

Clinical pathology diagnostic challenge : case #31

Signalment: 11 month old male domestic cat.

History: weight and appetite loss, less active, mostly for the past few days.

Physical exam observations: dyspnea, muffled thoracic sounds, hyperthermia, emaciated animal.

CBC results

Hematocrit (0.24-0.45 L/L)	0.41
Hemoglobin (80-150 g/L)	134
Erythrocytes ($5.0-10.0 \times 10^{12}$ /L)	8.61
MCV (39-55 fL)	49
MCHC (300-360 g/L)	327
Reticulocytes (<1 %)	-
Reticulocytes (<60 000 $\times 10^6$ /L)	-
Platelets (300-700 $\times 10^9$ /L)	adequate
Plasma protein (60-80 g/L)	67
Leukocytes ($5.5-19.5 \times 10^9$ /L)	54.0
Neutrophils (mature) ($2.5-12.5 \times 10^9$ /L)	28.6
Neutrophils (band) ($0-0.3 \times 10^9$ /L)	16.7
Lymphocytes ($1.5-7.0 \times 10^9$ /L)	2.7
Monocytes (<0.8 $\times 10^9$ /L)	4.3
Eosinophils ($0-1.3 \times 10^9$ /L)	0
Basophils (0 - rare $\times 10^9$ /L)	0

Clinical chemistry results

Glucose (3.8-7.9 mmol/L)	7.8
BUN (4.1-10.8 mmol/L)	4.4
Creatinine (51-180 μ mol/L)	64
ALT (16-63 U/L)	37
Alkaline phosphatase (<50 U/L)	18
Total protein (59.6-80.8 g/L)	62.9
Albumin (26.0-39.0 g/L)	24.0
Globulins (29.0-47.0 g/L)	38.9
Calcium (2.17-2.86 mmol/L)	2.51
Phosphorus (0.96-1.96 mmol/L)	1.90
Potassium (3.60-5.30 mmol/L)	4.7
Sodium (145-158 mmol/L)	151
Chloride (110-125 mmol/L)	109.9
Total CO ₂ (14-24 mmol/L)	20.1
Anion Gap (10-27 mmol/L)	25.7

Other tests

Thoracocentesis

Appearance	off-white, opaque
Proteins	41 g / L
Leukocytes	461 $\times 10^9$ / L

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