Dysautonomia is a Serious Danger for Dogs in Kansas and Missouri

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The autonomic nervous system controls involuntary body functions such as digestion, respiration, saliva production, blood pressure, gastrointestinal function, sweating and metabolism. Dr. Kenneth Harkin, associate professor of veterinary medicine at Kansas State University, said a disease, called dysautonomia, seen primarily in dogs in northeastern Kansas and Missouri kills by destroying this system. As the autonomic nervous system is destroyed, dogs lose digestive function, have trouble urinating completely, and vomit uncontrollably, among other signs.

"Only a few cases are mildly affected, where the dogs can be medicated and survive," Harkin said. "In general, it's almost routinely fatal."

Harkin said the cause for dysautonomia is unknown; therefore, there is no prevention available. Harkin said one of the prevailing theories is that it is the result of a clostridial toxin, possibly from *Clostridium botulinum*. *Clostridium botulinum* is a soil-borne bacteria that can be found in rotting food and decaying flesh and may produce a variety of toxins. He said some of those toxins can kill nerves. Harkin said clostridial toxin production may be geographically limited, which would explain why the disease is primarily seen in Kansas and Missouri.

Harkin said the only research on dysautonomia being done is at K-State and the University of Missouri, because these are the only two states affected. He said it's difficult to acquire funding for canine dysautonomia research since the disease is not a nationwide epidemic and has no human equivalent.

He said the disease is common in the area and estimates Kansas has about 100 cases per year, most in the northeastern corner of the state. Most of the dogs affected are younger than 2 years of age and come from a rural environment.

One aspect of dysautonomia that makes the cause of the disease especially difficult to identify is that it does not affect all exposed dogs.

"There may be five dogs on one property, but only one will end up with the disease," Harkin said. "There appears to be variable susceptibility among dogs."

Harkin explained dog owners need to recognize that the disease exists and any dog can be at risk.

In other areas of the world, especially the United Kingdom, dysautonomia is found in horses, cats and rabbits. Harkin said dysautonomia is only found in dogs and cats in the United States, although feline dysautonomia is uncommon. The first case of canine dysautonomia was reported in Missouri in 1988. The first Kansas case was diagnosed in 1993.

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