PRELIMINARY STUDIES ON CEREBROSPINAL FLUID OF GOATS AFFECTED WITH CEREBROSPINAL NEMATODIASIS

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Cerebrospinal nematodiasis (CSN) is a neuropathological disorder in goats caused by the migration of Setaria spp. in the central nervous system. The specific diagnosis of CSN is based on a histological examination of the brain and spinal cord. In the present study, an attempt has been made to examine the physical, biochemical and cytological alterations in cerebrospinal fluid (CSF) of goats affected with CSN.

Samples of CSF (5 ml) were collected from 8 diseased goats (D) and 55 age-matched, clinically normal animals (C). Clinicopathological estimations were performed by standard methods; a membrane filtration technique (Rozel, 1972) was used to determine the differential cell counts.

The CSF in diseased and normal goats were clear and colourless. Cytological evaluation (mean SEM; ± C,D) revealed a consistent increase in the total cell count (/μ1, 6.8 ± 2.9; 161.1 ± 28.2) with an elevation in the percentage of eosinophils (0; 15.6 ±2.9), monocytes (14.7 ± 0.7; 21.5 ± 0.6), macrophages (1.0 ± 0.3; 7.3± 0.8) and neutrophils (0.5± 0.1; 9.1± 1.5). There was also an increase in the protein content (mg/dl, 10.8± 0.9; 22.5± 0.9) of the CSF from diseased animals.

A high protein concentration in CSF is noted in many disease conditions in the CNS however, the increase of eosinophils is reasonably specific to parasitic infections. Therefore, cytological examination of CSF combined with the clinical history and signs may assist veterinarians in the differentiation of CSN from other neurological disorders in the goat.

References : Rozel J.F. (1972). Membrane Filtration of Canine and Feline Cerebrospinal Fluid for Cytological Evaluation. Journal of American Veterinary Medical Association, 160, 720-725.