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ANALGESIC ACTIVITY OF VARIOUS EXTRACTS OF LEAVES OF *AZIMA TETRACANTHA* LAM

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Abstract

The extracts of leaves of *Azima tetracantha* lam were screened to evaluate analgesic activity in healthy mice using hot plate method. The leaves of *Azima tetracantha* were collected from the local areas of Trichy district, Tamil Nadu and shade dried. The dried powdered leaves (500 gm) were extracted in the soxhlet apparatus by using different solvents. Healthy mice weighing 20-25 gm were taken for the experiment. The reaction time of animals in all groups was noted at 15, 30 and 60 min. after drug administration. All data were analysed with student-t test. The various extract of the leaves of *Azima tetracantha* showed significant analgesic activity at a dose of 100 mg/kg body weight. A maximum analgesic activity was found at 30 min., after drug administration, which was near equivalent to that of morphine sulphate.

Key words: *Azima tetracantha* lam, Extraction, Analgesic, Mice.

INTRODUCTION

Azima tetracantha is a rambling spinous shrub belonging to the family Salvadoraceae. The shrub grows widely in most parts of South India, Ceylon, Philippines and in Burma. It has been reported that *Azima tetracantha* have shown antispasmodic, diuretic, anti-inflammatory activities. A number of chemical constituents from the seed oil leaf and root of the plant have previously been reported. The present study was undertaken to screen the analgesic activity of the leaves of *Azima tetracantha*. (Rodwell V. W. *et al*, 1983, Handa S. S., 1992)

MATERIALS AND METHODS

Collection of Plant material

The leaves of *Azima tetracantha* were collected from the local areas of Trichy district, Tamil Nadu and then authorized and confirmed by Dr. V. Nandagopalan, Department of Botany, National College, Trichy-1.

Preparation of extracts

The leaves of *Azima tetracantha* were collected and shade dried. Then the dried leaves were powdered to get a coarse powder. The dried powdered leaves (500 gm) were extracted in the soxhlet apparatus by using Benzene, Chloroform and water respectively. The various leaf extracts are collected and concentrated to a dry mass by using vacuum distillation.

Animals

Healthy mice weighing 20-25 gm were taken for the experiment. They were taken and grouped into 6, each consisting of 5 mice. They were housed in polypropylene cages maintained under standard conditions (12 hour light/12 hour dark cycle; 25±3°C, 35-60% humidity). The experimental protocol was subjected to the scrutiny of the Institutional Animal Ethical Committee and was cleared by the same before starting.

Evaluation of analgesic activity

The animals were divided into 6 groups of 5 animals. Group I

received the normal saline 1 ml/kg. Group II received Shark liver oil 1 ml/kg. Group III received Morphine sulphate 5 mg/kg by IP route. Group IV received benzene extract in shark liver oil in a dose of 100 mg/kg by IP route. Group V received chloroform extract in shark liver oil in a dose of 100 mg/kg by IP route. Group VI received aqueous extract in sterile water for injection in a dose of 100 mg/kg by IP route. Each mouse was picked individually on the hot plate which was maintained at constant temperature 55°C. The basal reaction time, the time taken for jump response or paw licking which ever appeared first was noted. The reaction time of animals in all groups was noted at 15, 30 and 60 min. after drug administration. Cut off time of 15 sec. was taken as maximum analgesic response to avoid injury to the paws. The percentage increase in reaction time at each time interval was calculated (Indian Drugs, 1984, 1986).

Statistical analysis

All data are presented as mean ± SEM (Table 1) and were analyzed with student- *t* test. Values of P<0.001 were considered significant analgesic activity (Indian Journal of Pharmaceutical Sciences 1998).

RESULTS AND DISCUSSION

The various extract of the leaves of *Azima tetracantha* showed significant analgesic activity at a dose of 100 mg/kg body weight. The result of analgesic activity of various extracts *Azima tetracantha* on mice by hot plate method were given in Table 1. Basal reaction time of morphine, benzene, Chloroform and aqueous extracts of *Azima tetracantha* treated animals were increased. Various leaf extracts of *Azima tetracantha* showed significant analgesic activity with respect to the reference standard.

The fraction obtained by extraction from Benzene, chloroform and aqueous extract of *Azima tetracantha* clearly showed a good analgesic activity.

Table 1: Analgesic Activity of *Azima Tetracantha* Lam

Group No	Treatment	Basal reaction Time in Sec mean \pm SEM	Reaction time in Min. after injection of the extract (Mean \pm SEM)		
			15	30	60
I.	Control (Normal saline)	4.2 \pm 0.21	4.1 \pm 0.19	4.3 \pm 0.25	4.0 \pm 0.17
II.	Solvent (Shark Liver Oil)	4.1 \pm 0.21	4.1 \pm 0.19	4.1 \pm 0.25	4.0 \pm 0.17
III	Morphine	4.8 \pm 0.27	12 \pm 0.54	14 \pm 0.43	13 \pm 0.38
IV	Benzene Extract	2.0 * \pm 0.27	6.0* \pm 0.32	15* \pm 0.50	13* \pm 0.41
V	Chloroform Extract	3.3* \pm 0.47	7.0* \pm 0.48	15* \pm 0.51	14* \pm 0.39
VI	Aqueous Extract	2.0* \pm 0.27	7.0* \pm 0.48	16* \pm 0.52	15* \pm 0.42

no = 5, Values are expressed as mean \pm SEM, *P<0.01

A maximum analgesic activity was found at 30 min., after drug administration, which was near equivalent to that of morphine sulphate. So, possible mechanism may be due to the binding of these extracts with opioid receptors. Further studies are required to establish its exact mechanism of action.

REFERENCES

- Handa S. S. and Sharma A., Indian Journal of Medical Research (B), 92, 284.
- Indian Drugs: 1984, September (12) 21, 556-567.
- Indian Drugs: 1996, November (11) 33, 555-556.
- Indian Journal of Pharmaceutical Sciences 1998, Jan-Feb 33.
- Rodwell V. W., Martin D. W., Mayes P. A. and Granner D. K., Editors Harper's review of Biochemistry, 20th edition, Large Publications, California, 1983, 62.
- The wealth of India, Vol. 1, 42, 1998.

