

Dogs Sick of Canine Influenza Virus

Research shows populations of racing Greyhounds had canine influenza years prior to its discovery in 2004.

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The canine influenza virus, first identified in 2004, had been circulating in the Greyhound population for at least five years prior to its discovery, according to research presented March 18, 2008, at the International Conference on Emerging Infectious Diseases in Atlanta, Ga. These findings have researchers believing that this may have been responsible for numerous outbreaks of respiratory disease among dogs at racing tracks during that period.

"We have demonstrated the virus was in the Greyhound population as early as 1999 and we speculate it was likely introduced sometime before that," says Tara Anderson of the University of Florida College of Veterinary Medicine, a lead researcher on the study.

Canine influenza is a highly contagious respiratory infection of dogs that is caused by the H3N8 influenza virus. The canine influenza virus is closely related to the virus that causes equine influenza and it is thought that the equine influenza virus mutated to produce the canine influenza virus.

Two clinical syndromes have been seen in dogs infected with the canine influenza virus – a milder form associated with infection of the upper respiratory tract and a more severe form that is accompanied by pneumonia. Because the virus is a novel pathogen, virtually all dogs that are exposed to the virus become infected, and nearly 80 percent show clinical signs, but most affected dogs have the mild form. Fatal cases of pneumonia resulting from infection with canine influenza virus have been reported in dogs, but the fatality rate (5 to 8 percent) has been low so far.

Anderson and her colleagues were concerned that a number of respiratory outbreaks of unknown cause at Greyhound tracks prior to 2004 might be an indication that the virus had been in the dog population earlier. They were able to acquire Greyhound blood samples for the period 1999 to 2004 from Hemopet, an animal blood bank in California that uses retired Greyhounds as donors. They tested these samples for antibodies to both the canine influenza virus and the equine influenza virus.

"For most dogs we had two to three years worth of samples, so we were able to follow up with the same dog from year to year to see if it maintained antibody levels," Anderson says.

The first recognized outbreak of canine influenza in the world was believed to have occurred in racing Greyhounds in January 2004 at a track in Florida. From June to August of 2004, outbreaks of respiratory disease were reported at 14 tracks in 6 states (Alabama, Arkansas, Florida, Kansas, Texas, and West Virginia). Between January and May of 2005, outbreaks occurred at 20 tracks in 11 states (Arizona, Arkansas, Colorado, Florida, Iowa, Kansas, Massachusetts, Rhode Island, Texas, West Virginia and Wisconsin). In June 2006, more outbreaks occurred at three tracks in Florida. Infection has also been confirmed in pet dogs in 25 states and Washington, D.C. These cases occurred in animal shelters, humane societies, rescue groups, pet stores, boarding kennels, and veterinary clinics.