

# NEUROLOGÍA

## LEUKOENCEPHALOMYELOPATHY IN A ROTTWEILER DOGS - TWO CASES REPORT

### Caso clínico

#### Introduction and Case report Studies

In this paper two cases of Leukoencephalomyelopathy in dogs are described. Both dogs (male and female) were Rottweiler, 5.5 and 6 years old. Dogs were examined for clinical signs of ataxia and paresis, that developed slowly, but progressively in all four limbs during a five to six months period. Before they were brought to our clinic, dogs were treated several times, but in spite of it, the health status of the dogs deteriorated. The first clinical symptoms were noticed in the forelimbs and changes also appeared later on the hindlimbs. On neurological examination, generalized ataxia with hypermetria was registered in both dogs while walking on the forelimbs, and a proprioception deficit was noted in all four limbs (proprioception deficit was more obvious on hind limbs than on the forelimbs). Spinal reflexes were normal to exaggerated. Based on the neurological examination results, we have concluded that the process was localized in the cervical part of the spinal cord. The clinical examinations were followed by hematological and biochemical blood tests, CSF evaluation, urinalysis, radiography, myelography and MRI examination of the cervical spinal cord of the male dog. Several different diseases of cervical the spinal cord, like discospondylitis, myelitis, neoplasia and idiopathic disorders such as neuroaxonal dystrophy and leukoencephalomyelopathy that develops in this dog breed were considered as differential diagnosis.

Ancillary diagnostic investigation did not reveal any abnormalities. During myelography of the female dog, five minutes after the application of the contrast - 12 ml - the contrast spread to the level of the fifth cervical vertebra (C5). The next myelogram, twenty minutes after applying the contrast, revealed that the contrast remained at the level between C5 and C6. The MRI examination of the dog was suggested to the owner, but he decided to euthanize the dog. The dog was euthanized, and necropsy was performed. Macroscopic examination revealed thickening of the spinal cord between the C5 and C6 cervical vertebrae. On the cross section of spinal cord, whitish bilaterally symmetric areas involving lateral funiculi were recorded. Microscopically, bilaterally symmetric areas of demyelination were recorded in the region of lateral funiculi of the spinal cord. These lesions are characteristic for leukoencephalomyelopathy of Rottweiler Dogs.

In the second case, during the myelography of the cervical spine of the male dog, 5 minutes after application, the contrast spread up the middle level of cervical vertebra C5, where suspected stenosis of the subarachnoid space was detected. Twenty minutes after application, the contrast surpassed C5 level, and came to the level of T1. The MRI examination was performed applying T2W and T1W sequences in all three levels. At the height of C5 intramedullary, the zone of higher signal in T2W sequence was noticed. No reliable evidence of pathological changes on vertebral bodies there were found and intervertebral discs at the shown level

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had signals of normal intensity. Based on MRI findings, demyelination, neoplastic or inflammatory process were suspected. Having in mind previously executed examinations, clinical signs and breed predisposition, the suspected diagnosis was leukoencephalomyelopathy

#### Discussions

Generalized ataxia with hypermetria was registered in both dogs while walking on the forelimbs, and proprioception deficit was noted in all limbs (proprioception deficit was more obvious on hindlimbs than on the forelimbs). The neurologic deficits can be explained by demyelination caused by slowing or complete blocking of conduction along affected nerve fibers. Macroscopic examination revealed thickening of the spinal cord between the C5 and C6 cervical vertebrae in female dog although there is no literature data of diameter changes in that part of the spinal cord of dogs with leukoencephalomyelopathy.

#### Bibliography

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