



RESEARCH ARTICLE

PHARMACOLOGY

**ANTI INFLAMMATORY ACTIVITY OF ETHANOLIC EXTRACTS OF
PENTATROPIS CAPENSIS AND *SARCOSTEMMA SECAMONE***

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ABSTRACT

The ethanolic extract of PC and SS were screened for its anti inflammatory activity against 5-HT and Histamine induced inflammation model. 200mg/kg dose of this extract were given orally to study its effect on the exudative and proliferate phases of the inflammatory reaction using the plethysmograph. The results were compared with the standard drug 5mg/kg of Diclofenac sodium. Plant extract at tested concentration produced significant anti-inflammatory activity



KEYWORDS

PC , SS, Histamine, 5-HT, Plethysmograph.

INTRODUCTION

Inflammatory disease; including different type of rheumatic diseases are a major cause of inhibitory of the working force through out the world. Many drugs produced a dramatic symptomatic improvement in rheumatic diseases but all of them shared the common effect called gastrointestinal irritation.

The medicinal substances packaged in a plant can be safely assimilated by the body since the plants are its natural food. In India many Ayurvedic practitioners are using various indigenous plants for the treatment of different types of inflammatory conditions. In this context the present study is focused on the evaluation of antiinflammatory activity of alcoholic extract of *Pentatropis capensis* and *Sarcostemma secamone* in albino rats.

MATERIALS AND METHODS

Albino rats of Wister strain of either sex weighing between 140-170 g were selected for the studies. The animals were kept on standardized diet and allowed food and water *ad libitum*. The animals were divided into eight groups each consists of four animals Right hind paw edema were induced by sub plantar injection of 0.1 ml of chemical mediators of

inflammation such as 5HT (0.02%) and histamine (1mg/ml). The groups were designated as follows.

1. Group 1 – 5HT control (0.02%) 1 mg/ml
2. Diclofenac sodium 5 mg/kg
3. ethanolic extract of *pentatropis capensis* 200 mg / kg
4. ethanolic extract of *Sarcostemma secamone* 200 mg / kg

group In another set of experiments, the animals will receive Histamine instead of 5-HT.

The volume of hind paw edema was measured by the method of buffle et al modified by singh and Ghosh at 'O' hr and at predetermined intervals (30mts after 5HT and 1 hr after histamine). The animals were treated with 200 mg/kg of ethanolic extract of *Pentatropis capensis* and ethanolic extract of *Sarcostemma secamone*. The drug was injected 1 hr 30 mts before 5-HT injection but 1hr before histamine injection. Mean increase in Paw volume and percentage of antiinflammatory activity were calculated. The results were statistically analysed by analysis of variance.



TABLE – I

Antinflammatory activity of ethanolic extracts of *Pentatropis capensis* and *Sarcostemma secamone* against 5 HT induced inflammation

Test drug/ Kg i.p	Increase in Paw Volume at 3 hrs	% of Anti-inflammatory Activity
5HT (0.02%)	0.32 ± 0.04	-
Diclofenac Sodium (5mg/kg)	0.10 ± 0.02	68.75%
Ethanolic extract of <i>Pentatropis capensis</i> (200 mg/kg)	0.15 ± 0.08	55.2%
Ethanolic extract of <i>Sarcostemma secamone</i> (200mg / kg)	0.18 ± 0.05 P<0.001 Vs control	44.75%

Table -II

Anti inflammatory activity of ethanolic extracts of *Pentatropis Capensis* and *Sarcostemma Secamone* against Histamine induced inflammation.

Test durg /kg. ip.	Increase in pus Volume at 3 Hr	% of anti inflammating activity
Histamine (1mg/ml)	0.28 ± 0.08	-
Diclofenac sodium (5mg/kg)	0.08 ± 0.02	71.5%
ethanolic extract of <i>pentatropis capensis</i>	0.12 ± 0.04	57.2%
ethanolic extract of <i>sarcostemma secamone</i>	0.10 ± 0.04	64.3%

P<0.001 Vs control

RESULTS AND DISCUSSION

The chemical mediators such as Histamine, 5 HT, Bradykinin and PGS are involved in the genesis of acute inflammation. Ant inflammatory drugs produce its effect by selective or non selective inhibition of the inflammatory activity of these chemical mediators. The results of the present investigation suggest that the ethanolic extract of *Pentatropis Capensis* and *Sarcostemma*

Secamone exert anti inflammatory activity possibly by inhibition of inflammatory activity of 5 HT and Histamine.

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REFERENCES

1. Rainsford K.D, White House, M.N, Agents action 10, 1980, 451.
2. Chatterjee G.K, Pal, Sp, Indian Drugs, 7, 1984, 413
3. Damas .J, Remacle – volon .G, Eur J. Pharmacology, 211, 1992, 81.
4. Kalbhess D.A, Smalla H.D, Arzheim Forsch / Drug Res, 27, 1977,1050
5. Singh .H Ghosh M.N., J. Pharm Pharmacol, 20 1968, 316
6. Parmar N.S. and Ghosh M.N. Ind J. Pharmacol, 10, 1978, 277
7. Armitage. P, in statistical method in medical Res, Black well Scientific publication, 217, 1971,
8. Vinegar.R. Truax T.F, Selph SL, Fed Proc, 35, 1976, 24