Canine Circovirus Testing Available at MSU Diagnostic Center for Population and Animal Health

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LANSING, MI - Based on recent cases in California and Ohio that may indicate the emergence of a new canine circovirus, the Diagnostic Center for Population and Animal Health (DCPAH) at the Michigan State University College of Veterinary Medicine has added two real time PCR assays for canine circovirus to its test catalog. Running two PCRs for this virus is important as the initial research on the virus indicates some genetic variation. The PCR assay can be run on fresh or formalin-fixed tissue. DCPAH has received requests for canine circovirus testing from Michigan clients and two positive results have been found. However, both animals also had simultaneous infections with other organisms; therefore identification of the circovirus was not necessarily linked to the cause of the disease shown by the animals. DCPAH is currently working on an in situ hybridization (ISH) technique which is a crucial next step. ISH is a method that uses DNA or RNA probes to detect virus in microscopic lesions.

“It is important to note that circovirus has been found in the feces of healthy dogs. Also, the initial research shows that nearly 70% of dogs showing clinical signs of illness and found positive for circovirus were also infected with other viruses or bacteria known to cause disease. Currently, circovirus by itself is not associated with a specific disease process. However, coinfection with canine circovirus and other pathogens may have the potential to cause disease as has been demonstrated in other species, for example pigs,” says DCPAH acting director Thomas Mullaney.

Matti Kiupel, section chief for DCPAH’s pathology laboratory adds, “In order to link circovirus to the cause of a disease process, a full diagnostic work-up (including a postmortem in the case of deceased animals) is essential. This also allows diagnosticians and pathologists to identify the full spectrum of infections and/or diseases that are present in a specific case.”

Recent publicity about circovirus in Michigan dogs is not cause for panic. Veterinarians should consider possible circovirus infection in animals showing clinical signs including vomiting, diarrhea (possibly hemorrhagic) only after other more common causes have been diagnostically excluded. Ascites, pleural effusion, hypovolemic shock, bicavitary hemorrhage, and disseminated intravascular coagulation may also be present, but as with gastrointestinal symptoms, more common causes should be excluded. According to the early research by Li et al, circovirus “should be considered in cases of unexplained vasculitis in dogs.” Please contact DCPAH at 517.353.1683 for more information on submitting samples for testing.

Dog owners whose pets show signs of illness, including vomiting, diarrhea, lethargy, should contact their veterinarian and seek diagnosis and treatment. There is no evidence to-date that canine circovirus can be transmitted to humans or cause human disease. Since many pathogens are transmitted from animals to humans (zoonotic diseases such as rabies, leptospirosis, salmonellosis) thorough hand-washing should be standard practice after handling animals, especially those showing signs of illness, or animal waste.

Additional information on circovirus developed by the American Veterinary Medical Association (AVMA) for veterinarians and the general public is available on the DCPAH website at animalhealth.msu.edu.

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