

Clinical pathology diagnostic challenge : case #21

Signalment: 15 year old, neutered male domestic cat.

History: weight loss for a year.

Physical exam observations: dull hair coat, bilateral forehead alopecia, moderate dehydration, cervical mass and irregular kidneys upon palpation.

CBC results		Clinical chemistry results	
Hematocrit (0.24-0.45 L/L)	0.34	Glucose (3.8-7.9 mmol/L)	5.4
Hemoglobin (80-150 g/L)	120	BUN (4.1-10.8 mmol/L)	10.71
Erythrocytes ($5.0-10.0 \times 10^{12}$ /L)	7.0	Creatinine (51-180 μ mol/L)	106.1
MCV (39-55 fL)	50	ALT (16-63 U/L)	74
MCHC (300-360 g/L)	330	Alkaline phosphatase (<50 U/L)	61
Reticulocytes (<1 %)	-	Total protein (59.6-80.8 g/L)	59
Reticulocytes (<60 000 $\times 10^6$ /L)	-	Albumin (26.0-39.0 g/L)	29
Platelets (300-700 $\times 10^9$ /L)	adequate	Globulins (29.0-47.0 g/L)	30
Plasma protein (60-80 g/L)	-	Calcium (2.17-2.86 mmol/L)	2.50
Leukocytes ($5.5-19.5 \times 10^9$ /L)	13.1	Phosphorus (0.96-1.96 mmol/L)	1.20
Neutrophils (mature) ($2.5-12.5 \times 10^9$ /L)	8.0	Potassium (3.60-5.30 mmol/L)	-
Neutrophils (band) ($0-0.3 \times 10^9$ /L)	0	Sodium (145-158 mmol/L)	-
Lymphocytes ($1.5-7.0 \times 10^9$ /L)	4.5	Chloride (110-125 mmol/L)	-
Monocytes (<0.8 $\times 10^9$ /L)	0	CO ₂ total (14-24 mmol/L)	-
Eosinophils ($0-1.3 \times 10^9$ /L)	0.6	Gap anionique (10-27 mmol/L)	-
Basophils (0 - rare $\times 10^9$ /L)	0		

Other tests

Urinalysis (cystocentesis)

Color	yellow
Turbidity	mild
Specific gravity	1.018
pH	7.5
Protein	neg.
Glucose	neg.
Ketone bodies	neg.
Bilirubin	neg.
Blood	3+

Total plasma thyroxine (T₄) : 136.4 mmol/L (22-55 mmol/L)

Reference thyroxine values are between parentheses.

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