Southern Counties
VETERINARY
SPECIALISTS

Degenerative Myelopathy

Information Sheet

What is Degenerative Myelopathy?

Degenerative myelopathy is a chronically progressive neurodegenerative disease that occurs in several breeds. There is no gender predilection and it is generally seen in dogs over 5 years of age with a mean age of 9 years. There is no known treatment other than supportive treatment and unfortunately the prognosis is poor.

Why does it occur?

There is no proven trigger or cause for the disease. In humans the mutation in the same gene can be responsible for some forms of amyotrophic lateral sclerosis (ALS). Degenerative myelopathy associated with the SOD-1 gene can resemble one of the human forms of ALS suggesting a genetic predisposition for developing the disease.

What animals are affected?

Any animal can be affected by a degenerative disease. However, certain breeds such as the boxer, Chesapeake Bay retriever, German

What are the signs?

The signs vary depending on the stage of the disease. The initial signs include slowly progressive, asymmetric, hindlimb incoordination and weakness. Unlike other pathologies such as neoplasia or degenerative disc disease, this condition is not associated with any pain or discomfort. With time, the signs progress to a more marked weakness and loss of muscle tone, with the animal not being able to walk. In advanced stages of the disease the clinical signs become symmetrical, the thoracic limbs are involved and swallowing and barking may be affected. Faecal and urinary incontinence are present when the animal becomes paralysed in the hindlimbs.

The speed of progression of the disease varies amongst breeds but is reported to be between six to nine months in German Shepherd dogs and up to 19 months in Pembroke Welsh Corgis.

shepherd, Pembroke Welsh corgi, Cardigan Welsh corgi, Rhodesian ridgeback, poodle, Wire Fox terrier and Labrador retriever, Bernese mountain dog, Golden retriever, Pug, Soft-coated Wheaten retriever, Kerry Blue terrier, Wire-haired Fox terrier, Siberian husky and American eskimo dog have been identified on histopathological examination.

How is it investigated?

The final diagnosis can only be reached on histopathology and therefore requires a post mortem examination. Ante mortem diagnosis relies on the clinical history and exclusion of other pathologies. In addition to a complete history, physical, neurological and orthopaedic examinations and blood tests are initially performed.

As discussed above, the signs are generally slowly progressive in nature and affected the pelvic limbs initially. The pathology does not cause any discomfort but it can occur at the same time of other problems and therefore makes diagnosis challenging in certain situations. The differential diagnoses that should be considered include other neurological problems such as degenerative disc disease, neoplasia or lumbosacral syndrome and orthopaedic conditions such as hip dysplasia or knee problems.

Further investigations that include MRI of the vertebral column and cerebrospinal fluid analysis should be included and once again to exclude other pathologies. In certain cases, concurrent problems may be identified (e.g. chronic disc problem) and the findings have to be interpreted based on the clinical history and experience of the clinician. In more advanced cases, electrodiagnostic tests that evaluate muscle function and nerve

conduction velocities can also be used.

More recently, a DNA test became available to identify the SOD-1 gene. It can be tested in Boxer, Chesapeake Bay Retriever, German Shepherd, Pembroke Welsh Corgi, Cardigan Welsh Corgi, Rhodesian Ridgeback, Poodle, Wire Fox Terrier and Labrador Retriever. The DNA test identifies animals that are clear, carriers or at high risk. Animals that don't have the gene are very unlikely to develop the disease (n/n); carriers are unlikely to develop the disease but may pass the gene to offspring (DM/n); and an animal that carries both genes for the mutation are at higher risk of developing degenerative myelopathy and will pass the gene to the offspring (DM/DM).

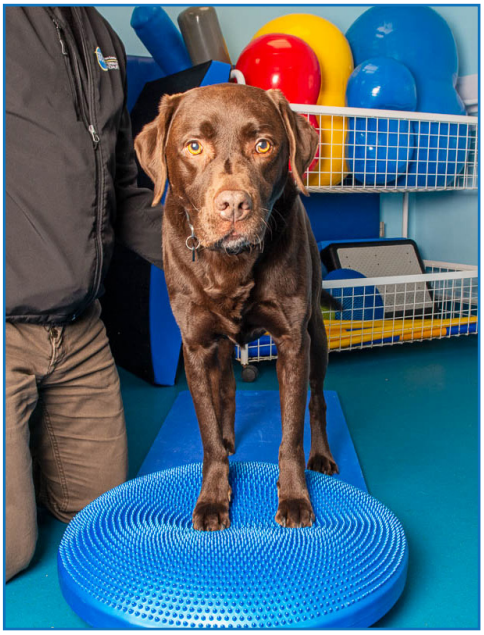
These tests can help in making the diagnosis and in making an informed decision regarding breeding choices. the results are important in reducing the incidence of the gene but carriers should not be eliminated from breeding.

What are the treatment options?

The only therapy proven to improve quality of life and increase survival time is physiotherapy and appropriate supportive care. The latter varies depending on how affected the patient is. In animals that are still able to walk unassisted protection of the digits may be enough whereas in cases where the patient needs support, slings and harnesses can be used. In cases where continence is lost it is paramount to keep the animal clean and dry, and when not able to ambulate, changing recumbency and monitoring for pressure sores is essential.

What is my pet's prognosis?

Due to the nature of the disease the prognosis is poor. Euthanasia is usually elected at different stages of the disease. Factors such as weight, age, mobility and continence influence the decision in our patients.



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