COMPANION ANIMAL
Clinical Cases Award

Meningomyelitis of unknown origin in the cervical spinal cord of a 5-year-old Shih Tzu

Koen M. Santifort, DVM

Veterinair Verwijscentrum 'de Pietersberg' part of Evidensia Group, Pietersbergseweg 14, 6826 BV Oosterbeek, The Netherlands

koensantifort@gmail.com

Koen M. Santifort DVM, Jeroen Bakkenes DVM, N. Bergknut DVM, Dip. ECVN

Introduction
Meningoencephalitis of unknown origin (MUO) is a term used to cover several immune-mediated disorder of the central nervous system (CNS): granulomatous meningoencephalitis (GME), necrotizing leukoencephalitis (NLE) and necrotizing meningoencefalitis (NME) (1-3). Spinal cord involvement, particularly for GME, has been described (suffix: -myelitis) (2,3). This case report describes clinical and diagnostic findings as well as treatment response in a dog with meningomyelitis of unknown origin.

Case description
A 5-year-old male neutered Shih Tzu was presented with cervical hyperesthesia and severe proprioceptive and motor deficits in all limbs (ataxia and tetraparesis). An acute progressive C1-C5 myelopathy was suspected. MRI revealed an extensive intramedullary T2 hyperintense/T1 hypointense, contrast-enhancing area from C2-C5, which was also diffusely enlarged (figure 1). Cerebrospinal fluid analysis revealed increased levels of protein (1.83 g/L, ref. <0.3 g/L) and marked mononuclear pleocytosis (total nucleated cell count (TNCC) 1070/µL, ref. <5/µL).

Results
Meningomyelitis was considered to be the most likely diagnosis. Treatment was initiated with prednisone (2 mg/kg BID), cyclosporine (10 g/kg SID), clindamycine (20 mg/kg BID), omeprazole (0.8 mg/kg SID) and gabapentin (10 mg/kg TID). Twelve hours later, the dog experienced an epileptic seizure (consistent with subsequent involvement of the forebrain) and phenobarbital (2.5 mg/kg BID) was added. After CSF-PCR results for infectious causes came back negative, clindamycine was stopped.

The patient improved over the next days and was discharged ambulatory and without signs of (cervical) hyperesthesia. No further seizures were noticed and slight ataxia was the only clinical neurological deficit at follow-up one month after starting treatment.

Discussion/Conclusion
MUO (mostly GME) has often been reported to be associated with signs of cervical pain and spinal cord involvement (2,3). Meningomyelitis of unknown origin must be included in the list of differential diagnoses in cases with acute progressive myelopathy.

References

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2. Griffin JF, Levine JM, Levine GJ, et al. Meningomyelitis in dogs: a retrospective review of 28 cases (1999-2007). J Small Anim Pract 2008;49:509–17.
3. Coates JR and Jefferey, ND. Perspectives on meningoencephalomyelitis of unknown origin. Veterinary Clinics of North America Small Animal Practice 2014;44:1157–85.

Figure 1:
T2-weighted sagittal image of the cervical spinal cord revealing a diffusely enlarged C2-5 segment and ill-defined intramedullary hyperintensity (between red arrows). In this image, cranial is to the left, caudal is to the right. Santifort KM, Bakkenes J and Bergknut N.