

Clinical pathology diagnostic challenge : case #20

Signalment: 3 year old, intact male Golden Retriever, canadian champion.

History: owner was driving back with the dog from a competition 6 hours away; upon arriving, the owner found the dog in lateral recumbency and unable to stand, outside temperature: 32 degrees C.

Physical exam observations: dark red mucous membranes, severe dehydration, hematochezia, weakness; initially urine couldn't be obtained, rectal temperature: 40o C.

CBC changes		Clinical chemistry results	
Hematocrit (0.37-0.55 L/L)	0.65	Glucose (3.38-6.88 mmol/L)	3.1
Hemoglobin (120-180 g/L)	214	BUN (2.09-7.91 mmol/L)	19
Erythrocytes (5.5-8.5 x 10 ¹² /L)	8.32	Creatinine (58-127 µmol/L)	268
MCV (60-77 fL)	78	ALT (4-62 U/L)	195
MCHC (320-360 g/L)	332	Alkaline phosphatase (6-80 U/L)	339
Reticulocytes (<1 %)	-	Total protein (56.6-74.8 g/L)	69
Reticulocytes (<60 000 x 10 ⁶ /L)	-	Albumin (29.1-39.7 g/L)	35
Platelets (200-900 x 10 ⁹ /L)	39	Globulins (23.5-39.1 g/L)	34
Plasma protein (60-80 g/L)	-	Calcium (2.38-3.00 mmol/L)	3.2
Leukocytes (6.0-17.0 x 10 ⁹ /L)	22.8	Phosphorus (0.75-1.70 mmol/L)	0.6
Neutrophils (mature) (3.0-11.5 x 10 ⁹ /L)	20.5	Potassium (3.82-5.34 mmol/L)	2.7
Neutrophils (band) (0-0.3 x 10 ⁹ /L)	0.9	Sodium (143-154 mmol/L)	164
Lymphocytes (1.0-4.8 x 10 ⁹ /L)	0.5	Chloride (108-117 mmol/L)	125
Monocytes (<1.4 x 10 ⁹ /L)	0.7	Total CO ₂ (17-25 mmol/L)	16.0
Eosinophils (0.1-1.3 x 10 ⁹ /L)	0.2	Anion Gap (12-24 mmol/L)	25.7
Basophils (0 - rare x 10 ⁹ /L)	0	CK (12-220 U/L)	31 640

Other tests

Urinalysis (following intense fluid therapy, free catch)

Color	dark yellow
Turbidity	turbid
Specific gravity	1.015
pH	8.0
Protein	1+
Glucose	neg.
Bilirubin	neg
Blood	4+
Ketone bodies	neg

Coagulation time

	Control	Patient
Prothrombin time (seconds)	7	9
Partial thromboplastin time (seconds)	10	19

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