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التغيرات الدموية والكيميائية في الجاموس

المصاب بالقراع

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تم دراسة التغيرات الدموية والكيميائية في ٤ من عجول
الجاموس المصرى في محافظة أسيوط المصابة بوباء القراع
هذا بالإضافة الى ١٥ عجل جاموس سليم أخذت للمقارنة .

وقد لوحظ الآتى :-

- ١- في الصورة الدموية وجد نقص معنوى في كرات الدم
الحمراء وكذلك الخلايا المصمتة ونسبة الهيموجلوبين .
أما خلايا الليمفوسيت فقد لوحظ بها زيادة معنوية .
- ٢- في الصورة الكيميائية لوحظ نقص في مستوى الجلوكوز
وكذا البروتين الكلى والدهون الكلية وعنصر الكالسيوم
والفسفور .

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HAEMATOLOGICAL AND BIOCEMICAL CHANGES OF RINGWORM INFECTED BUFFALOES

(With 2 Tables)

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SUMMARY

In a herd of egyptian buffaloes in upper Egypt infected with ringworm, haematological and serum biochemical analysis of infected group (40 animals) and non infected group (15 animals) were studied. The haematological picture of infected animals revealed significant decrease of R.B.Cs. Hb and PCV while significant increase lymphocyte. The biochemical analysis of infected group revealed a remarkable decrease of glucose, total protein, total lipids, calcium and inorganic phosphorus.

INTRODUCTION

Ringworm affection is one of important disease which affect both animal and man. The disease attack chiefly keratinized layer of the skin and hair fibres resulting in autolysis of fibre, structure, breaking off of the hair and alopecia (FORD, 1956, GEORG, 1954). The most common species causing ringworm among cattle are *Tr. verrucosum* and *Tr. mentagrophytes* as recorded by (SORTORY, SORTORY and KOCKER 1943) KLOKKE (1961). Deficiency of vitamin A was considered as an important predisposing factor for the wide spreading of lesions (FORD, 1956).

The aim of the present work is to study the Effect of infection on some haematological and serum biochemical components of diseased buffaloes.

MATERIAL and METHODS

A. Clinical manifestation and diagnosis of the dermatophytes:

In a herd of Egyptian buffaloes in upper Egypt, suspected with ringworm (40 infected and 15 non infected animals) were clinically examined, their body weight ranged from 300-500 kg and their average age were from 2.5 - 4.5 years and they were free from parasitic infestation. The infected group showed the clinical symptoms of which either in the form of roughly circular hairless area covered with greyish white crusts. The lesions were found on the head and the neck around the eyes and ears while the flanks, rump, chest and limbs in some cases were also involved. Clinical diagnosis was confirmed by direct microscopical and cultured examination of skin scraping.

B. Haematological and biochemical examination of infected and non infected group:

Two blood samples were collected from both groups. An non coagulated blood samples were used for the determination of total erythrocytic, haemoglobin content, packed cell volume, total and differential leucocytic count (COLES, 1980).

H. IBRAHIM, et al.

Sera were gained from the second whold blood samples and were used to estimated serum glucoss according the method of WERNER, ROY and WEILLTNGER (1970), total protein (WEICHSELBAUM, 1946), total lipids (ZOLLNER and KIRSCH, 1962); Calciem (GITELMAN, 1967), inovganic phosprous (FISKA and SUBBAROW, 1952) and Chloides (SCHALES and SCHALES, 1941). Sodium and potassium were measured by flam photometer. The obtained data were analysed on the basis of SNEDECOR and COCHRAN (1967).

RESULTS

All results obtained are given in tables 1 & 2.

DISCUSSION

Results given in table 1, Showed a significant decrease in glucose (40.9 ± 199), total protein (55.9 ± 0.89) and total lipids (110.0 ± 3.1) in the serum of diseased buffaloes. Similar results were recorded by ZEIN EL-ABDINE, HAMZA and ABDEL AZIZ (1973) in diseased calves. These findings may be attributed to the anorexia of the diseased animal (KIOKKE, 1961).

The significant drop in the level of calcium (6.9 ± 0.98) and inorganic phosphorus (3.1 ± 0.97) may be due to the direct affect of the fungi on the skin (KLOKKE, 1961 and FORD, 1956). The recorded results of sodium (147.0 ± 11.1), potassium (6.0 ± 0.79) and chlorid (345.24 ± 12.1) of infected animals showed no significant differances.

The haematological results as seen in table 2, showed significant decrease in RBCs (5.00 ± 0.87), Hb (9.0 ± 0.72) and PCV (35.1 ± 1.3). These may be attributed to the decrease level of serum iron and copper of infected animals (GEORG, 1954).

No apparent changes were observed in the total WBCs count or differential count except for significant increase in lymphocytic count (60.2 ± 2.2) indicating a cause of lymphocytosis, these may be due to neutropenia (27.1 ± 1.9) of infected group (COLES, 1980).

From the present study it was concluded that the local treatment of the disease with the specific antimycotic agent must be accompanied with general adjuvent treatment in order to correct the remarkable alteration in serum levels of glucose, protein, lipids, calcium, inorganic phosphorus as well as aneamia.

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HAEMATOLOGICAL, BIOCEMICAL CHANGES RINGWORM, BUFFALOES

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Table (1)

Biochemical changes in sera of infected and non-infected buffaloes with ringworm

Parameters	Noninfected animals	Infected animals
Glucose mg%	62.3 \pm 2.2	40.9 \pm 1.9
Total Protein gm%	7.10 \pm 0.78	5.90 \pm 0.89
Total Lipids mg%	515.5 \pm 12.3	410.0 \pm 13.1
Calcium mg%	10.1 \pm 0.37	6.90 \pm 0.98
Inorganic Phosphorus mg%	6.1 \pm 0.43	3.1 \pm 0.97
Chlorid mg%	341.75 \pm 13.9	345.24 \pm 12.1
Sodium mm ol/l	151.59 \pm 5.9	147.0 \pm 11.1
Potassium mm ol/l	5.9 \pm 0.93	6.0 \pm 0.79

Table (2)

Haematological changes of non-infected and infected buffaloes with ringworm

Parameters	Noninfected animals	Infected animals
RBCs 10 /100ml	6.61 \pm 0.32	5.00 \pm 0.87
Hb gm/100ml	12.20 \pm 0.79	9.00 \pm 0.72
P.C.V. %	40.1 \pm 1.2	35.1 \pm 1.3
WBCs 10 /100ml	7.10 \pm 0.33	7.3 \pm 0.37
Lymph. %	50.61 \pm 1.70	60.2 \pm 2.2
Neutro. %	35.1 \pm 27.1 \pm 1.9	27.1 \pm 1.9
Baso. %	0.5 \pm 0.2	0.60 \pm 0.03
Eos. %	9.1 \pm 1.1	8.2 \pm 0.97
Mon. %	5.5 \pm 0.13	4.9 \pm 0.12

§§ = P 0.01