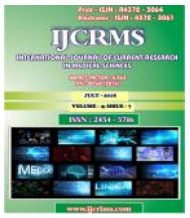
International Journal of Current Research in Medical Sciences
ISSN: 2454-5716
P-ISJN: A4372-3064, E -ISJN: A4372-3061
www.ijcrims.com



Original Research Article **Volume 4, Issue 7 -2018**

DOI: http://dx.doi.org/10.22192/ijcrms.2018.04.07.011

In vivo acute and chronic anti inflammatory activity of Kiranthi Mega Chooranam – A poly herbal preparation

Praveena R[1], Muthukumar N. J[2], Banumathi V[3]
[1]Yoga expert, National Institute of Siddha, Chennai
[2]HOD, Sirappu Maruthuvam Dept, National Institute of Siddha, Chennai
[3]Director, National Institute of Siddha, Chennai

Abstract

Accumulating epidemiological and clinical evidence shows that chronic inflammation is an important risk factor for various human diseases. Thus suppressing chronic inflammation has the potential to delay, prevent and control various diseases.

Kiranthi Mega Chooranam (KMC), a poly herbal Siddha medicinal preparation is used to treat skin & venereal diseases. In the present study KMC has been evaluated for anti-inflammatory property in both acute and chronic models of inflammation.

Keywords: SIDDHA, Kiranthi Mega Chooranam, Anti - Inflammatory

Introduction

The Dravidian civilization in the Southern Indian peninsula had a unique medical system called SIDDHA system. SIDDHA system is found to be earlier and foremost medical system than any other in that age. The saivate sages who contributed to the growth of the SIDDHA system of medicine were known as SIDDHARS.

SIDDHA system of medicine has its own doctrine and theory of fundamental hypothetical logic of natural laws like Anda Pinda Thathuvam, Pancha Bootha Trithoda Thathuvam, 96 Thathuvam. 7 Udal Thathukkal etc.,

In SIDDHA literature, diseases are classified into 4448 varieties and infinite medicines are mentioned (both internal & external). Among them, KMC is indicated for chronic inflammatory diseases.

Materials and Methods

Estimation of anti inflammatory activity of Kiranthi Mega Choornam

Test Drugs

The medicinal formulation used in this study was processed by the methods prescribed in standard text books of SIDDHA medicines.

Kiranthimega Chooranam - Referece: Anoboga Vaithiya Navaneetham

Preparation of drug for dosing

KMC was not soluble in water and made into a suspension in sodium carboxy methyl cellulose before administration. The drug suspension was administered at the dose of 2000 mg/kg/po for acute toxicity study and at the dose of 900 mg/kg/po for 15 days for repeated oral toxicity and other pharmacological studies.

Anti Inflammatory activity

Anti inflammatory activity of KMC was evaluated in both acute and chronic models of inflammation.

Acute model

a. Carrageenan induced hind paw edema

The carrageenan assay procedure was carried out according to the method of Wintar *et al.* (1962). Edema was induced by injecting 0.1 ml of a 1% solution of carrageenan in saline into the plantar aponeurosis of the left hind paw of the rats. The extracts, reference drug and the control vehicle (distilled water) were administered 60 minutes prior to the injection of the carrageenan. The volumes of edema of the injected and contra lateral paws were measured at +1, 3 and 5 hrs after induction of inflammation using a plethysmometer (Bhatt *et al.*, 1977) and percentage of anti-inflammatory activity was calculated.

Chronic Model

b. Cotton pellet granuloma

Sterile cotton pellets (weighing 10 ± 2 mg) were implanted subcutaneously along the flanks of axillae and groins of wistar albino rats (Swingle and Shideman *et al.*, 1972). The extracts, reference drug and the control vehicle (distilled water) were administered as per protocol to rats everyday for a period of 7 days. On day + 8 the rats were sacrificed by cervical decapitation and cotton pellets were removed surgically, freed from extraneous tissue and weighed immediately for wet weight. One half of the pellets were dried in an incubator at 60ºC until a constant weight was obtained.

