

Case 5

CENTRAL NERVOUS SYSTEM PROBLEM IN A DOG

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Signalment: 8 year old, spayed female Australian Cattle dog cross



History: The dog presented to the Murdoch University Veterinary Teaching Hospital with a 48 hour history of ataxia and mild obtundation and 24 hours of inappetance and a soft cough.

Clinical examination findings:

On physical examination the dog was obtunded but responsive and moderately ataxic. Neurological examination demonstrated a left head tilt, reduced gag reflex, right-sided proprioception deficits, bilaterally increased hindlimb reflexes and increased forelimb muscle rigidity. Focal alveolar infiltrates consistent with mild aspiration pneumonia were observed on thoracic radiography and CT demonstrated mild dilation of the 4th ventricle.

Laboratory data

Routine haematology and serum biochemistry were performed by the referring veterinarian and no significant changes were detected. Urinalysis revealed minimally concentrated urine (urine specific gravity 1.020) with no other abnormalities.

CSF Analysis:

Parameter	Value	Reference interval (where applicable)
Total volume (ml)	0.5	
Turbidity	nil	
Sample colour	pink	
Protein (g/L)	18.57	<0.25g/L
RBC ($\times 10^9/L$)	0.01	
WBC ($\times 10^9/L$)	2.03	<0.005 $\times 10^9/L$

Cytologic examination:

Cell count (200 cells);

Neutrophils 5%
Lymphocytes 32%
Macrophages 14%
Eosinophils 49%

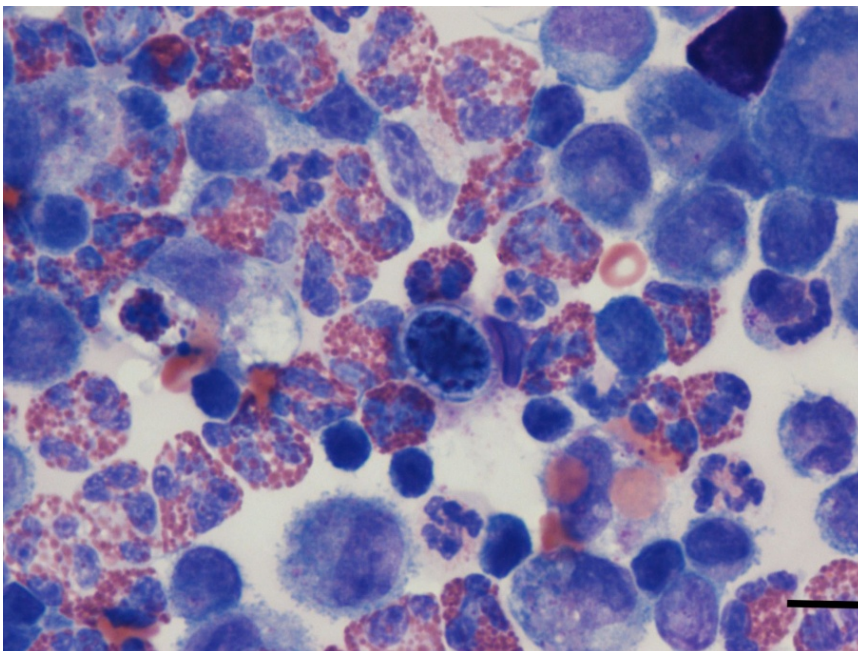


Figure 1: Cytospin preparation of CSF. (Wright's; scale bar 10 μ m)

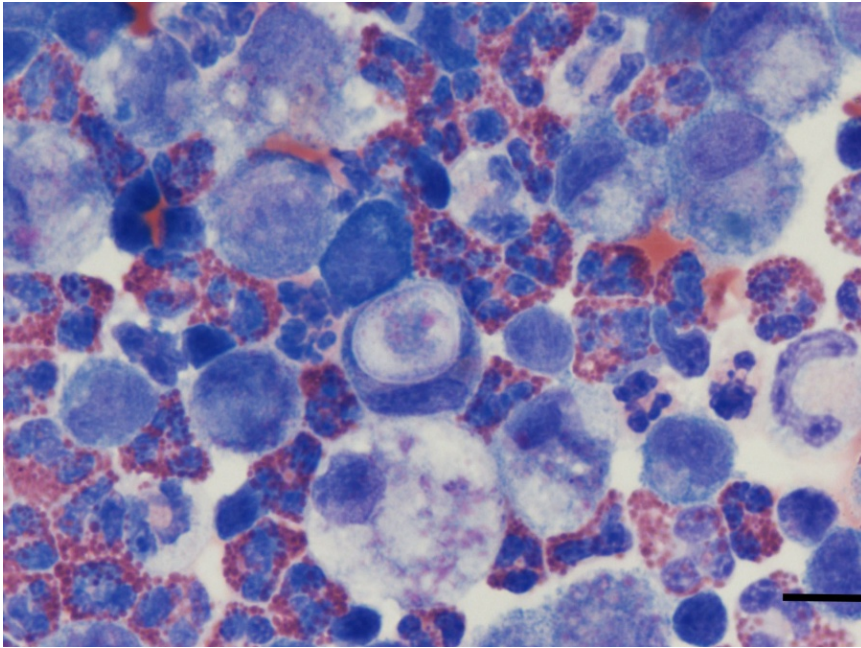


Figure 2: Cytospin preparation of CSF. (Wright's; scale bar 10 μ m)
Necropsy examination:

