Haematological blood parameters in indigenous goats

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SUMMARY

The study was conducted on indigenous Martaneshi race goats, which bred in Lushnja. Normal haematological values of blood of the goats were studied, such as: determining the number of red blood cells and haemoglobin, determining the number of leukocytes and leukocyte formula. The results of blood analysis have a great significance and indisputable role in assessing the health condition of the animal. Clinically healthy animals were monitored for haematological and biochemical parameters. The blood samples were analysed in terms of erythrocyte and leukocyte counts, haemoglobin concentration, haematocrit, MCH, MCV and MCHC values. The results obtained from this study show that largest number of red blood cells resulted in spring, while leukocytes resulted in summer. Haemoglobin level had no significant fluctuation from one season to another.

Keywords: goat, haematological parameters, blood, leukocyte formula

INTRODUCTION

Goats are animals with basic demands. For a considerable production just a minimal investment is needed. Goats are very adaptable species. They use pastures and plant leaves of the many hilly and mountainous areas in our country. Goats are resistant to some diseases.

The study was conducted on indigenous goats of Martaneshi race, bred in Lushnja. The normal haematological values of goats blood were studied, such as: determining the number of red blood cells and haemoglobin, determining the number of leukocytes and leukocyte formula. The blood table has a great significance and indisputable role in assessing the health condition of the animal. There is a correlation between peripheral blood relation, circulating blood on tissues and organs, as well as haematopoietic organs and other body systems.
MATERIAL AND METHODS

The study on normal hematological indicators of blood was conducted on goats which grow in the municipality of Kryekuq, district of Lushnja. The herd consisted of 180 clinically healthy goats of Martaneshi indigenous race. Each animal had its blood taken from the jugular vein in the morning. It was put in test tubes with anticoagulant and underwent haematological analysis.

Haematological analyses

Blood samples were obtained through jugular vein puncture in vacuum tubes containing EDTA, 2ml, an anticoagulant for haematology. Haematological parameters including total white blood cell count (WBC count), haematocrit (HCT), haemoglobin (Hgb), red blood cell count (RBC), mean corpuscular haemoglobin concentration (MCHC), mean corpuscular volume (MCV) and mean cell haemoglobin (MCH) were measured by automatic analyser.

Statistical Analyses

The hematological and biochemical values were evaluated independently by using general linear models of ANOVA. Differences between each groups were compared by using the Duncan multiple comparison test, p<0.01 considered significant.

The determination of hematoglobine was done with photometric method.

<table>
<thead>
<tr>
<th>Season</th>
<th>Red blood cells, Million/mm³</th>
<th>Hg, Mgr. mm³</th>
<th>Leucocyte Mil mm³</th>
<th>Granulocyte Bas. %</th>
<th>Eos %</th>
<th>Neutrophile</th>
<th>Agranulocyte Lymph %</th>
<th>Mon %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter</td>
<td>14.41 ± 2.205</td>
<td>7.1</td>
<td>8.74 ± 1.54</td>
<td>1.28</td>
<td>0.9</td>
<td>1.7</td>
<td>39.2</td>
<td>41.7 ± 45 ± 1</td>
</tr>
<tr>
<td>Spring</td>
<td>14.25 ± 2.021</td>
<td>6.9</td>
<td>9.98 ± 2.67</td>
<td>2.1</td>
<td>0.7</td>
<td>2.3</td>
<td>35.9</td>
<td>40.1 ± 49 ± 1</td>
</tr>
<tr>
<td>Summer</td>
<td>11.46 ± 3.984</td>
<td>7.0</td>
<td>11.82 ± 5.39</td>
<td>1.23</td>
<td>1.9</td>
<td>1.7</td>
<td>36.9</td>
<td>39.3 ± 58 ± 1</td>
</tr>
<tr>
<td>Average</td>
<td>13.37 ± 2.73</td>
<td>7.0</td>
<td>10.18 ± 3.2</td>
<td>1.3</td>
<td>0.8</td>
<td>0.8</td>
<td>34.0</td>
<td>40.39 ± 50.6 ± 1</td>
</tr>
</tbody>
</table>

RESULTS AND DISCUSSIONS

The results of the present study showed that RBC values in adult goats were higher than in young goats. The results also showed that leukocyte count was gradually decreased with age. Additionally, age-related changes in MCV were observed.
The average number of red blood cells on indigenous goats was 13.37±2.73 /ml blood. The level of Haemoglobin was 7 mgr/ml. Leucocyte formula: Basophile 1.3% Eosinophil 1.9% Neutrophils: myelocyte 0.8, metamyelocytes 1.9, segmented 34. Total 36.7 Monocytes 1% Lymphocyte 50.6

CONCLUSIONS
The highest number of red blood cells resulted during the Spring season, while the highest number of white blood cells in Summer. The level of haemoglobin didn't have noticeable variations from one season to another.

REFERENCES


