in making a diagnosis by early 2011.

Commenting on the work of the RSG, David Polzin said: "The advent of whole-slide digital scanning, in which entire microscope slides are digitally photographed so that they can be called up from a server anywhere, has made this unique work possible. Images appear just as they would under a microscope and we can adjust the magnification of the slide up to 83

times, eliminating the need for a glass slide and a microscope to be used to review the pathology.

This means a veterinarian anywhere in the world can create an entry for the database, which can then be reviewed by nephropathologists (specialists in kidney pathology) throughout the world either individually or in a pathology conference setting with pathologists from other locations. The digital slides, clinical database and participation in conferencing can be accessed from any location that has internet access. This has enabled us to create the database much more quickly than would otherwise have been possible. We believe that the combination of the digitisation of slides, the paired clinical-pathological electronic records and multisite, real-time, clinic-pathologic conferencing is a first for the veterinary sector.

In addition, we've been able to approach the pathological diagnosis from a new direction by scoring pathologic lesions rather than using subjective and predetermined pathological diagnoses to categorise the patterns of pathology seen in patients. We've also been able to include the clinical information on patients in a prospective way, something that is unique to this study.

Of course, our work would not be possible without funding, so we're indebted to our kind sponsors Hill's Pet Nutrition and Bayer Animal Health for supporting our work and enabling us to take advantage of this new technology and making this visionary advance in veterinary medicine. We're looking forward to continuing our productive partnership with them to improve the diagnosis and treatment of canine kidney disease patients."

More information on WSAVA and its work are available at www.wsava.org

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