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

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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-ranged 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*[2]. 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 (60-80°), chloroform and methanol (Qualigens, Mumbai) in a Soxhlet extractor[3].

The preliminary phytochemical screening of petroleum ether, chloroform and methanolic extracts were performed using standard qualitative chemical tests[4] and the phytoconstituents identified were sterols, flavonoids and triterpenoids.

Antiinflammatory activity was evaluated using carrageenan-induced hind paw edema method[5]. 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-

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

Group	Mean increase in paw volume ml±SEM (% Reduction)						
	0 min	30 min	60 min	90 min	120 min	150 min	180 min
Carrageenan	0.23±0.01	0.55±0.03	0.77±0.09	0.83±0.12	0.88±0.14	0.93±0.03	1.09±0.07
Ibuprofen (100 mg/Kg)	0.22±0.07 (-)	0.24±0.06* (56.4)	0.29±0.13* (62.3)	0.25±0.14* (69.9)	0.23±0.09* (73.9)	0.22±0.07* (76.3)	0.21±0.09* (80.7)
PEE (100 mg/Kg)	0.25±0.12 (-)	0.33±0.13 (40.0)	0.41±0.09* (46.8)	0.49±0.01* (41.0)	0.42±0.07* (52.3)	0.39±0.04* (58.1)	0.33±0.09* (69.7)
ME (100 mg/Kg)	0.24±0.09 (-)	0.36±0.12 (34.6)	0.42±0.13 (45.5)	0.57±0.17 (31.3)	0.50±0.09* (43.2)	0.45±0.02* (51.6)	0.38±0.04* (65.1)

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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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, chloroform and methanol extracts of leaves of *Garcinia xanthochymus* (100 mg/kg, p.o.). Paw volumes were measured 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 sterols[6], triterpenes[7] and flavonoids[6]. As phytochemical screening showed the presence of these constituents in petroleum ether and methanol extracts of *Garcinia xanthochymus* leaves, it can be concluded that these constituents are responsible for the activity. Further study is necessary to pinpoint the chemical constituent responsible for this activity.

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