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EVALUATION OF CARRAGEENAN INDUCED ANTI-INFLAMMATORY ACTIVITY OF LINGA CHENDURAM IN WISTAR ALBINO RAT

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ABSTARCT

The aim of the present study was to explore the probable anti-inflammatory activity of Linga Chenduram using Carrageenan induced inflammation in the rat.

KEYWORDS: Linga Chenduram, Anti-inflammatory, Carrageenan.

INTRODUCTION

Siddha Medicine is the oldest and the foremost of all other medical systems of the world originated in South India. Siddha Medicine classified a human being life in to three phases and they are Vatham, Pitham and Kabam in Childhood, Adulthood and Old age as the physiological components of the human beings which is a reverse process. According to the siddha medicine system, diet and life style of a person play a prominent role in healthy life and also in curing diseases.

MATERIALS AND METHODS

In the present study, Herbo Metallic preparation Linga Chenduram has been selected to establish its Anti Inflammatory Activity status from the classical siddha literature. The ingredients of linga chenduram are four in number. They are purified of lingam, Thirugukallipal, Utthamanipoo and Vellaierukampoo.

Experimental Aniamls

Wistar albino rats (180 – 200 gm) of either sex were used for the study. The animals were obtained from animal house, Nandha College of Pharmacy, Erode. The animals were placed at random and allocated to treatment groups in polypropylene cages with paddy husk as bedding. Animals were housed at a temperature of 24±2^{o}C and relative humidity of 30 – 70%. A 12:12 light: dark day cycle was followed. All animals were allowed to free access to water and fed with standard commercial pelleted rat chaw (M/s. Hindustan Lever Ltd, Mumbai).

ANTI-INFLAMMATORY ACTIVITY

Carrageenan-Induced Rat Paw Edema (Winter *et al*,. 1962)

Albino Wistar rats were used in the study, and the rats were divided into three groups of 5 each. Group I served as control received the vehicle (distilled water, 1ml/kg). Groups II served as reference control, administered with Indomethacin (10mg/kg). Group III animals were treated with 6 mg/kg of Linga Chenduram. The test drugs were administered orally using gastric gavages tubes by dissolving in distilled water.

After 30 minutes, acute inflammation was produced in the right hindpaw of each rat by sub plantar injection of 0.05ml freshly prepared carrageenan suspension (1%) in normal saline. The volumes of the oedematous paws were measured using Plethysmometer following oral administration of the test drugs, 0 min (before carrageenan injection) and at every 30 min intervals for 2 h. Oedema was expressed as the increment in paw thickness due to carrageenan administration. The percentage of anti-inflammatory activity was calculated using the formula given below:

$$\text{Percentage Inhibition} = \frac{\text{Control - Test}}{\text{Control}} \times 100$$

RESULT

Table 1: Anti-inflammatory activity of Linga Cehenduram (6mg/kg) against Carrageenan induced Paw Oedema in rats.

Drug Treatment	Thickness of Rat Paw (mm)				
	0 hr	30 min	60 min	90 min	120 min
Control Distilled Water (1ml/kg)	9.16±0.25	10.84±0.35	12.63±0.28	14.42±0.62	16.53±1.12
Reference Control Indomethacin(10mg/kg)	8.72±0.61	9.40±0.26 (59.52%)	9.48±0.13* (78.09%)	9.52±0.41** (84.79%)	8.73±0.61*** (99.86%)
Linga Chenduram (6 mg/kg)	8.09±0.12	9.60±0.29 (10.11%)	11.18±0.23 (10.95%)	12.05±0.93* (24.71%)	9.12±0.60*** (86.02%)

Percentage Inhibition was given in Parentheses
Values are in mean ± SEM (n=5)
*P<0.05, **P<0.01 and ***P<0.001 Vs Control

DISCUSSION

Anti-inflammatory activity of Linga Chenduram (6mg/kg) was studied against Carrageenan induced paw oedema in rats and the results were shown in Table 1. Rat paw thickness and the percentage inhibition was measured after drug administration. After the *Linga Chenduram* administration, upto 60 minutes it didn't show significant anti-inflammatory activity. After 90 and 120 minutes of *Linga Chenduram* administration, it showed significant (P<0.05 and P<0.001, respectively) anti-inflammatory activity against carrageenan induced inflammation in rats.

CONCLUSION

From the above study it can be suggested that the Linga Chenduram promising Anti-inflammatory Activity.

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