

PNS DEFICITS IN DOGS AFFECTED DURING FOOD-ASSOCIATED OUTBREAK OF
MEGAESOPHAGUS/POLYNEUROPATHY IN LATVIA

J. Jeserevics¹, I. Matisse-VanHoutan², K. Matiasek³, A. Ozols⁴, S. Cizinauskas¹. ¹Referral animal hospital AISTI, Vantaa, Finland, ² Matisse Veterinary Pathology Service, Riga, Latvia, ³Ludwig Maximilians University, Munich, Germany, ⁴Veterinary practice SENSOVET, Jelgava, Latvia.

In Latvia during 2014-2016 there was an outbreak of megaesophagus/polyneuropathy (ME/PNP) with more than 250 dogs affected. Epidemiological case-control study identified odds ratio of >100 between the development of ME/PNP and intake of certain brand of dog food. Pathological studies indicated intermediate type neuropathy with distal advancement. To characterize clinical defects in PNS, a group of 13 dogs affected in the outbreak were examined neurologically and electrophysiologically (needle EMG and MNCV).

Dysphonia, regurgitation, weakness and/or exercise intolerance were reported in all dogs. In clinical neurological examination the most frequent finding was decreased spinal reflexes in all four limbs and generalized muscle atrophy. EMG showed that distal limb muscles were more frequently affected than proximal muscles. MNCV measured for *n.ischiadicus* ranged from 31 to 79.3 m/s and was considered decreased in 10 dogs (77%). Recovery was noted in some dogs.

Neurological findings together with pathological findings indicate that dogs most likely have toxic polyneuropathy. Most common causes of ME/PNP, including myasthenia gravis, heavy metals, thallium, acrylamide, ionophores, botulism, mycotoxins and main pesticides have been ruled out. Vitamin B deficiencies were found in sick dogs but cannot be found in the dog food, albeit concentrations were normal in the food. Etiology and pathobiology are still under investigation.