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A STUDY ON SERUM BIOCHEMICAL VALUES ON NORMAL ARABIAN CAMELS IN IRAQ

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SUMMARY

Biochemical values for fifty clinically healthy arabian camels of both sex were determined for the normal activities of serum glutamic oxal transaminase, serum glutamic pyruvic tranaminase, blood urea, Alkaline phsphatase, cholesterol, bilirubin, glucose, calcium, Magnaesium, phosphorus, creatinine, sodium, potassium, total protein and albumin. Comparison of the above values between males and femles revealed only a significant increase ($P < 0.05$) in the values of total protein and magnessium of the females than that in males whereas the creatinine value decreased significantly in females ($P > 0.05$) than in males. However, defferences in the mean value of the above remaining values among the two groups of males and females were not statistically significant.

INTRODUCTION

Dromedary camels are adapted physiologically to survie in hard conditions and to live for a long time without drinking. Tempreture, hapitat and nature of climate had an influence on the metabolism of camels(1).

The serum biochemical values of camels has developed specific interest in the recent years and there were limited number of studies appeared in the literature concerning this aspect (2,3,4).

The aim of the present work was to determine referance values of 15 biochemical parameters in the serum of adult males and females, and then compare these values with the available reported data.

MATERIALS AND MATHODS

Fifty apparent healthy camels (25 males and females) aged 3-7 yesrs were selected. Blood samples were collected from jugular veins in clean evacuted tubes, Serum was separated by centerfugation (6000 r.p.m for lominutes) and stored at-20C untill examination. Alanine transaminase (ALT), Asparate transaminase (AST), cholestrol, Alkaline phosphtase, calcium, inorganic-phosphorus, Magnisium, blood urea, Albumin, creatinine, inorganicphosphorus, Magnisium, blood urea, Albumin, creatinine, Glucose and Bilirubin were measured colorimetrically (spekol 10, East Germany) using diagnostic kits of Boehringer (West Germany).

Total protein was determined by refractometer (American Optical Company, NY, USA), as per schalm et al (5). A flame phtometer was used for the estimation of Sodium and Potassium (6).

Statistical analysis was done using studient's-t-test(7).

RESULTS

The bicohemical values determined in the present study are shown in table 1. Mean values for Magnesium and total protein were significantly ($P < 0.05$) higher in females than males. Contrairly creatinine was significantly ($P < 0.05$) higher in males than females.

Table - 1 serum biochemical values (mean + S. D) in the normal male and femels.

Parameters	Male	Femals
ALT (1.U/L)	10.48+4.58	11.72+4.94
AST (1.U/L)	29.98+3.5	30.8+4.17
Total serum proteins (g/dL)	6.26.+1.004	6.78+1.22
Albumin (g/dL)	3.20+0.44	3.17+0.41
Blood uree (Mg/dl)	18.84+6.82	17.68+4.67
Cholesterol (mg/dl)	130.6+42.26	128.2+37.16
Creatinine (mg/dl)	1.28+0.58	0.95+0.18
Glucose (mg/dl)	71.8+9.56	74.6+9.11
Alkaline phosphatase (1.U/L)	193.0+23.45	196.0+27.5
Bilirubin (mg/dl)	1.44+0.6	1.64+057
Calicium (mg/dl)	9.16+1.4	8.76+1.76
phosphorus (mg/dl	3.28+0.65	3.17+0.57
Magnesium (mg/dl)	2.06+0.56	2.36+0.53
Sodium (mmol/l)	131.8+13.6	129.8+14.46
Potassium (mmol/L)	4.23+0.88	4.1+0.83

DISCUSSION

Determination of serum biochemical values is an imporant part of clinincal chemistry and should have a considerable importance as one of the main diagnostic aids in veterinary practice (8.9). The results of the mean values of total serum proteins, albumin, alkaline phosphatase, creatinine, Sodium and Potassium determined in the present study (Table-1) agreed with those values reported by higgins (4) concerning the adult camle. At the same time, our findings on blood urea, glucose Calicium, total serum protiens, albumin, alkaline phosphatase, Sodium and Potassium were lower than those reported by Hussein atal (3), wereas the bilirubin, ALT, AST Calicium and Magnisium were higher than those reprted by the latter authors.

It was evident from the obtained resuts that there were signifigant differences in the mean values of Magnesium, total protein and creatinine between males females. The mean biochemical values reported in the present study can serve as reference values for adult camels.

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دراسة القيم الكيمياحيوية للجمال العربية في العراق

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الخلاصة

لقد تم تعيين القيم الكيماحيوية (Bicochemical Values) لخمسين من الجمال العربية لكلا الجنسين وكانت تشمل أنزيم الكلوتاميك اوكسال ترانسمنيز، انزيم الكلوتاميك بايروفك ترانسمنيز، أنزيم الفوسفتيز القاعدي، يوريا الدم، الكولستيرول البيلروبين، الكلوكوز، الكالسيوم، المغنيسيوم، الفسفور، الكرياتنين، الموديوم، البوتاسيوم، البروتين الكلي والالبومين اوضحت المقارنة بين الذكور والاناث للقيم الكيماحيوية المذكورة اعلاه وجود زيادة ملحوظة ($p < 0.505$) بالنسبة لقيم البروتين الكلي والمغنيسيوم للاناث مقارنة بالذكور، في نفس الوقت لوحظ ان قيم الكرياتنين اقل بصورة ملحوظة ($p < 0.05$) عما عليه في الذكور ايضا.

لقد اظهرت الدراسة ان نتائج القيم الكيماحيوية الأخرى للذكور والاناث متقاربة وان القيم الوسطية (Mean Values) لم تظهر اى اختلاف ملحوظ احصائيا.