VETERINARY TECHNICAL DATASHEET

Narcolepsy; mutation originally found in Dachshund

Mutation Found In :Dachshund (Shorthaired), Dachshund (Miniature Shorthaired), Dachshund (Wirehaired), Dachshund (Miniature Wirehaired), Dachshund (Longhaired), Dachshund (Miniature Longhaired)

Disorder Type

- Nervous system

Disease Severity

- Moderate

Background

Narcolepsy is a sleep disorder that causes sudden attacks of sleep due to the brain's inability to regulate REM sleep. Narcolepsy is encountered in several dog breeds. The condition is not progressive or life-threatening.

Key Signs

- Excessive daytime sleepiness or decreased activity
- Cataplexy

Clinical Description

The first clinical signs of inherited narcolepsy are usually observed by 6 months of age. A typical sign of narcolepsy is excessive daytime drowsiness or decreased daytime activity compared to dogs of the same breed and age. The clinical signs also include cataplexic episodes characterized by sudden loss of muscle tone. Cataplexic episodes start with the dog's hind limbs bending and neck hanging down followed by a collapse which might result in the dog laying down for several seconds or minutes. An affected dog may try to resist the attack which can be seen as a wobbly gait and hind limb weakness. The dog usually stays conscious and alert especially in the beginning of the episode. However, if the attack lasts longer than a couple of minutes, the dog may fall asleep. In longer episodes, fast eye movement characteristic for REM sleep can be observed. Muscle twitches and slow repetitive muscle movements are also possible. Unlike in epileptic seizures, muscles are relaxed during cataplexic episodes and no drooling, urinating, or defecation is observed. Feeding and playing with the dog can provoke cataplexic episodes.

Mode of Inheritance

- autosomal recessive

Gene Name

- HCRTR2

Next Steps

Drug therapy to reduce the cataplexy may considered as needed. Otherwise, dogs with narcolepsy appear to have a normal lifespan.

References

Hungs M, Fan J, Lin L, Lin XY, Maki RA, Mignot E. Identification and functional analysis of mutations in the Hypocretin (Orexin) genes of narcoleptic canines. Gen Res 11:531-539, 2001.