

Clinical pathology diagnostic challenge : case #15

Signalment: 2 year old, Holstein bull.

History: progressive anorexia that became total within 2 days.

Physical exam observations: dehydrated, absence of digestive sounds.

Treatment: dextrose i.v.

CBC results		Clinical chemistry changes	
Hematocrit (0.24-0.46 L/L)	0.45	Glucose (2.6-4.9 mmol/L)	5
Hemoglobin (80-150 g/L)	147	BUN (1.61-6.51 mmol/L)	11
Erythrocytes (5.0-10.0 x 10 ¹² /L)	10.4	Creatinine (54-132 µmol/L)	173
MCV (40-60 fL)	43	Bilirubin (<14 µmol/L)	-
MCHC (300-360 g/L)	327	GGT (9.5-39 U/L)	19
Reticulocytes (<1%)	-	Alkaline phosphatase (<100 U/L)	143
Reticulocytes (<60 000 x 10 ⁶ /L)	-	AST (30-104 U/L)	88
Platelets (100-800 x 10 ⁹ /L)	449	CK (<310 U/L)	334
Plasma protein (60-80 g/L)	-	Total protein (59.5-80.0 g/L)	76
Fibrinogen (<8 g/L)	8	Albumin (27.7-40.4 g/L)	38
Leukocytes (4.0-12.0 x 10 ⁹ /L)	10.3	Globulins (26.2-45.2 g/L)	37
Neutrophils (mature) (0.6-4.0 x 10 ⁹ /L)	6.6	Calcium (2.22-2.70 mmol/L)	2.31
Neutrophils (band) (0-0.1 x 10 ⁹ /L)	0	Phosphorus (1.05-2.83 mmol/L)	2.4
Lymphocytes (2.5-7.5 x 10 ⁹ /L)	2.9	Potassium (3.86-5.28 mmol/L)	2.6
Monocytes (<0.8 x 10 ⁹ /L)	0.9	Sodium (134-147 mmol/L)	145
Eosinophils (<2.4 x 10 ⁹ /L)	0	Chloride (96-109 mmol/L)	73
Basophils (0 - rare x 10 ⁹ /L)	0	Total CO ₂ (22-33 mmol/L)	61.6
		Anion Gap (7-18 mmol/L)	13.0
		Magnesium (0.7-0.91 mmol/L)	-

Cytology (Abdominal tap)

Appearance yellow turbid fluid
Proteins 20 g/ L
Leukocytes 2.5 x 10⁹ / L

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