

Clinical pathology diagnostic challenge : case #22

Signalment: 6 year old male domestic cat.

History: after eating parts of an aloe vera plant in the house a week ago, the cat vomited twice and has developed progressive weakness since.

Physical exam observations: pale mucous membranes.

CBC results		Clinical chemistry results	
Hematocrit (0.24-0.45 L/L)	0.12	Glucose (3.8-7.9 mmol/L)	4.9
Hemoglobin (80-150 g/L)	45.9	BUN (4.1-10.8 mmol/L)	11.9
Erythrocytes ($5.0-10.0 \times 10^{12}$ /L)	1.82	Creatinine (51-180 μ mol/L)	177
MCV (39-55 fL)	69.8	ALT (16-63 U/L)	339
MCHC (300-360 g/L)	360	Alkaline phosphatase (<50 U/L)	48
Reticulocytes (<1 %)	4.4	Total protein (59.6-80.8 g/L)	75.8
Reticulocytes (<60 000 $\times 10^6$ /L)	80 080	Albumin (26.0-39.0 g/L)	38.2
Platelets(300-700 $\times 10^9$ /L)	200	Globulins (29.0-47.0 g/L)	37.6
Plasma protein (60-80 g/L)	79	Calcium (2.17-2.86 mmol/L)	2.8
Leukocytes ($5.5-19.5 \times 10^9$ /L)	5.2	Phosphorus (0.96-1.96 mmol/L)	1.45
Neutrophils (mature) ($2.5-12.5 \times 10^9$ /L)	4.0	Potassium (3.60-5.30 mmol/L)	4.08
Neutrophils (band)($0-0.3 \times 10^9$ /L)	0	Sodium (145-158 mmol/L)	152.3
Lymphocytes ($1.5-7.0 \times 10^9$ /L)	1.0	Chloride (110-125 mmol/L)	120.6
Monocytes (< 0.8×10^9 /L)	0.2	Total CO ₂ (14-24 mmol/L)	18.6
Eosinophils ($0-1.3 \times 10^9$ /L)	0	Anion Gap (10-27 mmol/L)	17.18
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.