STUDIES ON THE HAEMOPOIETIC POTENCY OF ALBINO RABBIT FED SOME INDIGENOUS PLANTS

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ABSTRACT

The present experiment was carried out to investigate the efficacy of haemopoietic potency of indigenous plants namely *Astercantha longifolis nees* (Kuliakhara) and *Ipomoea reptans* (Kalmi) in 32 male albino rabbits divided into four groups including control from 6th to 14th week of age. The results of haematological parameters indicated that TEC and Hb values were highly significant (P<0.01) between experimental groups compared to control. PCV and MCV showed a significant difference (P<0.05) between the groups. Rest of the parameters studied i.e. TLC, DLC, MCHC and MCH were found to be non-significant.

Currently in the field of veterinary research, different indigenous plants are tried for better growth and haemopoietic efficiency of medicinal plants as well as their therapeutic uses have got major impetus in recent years (Jain, 1994). Anemia in the animal caused mainly due to dietary deficiencies and parasitic diseases and is of major concern in the field of veterinary practices. In this study two species of locally available plants namely *Astercantha longifolis nees* (Kuliakhara) and *Ipomoea reptans* (Kalmi) have been taken to ascertain the haemopietic efficiency.

Thirty-two male albino rabbits with uniform body weight (180- 190 gm) at four weeks of age were equally divided into four groups. The control group was fed concentrate ration and green fodder (*Cynodon dactylon*) according to their body weight. All the three experimental groups (Exp.gr.) were fed with same concentrate ration as control group. In Exp.gr. – I and Exp.gr. – II the green fodder was totally replaced by Kuliakhara and Kalmi respectively. In Exp.gr. – III the green fodder was replaced by mixture of Kuliakhara and Kalmi 1:1 ratio. Experiment was continued from 42 days (6th week) to 98 days (14th week) of rabbits. At the end of the experiment total blood samples were collected in sterilized vial containing Ethylene Diamine Tetra Acetate (EDTA) mg⁻¹ml⁻¹ from the individual rabbit by direct heart puncture. The collected blood samples were used for the study of haematological parameters including total erythrocytic count (TEC), total leucocytic count (TLC), haemoglobin (Hb), packed cell volume (PCV) and differential leucocyte count (DLC). The values estimated as per standard method of Schalm et al (1975).

It was observed from the Table – 1 that TEC and Hb values were highly significant (P<0.01) between the Exp.gr. - I to other experimental groups and also with control. PCV and MCV showed a significant difference (P<0.05) between groups. Rest of the values in respect of the parameters studied, i.e. TLC, DLC, MCHC and MCH were non-significant between groups. The mean values of TEC and Hb were significantly higher in Exp.gr. – I and Exp. gr. – III than Exp.gr. – II and control. The increased values of Hb and TEC in Exp.gr. – I than other groups was possible due to presence of higher level of iron and copper in Kuliakhara as reported by Dutta (1999). They reported that when livol was supplemented to goat, there was increase of TEC, Hb and PCV in the animal. Kiritkar
and Basu (1975) noticed that livol was a useful
drug in anaemia due to liver disorder. The
increased value of PCV in Exp.gr. – I and Exp.
gr. – III were likely to be due to presence of higher
level of crude protein, iron and copper values
(Kiritkar and Basu, 1975) in Kuliakhara and
mixture (1:1) of Kuliakhara and Kalmi.

From the above haematological studies
it can be concluded that Kuliakhara has
haemopoietic effect on rabbit. Though
significant difference were found between the
groups but the level of different haematological
parameters did not exceed the normal value
existed in rabbit.

<table>
<thead>
<tr>
<th>Groups</th>
<th>TEC (10^6/cu mm)</th>
<th>TLC (10^5/cu mm)</th>
<th>Hb (gm/dl)</th>
<th>PCV (%)</th>
<th>MCV (μ)</th>
<th>MCH (μg)</th>
<th>MCHC (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>6.66b</td>
<td>7.59</td>
<td>10.37b</td>
<td>39.53b</td>
<td>59.90a</td>
<td>15.75</td>
<td>27.56</td>
</tr>
<tr>
<td></td>
<td>±0.16</td>
<td>±0.37</td>
<td>±0.52</td>
<td>±0.85</td>
<td>±2.45</td>
<td>±1.06</td>
<td>±1.67</td>
</tr>
<tr>
<td>Exp.gr.-I</td>
<td>7.43a</td>
<td>8.25</td>
<td>13.70a</td>
<td>42.25a</td>
<td>56.97b</td>
<td>18.56</td>
<td>33.59</td>
</tr>
<tr>
<td></td>
<td>±0.17</td>
<td>±0.32</td>
<td>±0.72</td>
<td>±0.56</td>
<td>±1.02</td>
<td>±1.20</td>
<td>±1.81</td>
</tr>
<tr>
<td>Exp.gr.-II</td>
<td>6.23b</td>
<td>7.74</td>
<td>10.77b</td>
<td>39.28b</td>
<td>63.55b</td>
<td>17.50</td>
<td>29.38</td>
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<tr>
<td></td>
<td>±0.26</td>
<td>±0.39</td>
<td>±0.41</td>
<td>±1.07</td>
<td>±2.47</td>
<td>±0.97</td>
<td>±1.59</td>
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<tr>
<td>Exp.gr.-III</td>
<td>6.65a</td>
<td>7.77</td>
<td>11.81a</td>
<td>42.45a</td>
<td>63.80a</td>
<td>17.90</td>
<td>29.39</td>
</tr>
<tr>
<td></td>
<td>±0.23</td>
<td>±0.44</td>
<td>±0.75</td>
<td>±0.83</td>
<td>±0.81</td>
<td>±1.43</td>
<td>±2.28</td>
</tr>
</tbody>
</table>

Means having different superscript in a column differ significantly.

REFERENCES