HAEMATOLOGICAL CHANGES IN SHEEP AND CALVES FOLLOWING PROLONGED ORAL ADMINISTRATION OF *IPOMOEA CARNEA*

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SUMMARY

A proportion of a group of sheep and calves fed with *Ipomoea carnea* died.

Both animal species showed certain haematological changes that indicated development of anaemia and leucopenia which were more marked in sheep than in calves.

INTRODUCTION

Prolonged ingestion of the leaves of *I. carnea* by goats has been found to be lethal (Idris et al., 1973).

The present study describes, for the first time, certain haematological changes in sheep and calves associated with prolonged oral administration of *I. carnea*; the investigation was initiated by the original assumption that farm animals other than goats are equally exposed to the natural hazard of toxicity to this plant.

MATERIALS AND METHODS

**Animals:** Three male desert sheep Nos. 62, 63 and 64, and two female zebu calves Nos. 255 and 256 were investigated. The ages of the sheep varied from 15-30 months and of the calves from 8-11 months. The animals were clinically healthy and were kept in pens within premises of the Veterinary Research Laboratory in Khartoum.

**Diet:** The animals were dosed daily with fresh green leaves of *I. carnea* at the rate of 5 g/Kg bodyweight; the amount prescribed for each animal was finely ground and orally administered after mixing it with a small quantity of water. Adequate amounts of lucerne and hay were provided daily and drinking water was left ad libitum.

**Blood sampling:** Morning samples were collected twice per week by jugular venipuncture into clean dry vials containing the anticoagulant E.D.T.A. (Ethylene-diamine-tetra-acetic acid).

**Haematological methods:** Readings for packed cell volume (P.C.V.) were based on microhaematocrit centrifugation. Haemoglobin (Hb) was estimated by cyanmethaemoglobin technique using a haemoglobin meter. Red (R.B.C.) and white (W.B.C.) cells were counted using Improved Neubaur haemocytometers. The erythrocyte sedimentation rate (E.S.R.) was measured for one hour by use of Wintrobe haematocrit tubes. Blood indices, mean corpuscular volume (M.C.V.) and mean corpuscular haemoglobin concentration (M.C.H.C.) were calculated from values of Hb, R.B.C. and P.C.V.

<table>
<thead>
<tr>
<th>Days of experiment</th>
<th>Temp. °F</th>
<th>E.S.R. mm/hr.</th>
<th>R.B.C. x 10⁶/cmm</th>
<th>Hb g.%</th>
<th>M.C.V. cu</th>
<th>M.C.H.C. %</th>
<th>W.B.C. x 10⁶/cmm.</th>
</tr>
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<tr>
<td>0</td>
<td>100.0</td>
<td>0.0</td>
<td>31</td>
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<td>10.8</td>
<td>27.3</td>
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<td>5.0</td>
<td>23</td>
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<tr>
<td>3</td>
<td>106.4</td>
<td>5.0</td>
<td>23</td>
<td>7.65</td>
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<td>30.1</td>
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<tr>
<td>4</td>
<td>106.4</td>
<td>4.0</td>
<td>21</td>
<td>6.08</td>
<td>8.2</td>
<td>34.5</td>
<td>38.0</td>
</tr>
</tbody>
</table>

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Fig. 1. Sheep No. 62 showing weakness and abduction of the hind limbs after being fed with *I. carnea*.

Fig. 2. Calf No. 255 showing symptoms of lassitude and debilitation as a result of prolonged feeding with *I. carnea*. 