

IN VITRO EVALUATION OF ANTI INFLAMMATORY AND ANTI HISTAMINE ACTIVITY OF SIDDHA FORMULATION KARAPPAN ENNAI

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Abstract- Skin is the first line of defence in the body. Inflammation has become a risk factor for various disease. Nowadays the uses of traditional herbs in the treatment of inflammation has effects on different stages of inflammation including production of cytokines, dysregulation of cellular signalling and reduces the risk of barrier mechanism. It is only in recent times we have been able to employ scientific methods to prove the efficacy of the traditional herbs which tries give us better understanding of the mechanism of action for the herbs used in various dermatological condition. Bio active compounds from the medicine karappan ennai work in action by reducing the signs of inflammation including edema, regulating cellular activities, targeting major signalling pathways related to inflammation. Itching is one the commonest symptom associated with inflammatory skin disease, a more or less voluntary, often subconscious motor activity to counteract the itch by slightly painful stimuli. The main indications for antihistamines in skin are suppression of pruritis in atopic dermatitis which are associated with increased mast cell numbers and tissue histamine levels. This review tries to be an account of anti-inflammatory activity and anti-histamine activity in karappan ennai with ingredients karunochi (*Vitexnegundo*), Vellaipoondu (*alliumsativum*), vasambu (*acorus calamus*) karunseeragam (*nigella sativa*), kadukkai (*terminalia chebula*), sitramanaku ennai (*ricinus communis*) Which acts against the signs of inflammation and possess anti histamine effects.

Key words : Inflammation, Skin disease, Karappan ennai, Anti inflammatory, Antihistamine.

INTRODUCTION:

Atopic dermatitis is a common skin disease which occurs before the age of five and often resolve during childhood or adolescence. Atopic dermatitis is characterised by pruritis that can be triggered by an interplay of genetic immunological and environmental factors. Peripheral itching inducing stimuli generated within or administered to the skin are able to trigger pruritis, one of them is histamine. Siddha being the most ancient and still successfully practiced science needs more attention while searching solutions for to unresolved health problems, validation of different therapeutic modalities which are in practice and serves a potent safe and cost effective solution to globewide disorders.

ANTI-INFLAMMATORY STUDIES USING KARAPPAN ENNAI (KE)

For the experiment, the animals were divided into 5 groups with 6 animals in each group.

- Group-I (control) received 3% gum acacia 10 ml/kg p.o.
- Group-II (Carageenan) received 0.1ml of 1% w/v suspension of carrageenan S.C
- Group-III (standard) received Indomethacin 40 mg/kg p.o.
- Group-IV (Test-1) received KE 5ml/kg p.o.
- Group-V (Test-2) received KE 10ml/kg p.o.

All the drugs were administered orally and the volume of medicaments kept constant at 5ml and 10 ml/kg body weight of the animals it was administered orally to rats 1 hr before subcutaneous injection of carrageenan. After 1 hr 0.1ml of 1% w/v suspension of carrageenan was injected into sub-plantar region of the left hind paw to all the groups. The paw volume was measured at 1, 2, 3, 4, and 5 hr using Plethysmometer (Model 7150 UGO Basile, Italy) Edema was expressed as the mean increase in paw volume relative to control animals.

PAW EDEMA VOLUME

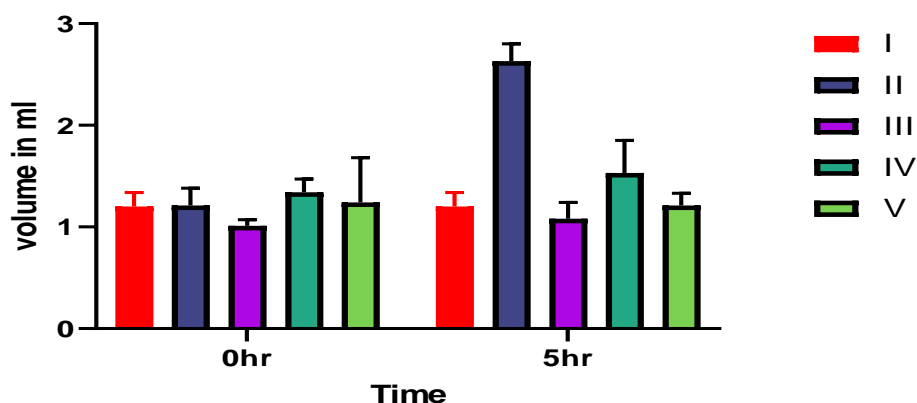
Group	Dose	Initial paw volume	Change in paw edema mm at different time intervals				
			0hr	1 hr	2hr	3hr	4hr
I	Control	1.20 ± 0.14	1.20±0.14	1.20±0.14	1.20±0.14	1.20±.14	1.20±0.14

