Antiinflammatory Activity of Various Extracts of Leaves of *Garcinia xanthochymus*

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Accepted 4 June 2005
Revised 24 January 2005
Received 20 April 2004

In the present study, the leaves of *Garcinia xanthochymus* (Guttiferae) was investigated for antiinflammatory activity using carrageenan-induced rat paw edema method. The results demonstrated that the equivalent percentage inhibition of petroleum ether extract and methanolic extract was 86.4 and 80.7%, respectively compared to standard ibuprofen, which is statistically significant.

*Garcinia xanthochymus* (Guttiferae) is a medium-sized bushy evergreen tree with straight trunk and angular spread branching. The tree is widely distributed in the lower hill forest of Eastern Himalayas, Assam, Madras, Mysore and Kerala. In folkloric medicine ripe fruit juice is used in heart complaints, biliousness and destroying *tridosha*. In the present communication antiinflammatory activity of the leaf extracts of *Garcinia xanthochymus* is reported.

Leaves of *Garcinia xanthochymus* were collected from Sindhudurg district and identified at the Botanical Survey of India, Pune (Voucher specimen no. F. No. 68031). The sun dried leaves were powdered and subjected to successive extraction by different solvents in ascending order of polarity i.e. petroleum ether (50-80), chloroform and methanol (Qualigens, Mumbai) in a Soxhlet extractor.

The preliminary phytochemical screening of petroleum ether, chloroform and methanolic extracts were performed using standard qualitative chemical tests and the phytoconstituents identified were sterols, flavonoids and triterpenoids.

Antiinflammatory activity was evaluated using carrageenan-induced hind paw edema method. Institutional Animal Ethics Committee has approved the experimental protocol. Wistar rats of either sex weighing between 150-200 g were divided into five groups of six animals each. The first group served as control and received vehicle only (polyeth-

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### TABLE 1: EFFECT OF VARIOUS EXTRACTS OF *GARCINIA XANTHOCHYMUS* ON CARRAGEENAN-INDUCED EDEMA IN RATS.

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean increase in paw volume mls±SEM (% Reduction)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 min</td>
</tr>
<tr>
<td>Carrageenan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.23±.01</td>
</tr>
<tr>
<td>Ibuprofen (100 mg/Kg)</td>
<td>0.22±.07</td>
</tr>
<tr>
<td>PEE (100 mg/Kg)</td>
<td>0.25±.12</td>
</tr>
<tr>
<td>ME (100 mg/Kg)</td>
<td>0.24±.09</td>
</tr>
</tbody>
</table>

PEE=Petroleum ether extract; ME=Methanolic extract. All values are expressed as mean±SEM, N=6. *P< 0.05 significant compared to control group.

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Indian Journal of Pharmaceutical Sciences
May - June 2005
ylene glycol), second group was administered standard drug
ibuprofen (100 mg/kg, i.p.). The animals of the third, fourth
and fifth groups were treated with petroleum ether, chloro-
form and methanol extracts of leaves of *Garcinia xanthochymus* (100 mg/kg, p.o.). Paw volumes were mea-
sured plethysmometrically at 0, 30, 60, 90, 120, 150 and
180 min after the administration of carrageenan to each
group. The data was analyzed using students 't' test and the
level of significance was set at *P*<0.05. Data is represented
in Table 1.

The results demonstrated significant antiinflammatory
activity of petroleum ether and methanolic extracts of leaves
of *Garcinia xanthochymus*. The antiinflammatory activity of
plant is attributed mainly to the constituents such as sta-
rols\[^6\]*, triterpenes\[^7\] and flavonoids\[^8\]. As phytochemical screen-
ing showed the presence of these constituents in petroleum
ether and methanol extracts of *Garcinia xanthochymus*
leaves, it can be concluded that these constituents are re-
sponsible for the activity. Further study is necessary to pin-
point the chemical constituent responsible for this activity.

ACKNOWLEDGEMENTS

The authors wish to thank AICTE, New Delhi, for the
sanction of financial aid for research project.

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