

## Clinical pathology diagnostic challenge: case #7

**Signalment:** 1 year old, male Schnauzer.

**History:** wall-pressing, generalized weakness.

**Physical exam observations:** bilateral myosis, dehydration.

CBC results		Clinical chemistry results	
Hematocrit (0.37-0.55 L/L)	0.37	Glucose (3.38-6.88 mmol/L)	4.3
Hemoglobin (120-180 g/L)	130	BUN (2.09-7.91 mmol/L)	3.8
Erythrocytes ( $5.5-8.5 \times 10^{12}$ /L)	6.5	Creatinine (58-127 $\mu$ mol/L)	58
MCV (60-77 fL)	54	ALT (4-62 U/L)	162
MCHC (320-360 g/L)	350	Alkaline phosphatase (6-80 U/L)	141
Reticulocytes (<1 %)	-	Total protein (56.6-74.8 g/L)	54.0
Reticulocytes ( $<60\,000 \times 10^6$ /L)	-	Albumine (29.1-39.7 g/L)	30.1
Platelets ( $200-900 \times 10^9$ /L)	366	Globulins (23.5-39.1 g/L)	23.9
Plasma protein (60-80 g/L)	55	Calcium (2.38-3.00 mmol/L)	2.39
Leukocytes ( $6.0-17.0 \times 10^9$ /L)	11.9	Phosphorus (0.75-1.70 mmol/L)	1.53
Neutrophils (mature) ( $3.0-11.5 \times 10^9$ /L)	8.3	Potassium (3.82-5.34 mmol/L)	4.55
Neutrophils (band) ( $0-0.3 \times 10^9$ /L)	0	Sodium (143-154 mmol/L)	155
Lymphocytes ( $1.0-4.8 \times 10^9$ /L)	2.5	Chloride (108-117 mmol/L)	125
Monocytes ( $<1.4 \times 10^9$ /L)	0.6	Total CO <sub>2</sub> (17-25 mmol/L)	18.2
Eosinophils ( $0.1-1.3 \times 10^9$ /L)	0.1	Anion Gap (12-24 mmol/L)	16.25
Basophils (0 - rare $\times 10^9$ /L)	0		

Using the laboratory changes, submit a differential diagnosis and justify it (pathophysiology). If needed list other possible tests to confirm your diagnosis.