II	Carrageenan	1.21± 0.17	1.91 ± 0.21	2.37 ± 0.02	2.47 ± 0.14	2.58 ± 0.18	2.63 ± 0.17
III	Indomethacin	1.01± 0.06	2.12 ± 0.26	1.52 ± 0.15	1.45 ± 0.05	1.32 ± 0.18	1.08 ± 0.16
IV	Low dose	1.34 ± 0.11	1.47 ± 0.32	1.53 ± 0.18	1.66 ± 0.22	1.55 ± 0.22	1.53 ± 0.24
V	High dose	1.24±0.42	2.01 ± 0.22	1.91 ± 0.23	1.67 ± 0.44	1.61 ± 0.18	1.21 ± 0.12

The paw volume up to the tribiotural articulation was measured at 0, 1, 2, 3, 4, 5 hrs
n=6 ;Statistical analysis one way ANOVA followed by Dunnett t-test.

Group	Initial paw volume	5 hr in mm	Difference in paw volume
I	1.20 ± 0.14	1.20±0.14	0.00
II	1.21± 0.17	2.63 ± 0.17	1.42
III	1.01± 0.06	1.08 ± 0.16	0.07
IV	1.34 ± 0.13	1.53 ± 0.32	0.19
V	1.24 ± 0.44	1.21 ± 0.12	0.03

Volume of paw reduced



RESULT:

From the observation of paw edema volume and percentage protection of KARAPPAN ENNAI in inflammation it was concluded that the test compound was highly effective in Inflammatory cells.

ANTI-HISTAMINIC ACTIVITY OF KARAPPAN ENNAI (INTERNAL)

Vascular permeability test in rats : Immediately after an i.v. injection of 1 ml of 1 % Evans blue in physiological saline, two sites on one side of the shaved back of animals were injected intradermally with 0.1 ml of physiological saline containing 0.1 µg histamine, Contralateral sites were injected intradermally with an equal volume of physiological saline (the control skin areas). Karappan ennai is given orally 30 min in rats prior to the injection of phlogistic agents. Thirty minutes later, the animals are sacrificed by overdose of anesthesia, and the skin is removed. Exudation of dye was calculated by subtracting the amount determined in the control skin area and expressed as the mean of two values obtained in each animal.

Calculation:

Area of protection = control area – area of exudation of dye

Grouping: Wistar rats were used for the study n=6nos

Group I-----Control group

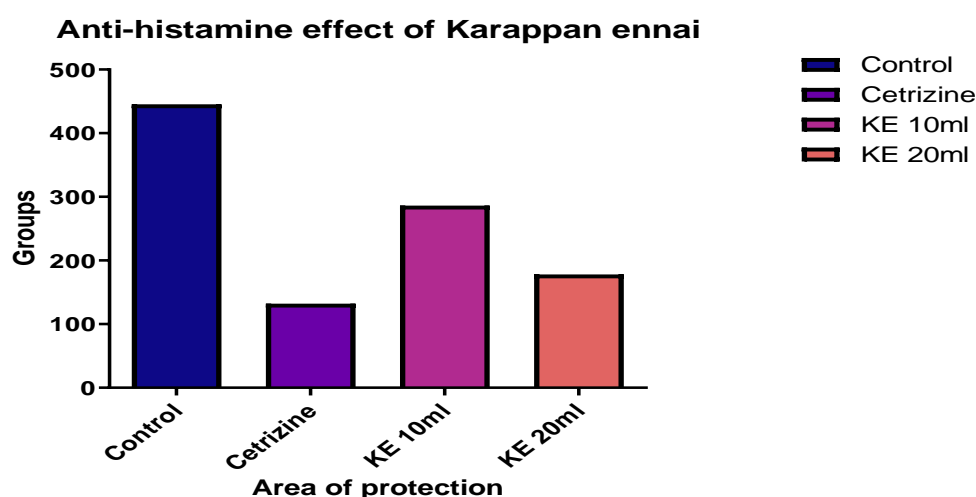
Group II-----Standard drug Cetirizine 20mg/kg

Group III----- Karappan ennai 10ml/kg

Group IV----- Karappan ennai 20ml/kg

ANTI-HISTAMINE EFFECT OF KARAPPAN ENNAI

S.no	Grouping	Area of protection from exudation of dye in mm
1	Control	445.26±0.34
2	Cetirizine(STD)	132.28±0.16
3	Karappan ennai 10 ml	286.22±0.11
4	Karappan ennai 20ml	178.12±0.15

**RESULT**

From the observation of vascular permeability test and percentage protection of KARAPPAN ENNAI, it was concluded that the test compound was highly effective in reducing histamine content.

CONCLUSION

Based on these results, It can be concluded that **Karappan Ennai** has potential **Anti inflammatory** and **Anti histamine** activity. This study results confirmed the validating of traditional indication in anti histamic and anti inflammatory conditions. so more clinical trails and in vivo studies should be done for standard drug development.

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