APPLICATION OF STATISTICAL DEVICES IN ETHNO – MEDICO BOTANICAL STUDIES ON Calotropis procera (ASCLEPIADACEAE)

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ABSTRACT
In biological and medical sciences, the statistical tools for the collection, presentation and analysis of observed facts relating to the causes and incidence of diseases and the result obtained from the use of various drugs and medicines are of great importance. The information on early and indigenous medicinal uses of plants in India is vast and widely scattered. Though intensive Ethno – botanical work has been done only in a small part of our country, Srivastava et al., 1980; Gupta, 1981a; Shah, 1982 etc. Singh and Pandey, 1980 have described the use of some medicinal plants among tribal of Eastern Rajasthan. Ethno – botanical studies directed to specific tribal societies have also been undertaken in several parts of our country (Srivastava et. al., 1981; Maheshwari et. al. 1982; Dam and Hajra, 1981).

In our paper, a sincere attempt in this regard for the welfare of Human beings where / root latex of Calotropis procera (ASCLEPIADACEAE) has been taken into account. The result obtained from the antiulcer activity parameters were subjected for determining intergroup differences, each parameter was analyzed separately and presented through graphs.

Keywords : Calatropis procera, antiulcer activity, latex, Ethno – Botany.

INTRODUCTION
Peptic ulcers are believed to develop because of an imbalance between aggressive factor such as mucus, bicarbonate, blood flow, epithelial cells restoration and prostaglandins (Rajesh, 2004). Recurrent gastric and duodenal ulcers are caused by Helicobactor pyloric infection (Samnel D. Uretsky, 2006). In present study, the extract of Calatropis procera roots were passed through phytochemical and pharmacological screening by pyloric ligation method.
MATERIALS AND METHODS

The infusion of dried roots of *Calatropis procera* were taken and placed in a conical flask with different solvents viz. petroleum ether, chloroform, ethanol and distilled water. The crude latex of *Calatropis procera* (ASCLEPIADACEAE) were separately collected in distilled water (1:1) in a plastic tubes and were shaken gently, closed with cork and placed in existing room temperature (25 - 28ºC). The collected samples of latex were initially passed through centrifugation at 25ºC. The precipitated rubber was separated and then submitted to dialysis against water. The water of dialysis was pooled down and named as dialyzable latex (DL). After additional 60 hours of continuous dialysis, the membrane retained material was freely centrifugated and the very clean and water soluble material was separated and named as non–dialyzable latex (NDL). The new pallet was joined to that of the first centrifugation and named as rubber latex (RL). The three latex fractions were thus freeze dried and used in the further investigation.

Animal: Albino rats were starred for overnight having access to drinking water. 6 rats were used for extract and control groups. The pylorus was ligated.

RESULTS AND DISCUSSIONS

Antiulcer activity is carried out using pylorous ligation method to screen antulcer activity and compared with standard drug ranitidine. Ulcers were produced significantly after 4 hours of ligation in the ± ve control. Various parameters such as spot ulcer, hemorrhagic streak, ulcer and their numbers were observed and scoring was given for all the groups. Before that the contents of the stomach was carefully taken out and analyzed for pH, free acidity and total acidity.

The control group (± ve) animals had ulcers and hemorrhagic streaks whereas normal control group did not show any ulcers and streaks except couple of red spots. It was found that ulcer scale and and gastric pH of chloroform extract has exhibited significant activity compared to ± ve control group.
Table: Showing petroleum ether, chloroform and other parameters

<table>
<thead>
<tr>
<th>Extract</th>
<th>Ulcer score</th>
<th>Free-acidity</th>
<th>Total acidity</th>
<th>Gastric pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum ether</td>
<td>4.75±0.154</td>
<td>2.85±0.794</td>
<td>45.1±1.28</td>
<td>1.503±0.018</td>
</tr>
<tr>
<td>Chloroform</td>
<td>1.6±0.211</td>
<td>15±0.734</td>
<td>33.7±0.462</td>
<td>34±0.037</td>
</tr>
<tr>
<td>Ethanol</td>
<td>2.38±0.167</td>
<td>19.8±0.116</td>
<td>38.2±0.332</td>
<td>3.87±0.021</td>
</tr>
<tr>
<td>Aqueous</td>
<td>2.91±0.301</td>
<td>19.0±0.895</td>
<td>35.0±0.336</td>
<td>3.76±0.042</td>
</tr>
<tr>
<td>Normal (=No ligation treatment)</td>
<td>0.5±0.18</td>
<td>8.5±0.305</td>
<td>25.25±0.502</td>
<td>2.47±0.039</td>
</tr>
<tr>
<td>+ve control (=Ligated)</td>
<td>5.41±0.301</td>
<td>27.75±0.281</td>
<td>46.6±0.435</td>
<td>1.42±0.062</td>
</tr>
<tr>
<td>Standard (Ranitidine 20 mg/kg)</td>
<td>1.16±0.167</td>
<td>2.5±0.258</td>
<td>30.4±0.481</td>
<td>3.85±0.06</td>
</tr>
</tbody>
</table>

Fig. – Showing Petroleum ether and other parameters.

Abbreviation:
U. S. - Ulcer score
F. A. - Free – acidity
T. A. - Total acidity
G. pH – Gastric pH
REFERENCES