

## ELAPHOSTRONGYGLUS CERVI CAMERON, 1931 IN THE CENTRAL NERVOUS SYSTEM OF RED DEER (CERVUS ELAPHUS)

We spent three years examining deer (14 stags, 17 hinds and 8 fawns) on a single locality. Relatively frequent findings of *Elaphostrongylus cervi* in the subcutaneous connective tissue initiated our detailed studies of the CNS. The species of the helminth was identified by V. Baruš CSc., Institute of Parasitology, Czechoslovak Academy of Sciences. The incidence of worms located in the fasciae of the latissimus dorsi muscle, the external intercostal muscles or the pectoral muscles was varying, the maximum being 12, the usual numbers ranging from 3–6 worms. The only pathological changes found by microscopical examinations were minute haemorrhages round the worms located under the epimysium. In a case of highest incidence in the subcutaneous tissue we found one *E. cervi* in the soft meninges when recovering the brain from the scull cavity. A re-examination of the fixed brain revealed another worm in the soft meninges at the level of the sulcus transversus. In another instance we found one male worm located at the level of the sciatic nerve. In the first case, microscopical examinations revealed histopathological findings similar to those of a parasitary meningoencephalitis. The meninges of the hemispheres and the cerebellum and the plexus chorioideus rhombencephali were infiltrated with lymphocytes with an admixture of eosinophilic leucocytes. These were particularly numerous in the meninges of the cerebellum. Isolated granules of hemosiderin were found in the meninges which entered the cortical grooves. A perivascular lymphocytic infiltrate containing a small quantity of eosinophilic leucocytes formed either a narrow rim

round the blood vessels or large perivascular coats. No pathological changes were seen in the spinal meninges or the spinal cord. In the second case, in which the worm was found at the sciatic nerve, the spinal cord lost several ganglia cells. This loss was accompanied by a nodular gliosis and a small focal demyelinisation of the ventral and lateral funiculus in several levels of the spinal cord. We also observed a focal proliferation of the arachnothelium of the arachnoidea.

In a case of subcutaneous elaphostrongylosis we observed an extensive symmetrical demyelinisation of the ventral and lateral funiculus without finding any worms in the CNS. This is typical of the so-called spinal ataxia of Cervidae.

Microscopical examinations of another case revealed symptoms of a parasitary meningitis. The meninges of the cerebral hemispheres were changed by inflammation and strongyloid larvae were present in these and also in the meninges of the medulla oblongata. The larvae were surrounded either by a lymphocytic or eosinophilic infiltrate or were lying freely without evoking any reaction of the surrounding tissues. The meninges contained isolated siderophages.

Our histopathological findings in cerebral elaphostrongylosis resemble the lymphocytic or eosinophilic meningitis recorded by RONÉUS and NORDKVIST (Acta vet. Scand, 3: 201–225, 1962) from *Rangifer tarandus*, infected with *E. rangiferi*. In none of our observations did we find severe mechanical damages of the CNS.

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