

VETERINARY TECHNICAL DATASHEET

Degenerative Myelopathy, (DM)



Mutation Found In :Many breeds

Disorder Type

- Nervous system

Disease Severity

- Moderate/severe

Background

Degenerative myelopathy (DM) is an inherited neurologic disorder found in many dog breeds but most commonly associated with the German Shepherd Dog and Pembroke Welsh Corgi. It is not yet clear if all dogs carrying two copies of the mutation will develop clinical signs, especially considering the variable presentation noted among breeds found to carry it. DM is inherited in an autosomal recessive fashion. Dogs affected by DM show a slowly progressive loss of coordination that starts in the hind limbs and progresses forward, with the dog becoming increasingly more paretic. The clinical signs are related to the degeneration of the white matter of the spinal cord and generally result in euthanasia.

Key Signs

- Proprioceptive deficits
- Knuckling hind feet
- Muscle wasting
- Paresis
- Incontinence

Clinical Description

The onset of DM is usually in a dog's senior years. Affected dogs first begin by exhibiting muscle wasting, proprioceptive deficits, and knuckling of the hind feet. Though the condition is not painful, affected dogs will eventually require assistance walking. As the condition progresses, it moves up the spinal cord and the dog's neurologic deficits mirror the progress, losing fecal and urinary continence and eventually involving the front legs and the brainstem.

Mode of Inheritance

- autosomal recessive

Gene Name

- SOD1

Next Steps

The wellbeing of dogs suffering with degenerative myelopathy should be monitored closely as the disease progresses. Euthanasia is usually elected on welfare grounds when clinical signs become severe.

References

Awano T et al. Genome-wide association analysis reveals a SOD1 mutation in canine degenerative myelopathy that resembles amyotrophic lateral sclerosis. Proc Natl Acad Sci U S A. 2009 Feb 24; 106(8):2794-9.