

ANTI INFLAMMATORY ACTIVITY OF MORINGA OLIEFERA. LAM**K.N. Venkataswera Rao, V.Gopalakrishnan, V.Loganathan****S.Shanmuga Nathan**

College of pharmacy,

SRI RAMACHANDRA DEEMED UNIVERSITY

Porour, Chennai – 600 116

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Abstract: The aqueous and ethanolic (90%) extract of the leaves of *M.Oliera* Lam (Fam: Moringaceae) were studied for their anti inflammatory action in ale albino rats. Two extracts exhibited maximum action within two ours of challenge. The aqueous extract sowed significant (($P<0.01$) odema suppression similar to that of Ibuprofen at the first our of carrageenan injection. The results confirms the folkers claim of the plant.

KEY WORDS:

Moringa oliefera leaves, Odema suppression, Carrageenan.

INTRODUCTION

The plant /tree *M. Oliefera* Lam. Is called in Sanskrit as sigru and in Hindi as Soanjan. The tree is well known for its various medicinal properties and a common ingredient of many poly herbal formulations for a variety of claims¹. Ethanolic extract of leaves show the presence of amino acids, alpha and beta – carotene, sterols, terpenes, saponins, tannins, carbohydrates, glycosides, alkalois², flavonoids³. The present study was focused to evaluate the anti-inflammatory action of aqueous, ethanolic extracts of leaves of moringa oliefera.

EXPERIMENTAL:

Plant Material the leaves collected from tree near porur, Chennai-600 116 and its identity was confirmed by comparing the herbarium specimen preserved in Pharmacognosy museum, SRMC & RI (DU), Chennai.

Preparation of extracts:

The fresh leaves were collected, shade dried and powdered. The powder was extracted with alcohol by soxhlet extractor and with distilled water by decoction, to obtain alcoholic and aqueous extracts respectively the solvents were removed and marcs (residue) obtained were dried in a dessicator, refrigerated until their use. These dried residues were used for anti-inflammatory screening in albino rats, against carrageenan induced oedema in right hind paw.

Vehicle : 5% w/v acacia mucilage
Standards : Ibuprofen (100 mg/kg. P.o.)

Test samples : The extracts were administered Arbi trarily at a dose of 200 mg/kg p.o

Animals : Male albini rats (180 – 220 gr) Maintained under standard laboratory con ditions, were used for all groups. Each group comprising of 6 rats. The rats were

allowed access to take standard laboratory food and water ad libitum

Anti – inflammatory activity:

The study was carried out in ale albino rats against carrageenan induced hind paw oedema⁴. All the suspensions were administered 30min before the injection of carrageenan an percentage inhibition of oedema at different time intervals (1,2,3 hrs) was calculated.

Statistical Analysis:

All values are expressed as mean $\pm$ S.E. percentage reduction (in parenthesis) was calculated by considering the difference in the paw oedema volumes of values as 100% level of reduction. Test of significance ($P < 0.01$) was obtained by ANOVA⁵.

RESULTS AND DISCUSSION

The leaves of *M. Oliefera*. Lam was selected based on the utilisation in the traditional medicinal system.

The extracts showed peak oedema suppression within 3 hrs. of carrageen injection. (Table 1). The aqueous extract sowed the maximum significant anti-inflammatory action ($P < 0.01$) like that of ibuprofen within 60 min of carrageenan injection. The alcohol (90%) extract sowed a similar action.

The odema suppression action exhibited by the drug may be due to the inhibitory effects on the release of histamine, 5-ydroxy tryptamine and kinin like substances which are reported to release from mast cell degradation during first hour of carrageenan induced artificial paw oedema⁶.

The study confirms the claim of the drug for use in reducing inflammation. The agents/compounds responsible for reducing inflammation are in progress of identification.

Table – I

Effects of extracts of *M. oliefera* Lam. Leaves on carrageenan induced paw oedema

Method : Carrageenan rat paw oedema

Animals : Albino rats

Weight : 180-220 gms

Vehicle : 5% gum acacia

Route of Administration : Oral

No of animals in each group:6

Sl. No.	Drug/extract	Dose /body wt.	Mean difference in paw oedema volumes (ml) $\pm$ SEM; (% reduction)		
			1hr	2hr	3hr
1.	Control	5ml/kg	0.42 $\pm$ 0.01	0.66 $\pm$ 0.04	0.73 $\pm$ 0.03
2.	Ibuprofen	100mg/kg	0.20 $\pm$ 0.02* (53.7)	0.033 $\pm$ 0.01* (52.9)	0.43 $\pm$ 0.0* (39.2)

3.	Aqueous extract	200mg/kg	0.22 ± 0.01** (48.2)	0.29 ± 0.03 ** (58.9)	0.83 ± 0.02 (-)
4.	Alcohol extract	200mg/kg	0.30 ± 0.03 (29.6)	0.50 ± 0.02* (26.2)	1.03 ± 0.02 (-)

Significance to : control*, Ibuprofen** (P<0.01)

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