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ANALGESIC ACTIVITY OF SIDDHA FORMULATION OF *INGI CHOORANAM* IN SWISS ALBINO MICE

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ABSTRACT

The Siddha drug *Ingi chooranam* (IC) is used in treating of vatha diseases. The aim of the study was to investigate the efficacy of the Siddha drug *Ingi chooranam* (IC) in swiss albino mice. The analgesic effect was found out by Acetic acid writhing reflex method using diclofenac sodium as standard drug. The control group-I was given normal saline, group-II serves as standard received diclofenac sodium (10 mg/kg) and the two test groups –III, IV are treated by *Ingi chooranam* (IC) at dose level of 100mg/kg, 200mg/kg respectively. One hour before acetic acid administration Siddha formulation *Ingi chooranam* was administed. Onset on writhing is noted. Contractions of the abdomen, twist of the trunk, hind limbs extension were noted within 10 minutes how many animals showing such response were also noted and the result reveals that the both doses of *Ingi chooranam* possess significant analgesic activity.

KEYWORDS: *Ingi chooranam (IC), Vatha diseases*, Diclofenac sodium, Acetic acid writhing reflex.

INTRODUCTION

Pain is “an unpleasant sensory and emotional experience associated with actual or potential tissue damage”, according to the International Association for Study of Pain (IASP)[1]. In resently aspirin and morphine were widely used as pain relief drugs. Most of the analgesic drugs, particularly non steroidal anti-inflammatory drugs and opioids relieve only

50% of pain in 30% of patients [2]. But, these drugs may cause serious side effects. NSAIDs usually cause gastro intestinal disorders while opioids cause tolerance, addiction and physical dependency [3]. Most of the Indian medicinal plants have various pharmacological activities, since it contain varieties of phytochemicals, so search for alternatives is necessary and beneficial [4]. Keeping this as a view, the present study is concerned to explore the analgesic study on a Siddha formulary drug as described in Siddha text *Agasthiya mamunivar paripooranam*-400, indicated for Vatha diseases[5].

MATERIALS AND METHODS

Experimental Animals

Swiss albino mice weighing 20-25 gram either sex were maintained under controlled conditions of light (12 hrs) and temperature 25±1^{o}c in the animal house, 7 days before the experiment for acclimatization. Animals had acces to food and water at ad libitum. The study was conducted under the investigation of pain experiment in animals with conscious by ethical guidelines (Reg. No.659/02/A CPCSEA) with IAEC approval No.1012/C06/CPCSEA-2008-2009.

Chemicals

Diclofenac sodium (standard),Acetic acid (1%v/v).

Drug Treatment

Ingi chooranam at the dose of 100 and 200mg/kg body weight administered through orally. Diclofenac sodium 10mg/kg was used as standard control administered intraperitonealy, control group received normal saline 10ml/kg through orally.

METHODS

TREATMENT PROTOCOL

Group-1 Normal control recieved normal saline 10ml/kg through orally.

Group-2 Standard control received diclofenac sodium 10mg/kg through

Intra peritonealy.

Group-3 Treatment control received 100mg/kg of *Ingi Chooranam* administered through orally.

Group-4 Treatment control received 200mg/kg of *Ingi Chooranam* administered through orally.

One hour before acetic acid administration Siddha formulation *Ingi chooranam* was administed. Onset on writhing is noted. Contractions of the abdomen, twist of the trunk, hind limbs extension were noted within 10 minutes how many animals showing such response were also noted.

STATISTICS

Data are expressed as mean ± SEM; ANOVA data analysis were used and followed by Newman's keul's multiple range tests. It was used to determine the significance of the difference between standard control group and treated with extract group.

* At P< 0.01 Values were significant.

TABLE No.1

ANALGESIC ACTIVITY OF *INGI CHOORANAM* BY ACETICACID WRITHING REFLEX IN MICE

Treatment	**Dose (mg/kg)**	**No. of writhing**	**% reduction in reaction time**
Group I Normal saline	Inject 1%v/v acetic acid 1ml/100g of body weight	49.3±2.95	-
Group II Std	10mg/kg I.P.Diclofenac sodium	14.3±0.78	49.00%**
Group III Ingi Chooranam	100mg/kg Administered through orally.	22.4±1.48	48.84%**
Group IV Ingi Chooranam	200mg/kg Administered through orally	20.4±1.26	48.88%**

Values expressed as mean±SEM

By one-way ANOVA followed by Newman's keuls multiple range tests the values find out.

** At P< 0.01 Values were significant.

RESULTS AND DISCUSSION

The table 1 values showed that analgesic activity of *Ingi Chooranam* by acetic acid induced writhing reflex. The results reveals that both dose of Ingi Chooranam contains significant analgesic activity at p<0.01.

The effect of *Ingi chooranam* and Diclofenac sodium against Acetica cid induced writhing reflex method which are shown in table 1.

The oral administration of *Ingi chooranam* at doses 100 & 200 mg/kg shows number of writhing in 22.4 sec and 20.4 sec respectively. The percentage of reduction reaction time in 48.84% and 48.88% respectively. The intra peritoneal administration of diclofenac sodium at dose 10mg by kg shows number of writhing in 14.3 sec. The percentage reduction in reaction time is 49.00% (Table 1)

Writhing by acetic acid administration parenteraly in mice, are due to profound endogenous nature of pain which recur for a period of time. This principle induces lesions because of their irritant nature.

Writhing, a response to intense pain by irritant principles characterized by episodes of abdomen retraction and hind limbs stretching. Due to irritation, the signals transmitted to central nervous system in pain response, cause release of prostaglandins [6].

In CPCSEA report (2004) says, using of laboratory animals for the experimentation should used properly and should avoid or minimized sufferings inflicted in animals, if avoidance is not possible[7].

CONCLUSION

In conclusion, the end of the study is confirming that *Ingi chooranam* at the dose of 200 mg/kg has got both central and peripheral analgesic properties through acetic acid writhing reflex method in mice with the level of significant at P< 0.01.

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