

Name: Canine Species (Grat)

Ref. by: Rafiki Veterinary Clinic

Date: May 16th 2020

Owner: Mr. Hisham Ali

Age: 8 Years

Blood Chemistry Profile

Parameter	Result		Reference range
BUN	164	(H)	8-28 mg/dL
Creatinine	6.67	(H)	0.5-1.7 mg/dL
Ca (Ionized)	3.77	(L)	4.6-5.5 mg/dL
Na	161	(H)	140-150 mEq/L
K	2.1	(L)	3.5-5.5 mEq/L

Supervised by
Head of Cl. Pathology Unit

Dr. Tarek Mosallam , DVM
Veterinary Clinical Pathology Consultant
PhD in Veterinary Clinical Pathology
Cairo University

Director
Dr. Ahmed Samir, DVM
Professor of Veterinary Microbiology
Cairo University
Fellow of the ASRT, Ministry of Scientific Research, Egypt
Member of the American Society for Microbiology (ASM)

Interpretation

1-Increased blood urea nitrogen (BUN) & serum creatinine are seen in:

- a) Azotemia is defined as an increase in urea nitrogen and creatinine, can result from (Fever, Stress, High protein diets, Hyperthyroidism, Hemolysis or anti-anabolic drugs such as tetracycline).
- b) Non-creatinine chromogens include acetoacetate, glucose, vitamin C, uric acid, pyruvate, cephalosporins and amino acids when present in high concentrations, these can artefactually elevate creatinine values.
- c) Decreased GFR due to prerenal, renal or post-renal causes.

2-Hypo-calcemia may be caused by:

- a)Hypo-parathyroidism: -This has been reported in dogs and cats
 -It is characterized by hypo-calcemia, normal or increased phosphate and normal magnesium.

 -Low concentration of parathyroid hormone confirms primary hypo-parathyroidism.

- b)Renal secondary hyperparathyroidism: -This occurs especially in dogs, but also in cats with chronic renal failure.

 -PTH is stimulated from low ionized calcium (due to excess phosphate), vitamin D production is impaired due to renal insufficiency.

3-Hypnatremia may be caused by:

- a)Pseudohypnatremia (This occurs with dehydration).
- b)Water deficit (Animals usually normovolemic).
- c)Excessive water losses.
- d)Panting (Hyperthermia, fever, heat stroke) or losses through the kidney from diabetes insipidus.
- e)Hypotonic fluid losses can be:
 - 1)Renal losses can occur with osmotic or chemical diuresis or renal failure.
 - 2)Non-renal losses include (Gastro-intestinal losses as vomiting or diarrhea) and (Cutaneous losses as burns).
- f)Salt gain (Increased sodium intake with restricted water access, hypertonic fluid administration and increased sodium retention by kidneys such as in hyperaldosteronism).

Pets Line Technical and Scientific Officer

*Dr. Aisha Ali , BVSc
Cairo University*

Veterinary Laboratory Manager

*Supervised by
Head of Cl. Pathology Unit*

*Dr. Tarek Mosallam , DVM
Veterinary Clinical Pathology Consultant
PhD in Veterinary Clinical Pathology
Cairo University*