SERUM BIOCHEMICAL PROFILE OF MALNAD GIDDA BREED OF CATTLE IN KARNATAKA

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ABSTRACT

Blood samples were collected from 82 apparently healthy Malnad Gidda breed of animals from different geographical locations, subjected to biochemical analysis and results were analyzed. The means of SGOT, SGPT, BUN, CRE, P, Ca, ALP, Glu and T.Pro of all the 82 animals were 94.45 IU/L, 36.42 IU/L, 12.40 mg/dl, 0.92 mg/dl, 12.86 mg/dl, 11.36 mg/dl, 117.30 IU/L, 29.92 mg/dl and 9.53 percent respectively.

KEYWORDS : Blood - Biochemical profile – Malnad Gidda breed –Karnataka

INTRODUCTION :

Karnataka is a state with rich diversity of livestock possessing 95.38 lakhs of cattle and is the origin of important cattle breeds such as Hallikar, Amruthmahal, Khillar and Malnad Gidda. Among these, Malnad Gidda is a valuable native breed of cattle distributed in the western ghats of Karnataka comprising of Mangalore, Udupi, Karwar districts and parts of Belgaum district. The preservation of local germ plasm is gaining importance in recent years and not much is known about Malnad Gidda breed as regards to the biochemical profile. Biochemical profile being very important in evaluation of the health status of animals, is a prerequisite for the diagnosis of several pathophysiological, metabolic and nutritional disorders in cattle (Mc Dowell, 1992). Review of literature did not provide any information on the serum biochemical profile of this breed. Keeping these points in view, the present study was undertaken to establish serum biochemical profile.

MATERIALS AND METHODS

The present study was carried out at Karwar, Ankola, Kumta, Honnavar, Sirsi, Mundagod, Haliyal and Joida talukas of Karwar district and Khanapur taluk of Belgaum district. Eightytwo apparently healthy Malnad Gidda cattle belonging to individual farmers in the above mentioned talukas were used for the study.

About 10 ml of blood was collected from jugular vein in sterile vacuitaner tubes aseptically from each of these animals and were immediately transported to the laboratory on ice. Serum was separated using standard procedure (Sharma *et al*., 2006) and stored at -20^{0}C till further analysis.

Biochemical analysis

Serum samples were subjected for estimation of biochemical parameters such as Calcium (Ca), Phosphorus (P), Total Protein (T.Pro), Glucose (Glu), Serum Glutamate Oxalate Transaminase (SGOT), Serum Glutamate Pyruvate Transaminase (SGPT), Alkaline Phosphatase (ALP), Serum Creatinine (CRE) and Blood Urea Nitrogen (BUN), using ERBA Chem-5 plus V_2 semi automatic biochemical analyzer of Transasia Biomedicals Ltd., and standard biochemical kits.

Statistical analysis

Results were tabulated and statistically analyzed for mean and standard error using Graph Pad Prism V.

RESULTS AND DISCUSSION

Mean ± SE of Ca, P, T.Pro, Glu, SGOT, SGPT, ALP, CRE and BUN of 82 Malnad Gidda breed of animals of Karnataka are tabulated in Table 1.

Table. Mean ± SE and of biochemical parameters of Malnad Gidda cattle

Sl.No.	Parameters	Mean ±- S.E.
1.	SGOT(IU/L)	94.45 ± 4.02
2.	SGPT(IU/L)	36.42 ± 1.56
3.	BUN(mg/dl)	12.40 ± 0.81
4.	CRE(mg/dl)	0.92 ± 0.07
5.	Ph(mg/dl)	6.49 ± 1.93
6.	Ca(mg/dl)	11.63 ± 0.76
7.	Alp(IU/L)	117.3 ± 5.70
8.	Glu(mg/dl)	41.27 ± 1.36
9.	T.pro (%)	9.53 ± 0.40

Approved standard procedures could be adapted for estimation of biochemical values, which are required for assessment of health and physiological status, diagnosis of nutritional deficiencies or metabolic disorders and also for interpretation of laboratory results. Any deviation from the normal range of values, is described as pathological (Kaneko *et al*, 1997). For this purpose reference value for a particular species or breed is a basic requirement. These values may vary with the climatic, geographical and environmental conditions. In the present study blood samples were collected from good numbers of apparently healthy Malnad Gidda breed of animals without any clinical or pathological manifestations and biochemical analysis was carried out to get the values. Further perusal of literature did not provide any information on biochemical profile of Malnad Gidda breed of cattle. Hence these values can serve as reference value / baseline data for Malnad Gidda breed of animals.

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