Clinical pathology diagnostic challenge : case #29

Signalment: 9 year old, neutered female, mixed breed dog.

History: pre-dental work-up.

Physical exam observations: no abnormalities except severe build-up of dental plaque and mild gingivitis.

CBC results

Hematocrit (0.37-0.55 L/L)	0.48
Hemoglobin (120-180 g/L)	163
Erythrocytes (5.5-8.5 x 10^{12} /L)	6.68
MCV (60-77 fL)	72
MCHC (320-360 g/L)	340
Reticulocytes (<1 %)	-
Reticulocytes (<60 000 x 10^6/L)	-
Platelets (200-900 x 10^9/L)	278
Plasma protein (60-80 g/L)	80
Leukocytes (6.0-17.0 x 10^9/L)	6.8
Neutrophils (mature) (3.0-11.5 x 10^9/L)	5.0
Neutrophils (band) (0-0.3 x 10^9/L)	0
Lymphocytes (1.0-4.8 x 10^9/L)	1
Monocytes (<1.4 x 10^9/L)	0.4
Eosinophils (0.1-1.3 x 10^9/L)	0.3
Basophils (0 - rare x 10^9/L)	0

Clinical chemistry results *

Glucose (3.38-6.88 mmol/L)	9.0
BUN (2.09-7.91 mmol/L)	supressed results
Creatinine (58-127 µmol/L)	489
ALT (4-62 U/L)	9
Alkaline phosphatase (6-80 U/L)	supressed results
Total protein (56.6-74.8 g/L)	supressed results
Albumin (29.1-39.7 g/L)	63.8
Globulins (23.5-39.1 g/L)	not available
Calcium (2.38-3.00 mmol/L)	1.97
Phosphorus (0.75-1.70 mmol/L)	1.67
Potassium (3.82-5.34 mmol/L)	6.13
Sodium (143-154 mmol/L)	138.5
Chloride (108-117 mmol/L)	126.9
Total C02 (17-25 mmol/L)	14.8
Anion Gap (12-24 mmol/L)	2.87

***** Serum hemolysis (4+).

Other tests
Clinical chemistry of the plasma (EDTA tube submitted for CBC) *

Glucose (3.38-6.88 mmol/L)	5.2
BUN (2.09-7.91 mmol/L)	5.2
Creatinine (58-127 µmol/L)	77
ALT (4-62 U/L)	30
Alkaline phosphatase (6-80 U/L)	35
Total protein (56.6-74.8 g/L)	65.5
Albumin (29.1-39.7 g/L)	33.8
Globulins (23.5-39.1 g/L)	31.7

***** No hemolysis noted.

Calcium (2.38-3.00 mmol/L)	0.45
Phosphorus (0.75-1.70 mmol/L)	1.15
Potassium (3.82-5.34 mmol/L)	suppressed results
Sodium (143-154 mmol/L)	143.8
Chloride (108-117 mmol/L)	102.4
Total C02 (17-25 mmol/L)	21.5
Anion Gap (12-24 mmol/L)	not available

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