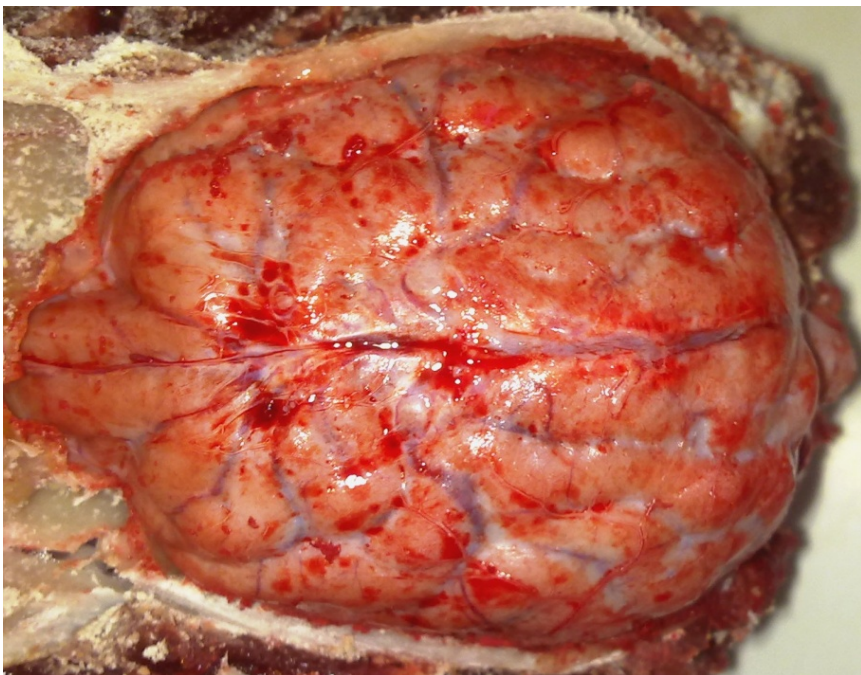


Figure 3: Photomicrograph of the brain in situ.

Histologic examination:

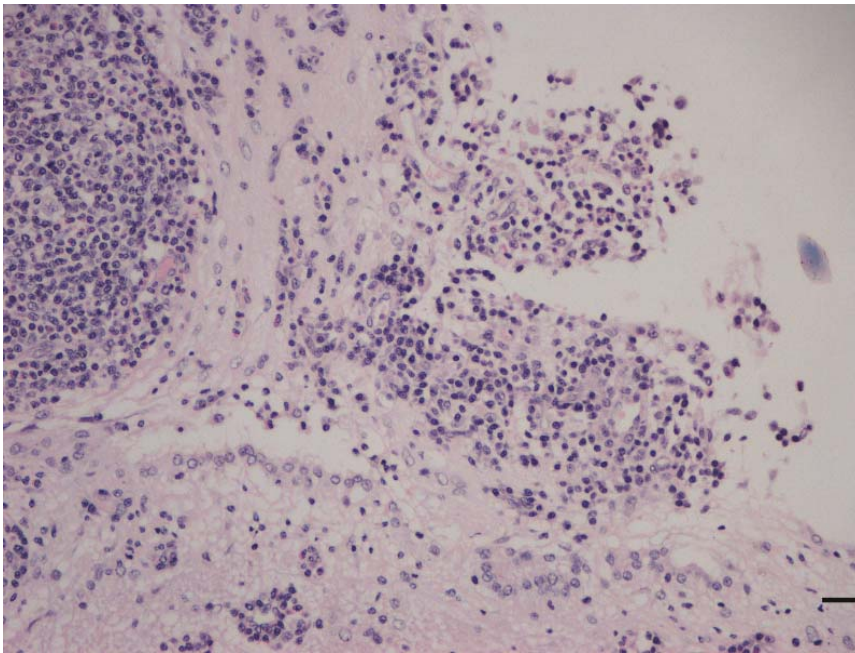


Figure 4: Cerebral cortex and lateral ventricle. Multifocal mononuclear inflammatory cell infiltrates are present within the choroid and in the adjacent parenchyma (H&E; scale bar 20 μ m).

Questions:

1. What is the most likely diagnosis?
2. What are the significant findings in the CSF?
3. What is the most likely cause of the disease and what is its presumed pathogenesis?
4. What other diagnostic tests can be used to get a definitive diagnosis?
5. The clinical signs are primarily related to the central nervous system in this case. Why is this unusual?