

## Clinical pathology diagnostic challenge : case #19

**Signalment:** 8 year old, intact, male Labrador.

**History:** A month ago, the dog travelled in the southern United States with its owner and since then as begun showing signs of progressive weakness.

**Physical exam observations:** weakness, peripheral lymphadenomegaly.

CBC results		Clinical chemistry changes	
Hematocrit (0.37-0.55 L/L)	0.32	Glucose (3.38-6.88 mmol/L)	5.1
Hemoglobin (120-180 g/L)	-	BUN (2.09-7.91 mmol/L)	5.7
Erythrocytes ( $5.5-8.5 \times 10^{12}$ /L)	-	Creatinine (58-127 $\mu$ mol/L)	62
MCV (60-77 fL)	61	ALT (4-62 U/L)	44
MCHC(320-360 g/L)	340	Alkaline phosphatase (6-80 U/L)	8
Reticulocytes (%)	< 1%	Total protein (56.6-74.8 g/L)	108
Reticulocytes ( $\times 10^6$ /L)	< 60 000	Albumin (29.1-39.7 g/L)	27
Platelets ( $200-900 \times 10^9$ /L)	53	Globulins (23.5-39.1 g/L)	81
Plasma protein (60-80 g/L)	-	Calcium (2.38-3.00 mmol/L)	3.0
Leukocytes ( $6.0-17.0 \times 10^9$ /L)	16.2	Phosphorus (0.75-1.70 mmol/L)	1.1
Neutrophils (mature) ( $3.0-11.5 \times 10^9$ /L)	3.1	Potassium (3.82-5.34 mmol/L)	4.5
Neutrophils (band) ( $0-0.3 \times 10^9$ /L)	-	Sodium (143-154 mmol/L)	146
Lymphocytes ( $1.0-4.8 \times 10^9$ /L)	13.0	Chloride (108-117 mmol/L)	117
Monocytes ( $<1.4 \times 10^9$ /L)	0	Total CO <sub>2</sub> (17-25 mmol/L)	18.4
Eosinophils ( $0.1-1.3 \times 10^9$ /L)	0.1	Anion Gap (12-24 mmol/L)	15.1
Basophils ( $0 - \text{rare} \times 10^9$ /L)	0		

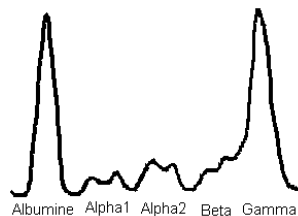
### Other tests

#### Urinalysis (cystocentesis)

Color	yellow
Turbidity	mildly cloudy
Specific gravity	> 1.035
pH	6
Protein	3+
Glucose	neg.
Ketone bodies	neg.
Bilirubin	neg.
Blood	3+

**Cytology:** A sub-mandibular lymph node needle aspiration was done.

#### Plasma protein electrophoresis.



Using the laboratory changes, submit a differential diagnosis and justify it (pathophysiology).

If needed list other possible tests to confirm your diagnosis.