Clinical pathology diagnostic challenge: case #1

Signalment: mixed breed dog (Labrador/Doberman), 8 years old spayed female.

History: decreased appetite, frequent stools, absence of polyuria/polydipsia.

Physical exam observations: firm abdomen.

Two blood samples were taken (whole blood submitted in red-top and purple-top tubes) and sent by mail to the regional laboratory for testing, where they arrived the following day. These results were obtained from the sample

CBC results	
Hematocrit (0.37-0.55 L/L)	0.33
Hemoglobin (120-180 g/L)	108
Erythrocytes (5.5-8.5 x 1012 /L)	4.65
MCV (60-77 fL)	77
MCHC (320-360 g/L)	300
Reticulocytes (<1 %)	3
Reticulocytes (<60 000 x 106/L)	139500
Platelets (200-900 x 109/L)	adequate
Plasma protein (60-80 g/L)	60
Leukocytes (6.0-17.0 x 109/L)	10.8
Neutrophils (mature) (3.0-11.5 x 109/L)	8.0
Neutrophils (band) (0-0.3 x 109/L)	0
Lymphocytes (1.0-4.8 x 109/L)	0.4
Monocytes (<1.4 x 109/L)	1.2
Eosinophils (0.1-1.3 x 109/L)	1.2
Basophils (0 -scarce x 109/L)	0

Clinical chemistry results*	
Glucose (3.38-6.88 mmol/L)	0.90
BUN (2.09-7.91 mmol/L)	3.20
Creatinine (58-127 µmol/L)	71
ALT (4-62 U/L)	21
Alkaline phosphatase (6-80 U/L)	60
Total protein (56.6-74.8 g/L)	60.0
Albumin (29.1-39.7 g/L)	32.0
Globulins (23.5-39.1 g/L)	28.0
Calcium (2.38-3.00 mmol/L)	2.54
Phosphorus (0.75-1.70 mmol/L)	1.60
Potassium (3.82-5.34 mmol/L)	5.30
Sodium (143-154 mmol/L)	144
Chloride (108-117 mmol/L)	112
Total CO2 (17-25 mmol/L)	20
Anion Gap(12-24 mmol/L)	17

* The veterinarian also requested a baseline serum cortisol; Baseline cortisol (30-230 nmol/L) = 74.38

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