

Clinical pathology diagnostic challenge : case #30

Signalment: 1 year old intact male Yorkshire dog.

History: foul-smelling, liquid diarrhea, repeated vomiting, anorexia for the past few days.

Physical exam observations: animal is presented in lateral recumbency, is moribund, dehydrated (10%), and has a weak pulse.

CBC changes		Clinical chemistry results	
Hematocrit (0.37-0.55 L/L)	0.46	Glucose (3.38-6.88 mmol/L)	1.1
Hémoglobin (120-180 g/L)	163	BUN (2.09-7.91 mmol/L)	4.2
Erythrocytes ($5.5-8.5 \times 10^{12}$ /L)	6.89	Creatinine (58-127 μ mol/L)	40
MCV (60-77 fL)	66	ALT (4-62 U/L)	26
MCHC (320-360 g/L)	356	Alkaline phosphatase (6-80 U/L)	207
Reticulocytes (<1 %)	-	Total protein (56.6-74.8 g/L)	31.5
Reticulocytes (< $60\,000 \times 10^6$ /L)	-	Albumin (29.1-39.7 g/L)	16.7
Platelets ($200-900 \times 10^9$ /L)	215	Globulins (23.5-39.1 g/L)	14.8
Plasma protein (60-80 g/L)	33	Calcium (2.38-3.00 mmol/L)	2.1
Leukocytes ($6.0-17.0 \times 10^9$ /L)	0.323	Phosphorus (0.75-1.70 mmol/L)	0.93
Neutrophils (mature) ($3.0-11.5 \times 10^9$ /L)	0.06	Potassium (3.82-5.34 mmol/L)	2.95
Neutrophils (band) ($0-0.3 \times 10^9$ /L)	0	Sodium (143-154 mmol/L)	140
Lymphocytes ($1.0-4.8 \times 10^9$ /L)	0.21	Chloride (108-117 mmol/L)	110.4
Monocytes (< 1.4×10^9 /L)	0.05	Total CO ₂ (17-25 mmol/L)	23.3
Eosinophils ($0.1-1.3 \times 10^9$ /L)	0	Anion Gap (12-24 mmol/L)	9.25
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.