Results

Anti-inflammatory studies

Administration of KMC at the dose of 900 mg/kg/p.o exhibited significant anti-inflammatory activity in both acute (carrageenan induced hind paw) and chronic (Cotton pellet granuloma) models of inflammation in rats. A 44. 6 % reduction in paw edema volume was observed in the drug treated KMC animals when compared to control at the end of 240 minutes (Table 1). Similarly significant reduction in dry granuloma weight (60.8%) was also observed in animals treated with KMC (900mg/kg/p.o) for one week in chronic model of inflammation when compared to control animals (Table 2). The results were comparable to that of Diclofenac sodium (5 mg/kg/p.o).

Table: 1 Anti inflammatory activity of KMC in Carrageenan induced hind paw edema in rats

Groups	ALP (K.A.Units)	AST (IU/L)	ALT (IU/L)	Urea (mg/100ml)	BUN (mg/ 100ml)
Control	2.76±0.37	72.16±1.16	26.91±1.19	11.25±0.67	4.92±0.74
KMC 900mg/kg/po	2.58±0.39^{ns}	72.58±1.64 ^{ns}	27.17±1.09 ^{ns}	12.08±0.85 ^{ns}	5.16±0.21 ^{ns}

n=6; Values are expressed as mean ± S.D followed by One Way ANOVA –Dunnett's multiple comparison test.
ns - Non significant as compared with control;
P<0.01 (**) as compared with control

Table: 2 Anti inflammatory activity of KMC in Cotton Pellet Granuloma

Groups	Cotton pellet Granuloma method
	Dry Weight (mg)
Control	115.87 ± 15.42
KMC	70.75 ± 8.44***
Standard (Dic.Sodium 5 mg/kg/po)	70.00 ± 7.42***

n=6; Values are expressed as mean ± S.D followed by Students Paired 'T' Test
***P<0.001 as compared with that of control.

Discussion

Kiranthimega Chooranam (KMC) is a formula taken from the SIDDHA literature. In the present study a significant reduction in the edema volume and granuloma formation was observed with the use of KMC in experimental model of inflammation.

References

Bhatt KR, Mehta RK and Srivastava PN (1977). A simple method for recording anti-inflammatory effects on rat paws edema. *Ind. J. Physiol. Pharmacol.*, 21: 399-490.

Coulambe G.G and Favrean L.A.Clin.Chem., (1965), 11, 624.

Ghai C.L. A text book of practical physiology, Jaypee Brothers, India 1995; p.119-202.

Hakkim Abdhulla Sayubu, Anuboga Vaidhiya Navaneedham – Part 10 – Thamarai noolagam,Chennai -26,2 nd Edition

Harish MS, Mallikarjun N, Shrishailappa B. Anti inflammatory and mast cell stabilising activity of *Striga orabanchioides*. *J Ethnopharmacol*, 2001; **76**:197-200.

John MB. Laboratory Medicine Haematology. 4th Ed. C.V. Mosby co, St.Louis, 1972; p.1198-1209.

Kanai L Mukherjee. A text book of medical laboratory technology. A procedure manual for routine diagnostic tests. Tata McGraw Hill Publishing company ltd. 1999; **1**:p.265-276.

King E.J and Armstrong A.R (1934), Can.Med.Ass.J. 31, 376.

Reitman S and Frankel S (1957), Am.J.Clin.path., **28**, 56

S. P. Ramachandren, Agathiyar vaitya kaavyam 1500, Thamarai noolagam, Chennai – 26, 1st Edition

Swingle KF and Shideman FE (1972). Phases of inflammatory response to subcutaneous implantation of cotton pellet and their modification by certain anti-inflammatory agents. *J. Pharm. Exp. Ther.*, 183: 226-234.

Tenscher, A and Richterich, P. Schweiz Med. Wschr.1971: 101:345 and 390.

Thiyagarajan . R – Yugi vaidhya chinthamani by Sage Yugi – second edition 2005, published by Indian Medicine and Homeopathy Department

Wintar CA, Risley EA and Nuss GW (1962). Carrageenin induced in hind paw of the rat as an assay for anti-inflammatory drug. *Proc. Soc. Exp. Biol. Med.* 11: 544-547.

Access this Article in Online

Website: www.ijcrims.com

Subject: Siddha Medicine

Quick Response Code

How to cite this article:

Praveena R, Muthukumar N. J, Banumathi V. (2018). *In vivo* acute and chronic anti inflammatory activity of Kiranthi Mega Chooranam – A poly herbal preparation. Int. J. Curr. Res. Med. Sci. 4(7): 52-55.

DOI: http://dx.doi.org/10.22192/ijcrms.2018.04.07.011