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ANTI- HISTAMINIC ACTIVITY OF SIDDHA HERBO MINERAL FORMULATION GANDHAGA CHUNNAM IN ANIMAL MODEL

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ABSTRACT

Siddha system of medicine is one of the foremost of all medical systems originated in India especially in Tamil Nadu. Siddhars are spiritual scientists who achieved good results in curing many chronic auto immune disorders. Siddha herbo mineral formulations are proven itself by their efficacy. The aim of the study is to evaluate the Anti-histaminic action of the test drug Gandhaga Chunnam (GC). Anti-histaminic study was done by hind paw method in albino rats. The XRF analysis of the test drug revealed that it has the permissible limit of Sulphur tri oxide (SO3), Calcium oxide (caO), Phosphrous pentoxide (P2O5), Silicon oxide (SiO2), Pottassium oxide (Ks2O), ferrous oxide (Fe2O2), Stranium (SrO), Copper oxide (CuO). In pharmacological view test drug GC has significant anti- histaminic action in both acute and chronic studies.

KEYWORDS: Anti- histaminic action, Herbo mineral formulation, Psoriasis, Siddha.

INTRODUCTION

GC is a herbo mineral formulation. It consists of Gandhagam (Sulphur), and the other ingredients are coconut oil, cucumber, egg white. Honey was used as an vehicle to promote their activity. Gandhagam has been reported to have astringent action [1]. Gandhagam can increase skin [2] health and it act as essential dietary mineral used in skin health and overall wellness of the body. Gandhagam deficiency in our body leads to progression of inflammatory skin diseases. Psoriasis has been treated with Oral Sulphur along with zinc2. In

our siddha text Gandhagam is indicated for skin disorders, veneral diseases, general debility etc., (Thiyagarajan 2006) Coconut oil is used as a skin toner (Murugesa Mudhaliyar 1936). Egg white has an demulcent action (Gunapaadamthathu & jeevavaguppu). So this research article is useful to explore the Antihistaminic activity of herbo mineral formulation GC in laboratory animals.

MATERIALS & METHODS

Preparation Methods of GC: GC has been prepared by the following method as per the text book.3

Ingredients

1. Gandhagam (Sulphur) – 1400gm (40 palam)
2. Coconut oil – 2800gm (80 palam)
3. Egg white – Quantity sufficient.
4. Cucumber – 4 in number

Purification: Take large pieces of Nellikkai Gandhagam (Sulphur) and embedded it in 3 to 4 long cucumber. Wrap the cucumber with thread. Heat the coconut oil in a pot and put that wrapped cucumber until the threads become charred. Allow it to cool and stored in a container.

Preparation: Then the purified Gandhagam (Sulphur) is grounded with egg white for 3 hour (1saamam) and made into pills of the thetrankottai seed size (500mg) and dried in sunshade. After that the pills are placed inside the egg shell and it is covered by 3 layers of mud pasted cloth (seelaiman) and are subjected for incineration (pudam) with 15 palamearu (cow dung cake-525gm). Then the content is cooled and triturated in a stone mortor and then stored.

Dose: 65mg twice a day.
Adjuvant: Honey.
Duration: 48 days.
AIM: To evaluate the pharmacological activity of the siddha drug GC.3

ANTI- HISTAMINIC ACTIVITY

Animal Grouping

Group I- Negative control - single intra plantar injection of 0.1 ml of 1 % of histamine
Group II- Histamine + Low dose of test drug

Group III- Histamine + High dose of test drug

Group IV- Histamine + Standard Phenylbutazone (100 mg/kg) p.o

Histamine Induced Paw Edema: Exposure of rat's hind paw to histamine resulted in a marked increase of paw tissue weight and skin thickness. Single intra plantar injection of 0.1 ml of 1 % of histamine will produce significant increase in paw volume.

Paw Volume: The change in hind paw volume was measured using plethysmometer and expressed as mean paw volume of left hind paw of the rats. After the induction of paw edema, the increase in paw volume was calculated before and after histamine injection at a fixed interval of 0, 60, 120, 240 and 180 mins the change in paw volume was measured as the difference between the final and initial paw volume. Test drug were administered as solution to the test groups 60 mins before the histamine injection. Standard Phenylbutazone (100 mg/kg) were used as standard drug and administered as CMC suspension by oral route.

Paw volume (ml) was measured on days /Mean Displacement

Value (ml)

GROUP I

Histamine 240

induced group Omin 60 min 120 min 180 min Min

Mean

Std. Deviation 0.25 0.42 0.88 0.92 1.12

Std. Error 0.03 0.088 0.066 0.071 0.06

Std.error 0.052 0.011 0.016 0.082 0.044

Phenylbutazone 240

(100 mg/kg) p.o Omin 60 min 120 min 180 min Min

Mean 0.26 0.28 0.31 0.33 **0.35**

Std. Deviation 0.015 0.027 0.041 0.067 **0.092**

Std. Error 0.04 0.005 0.003 0.007 **0.002**

240

Low dose Omin 60 min 120 min 180 min Min

Mean **0.27 0.38 0.59 0.73 0.89**

Std. Deviation **0.02 0.08 0.05 0.04 0.06**

Std. Error **0.03 0.02 0.01 0.02 0.02**

240

High dose Omin 60 min 120 min 180 min Min

Mean **0.25 0.54 0.63 0.77 0.84**

Std. Deviation **0.01 0.07 0.05 0.05 0.06**

Std. Error **0.03 0.05 0.05 0.08 0.06**

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Mean changes in paw volume using mercury Plethysmometer in rats n=6, values are expressed as mean ± SEM.

RESULTS & DISCUSSION

Statistical Analysis: Effect of GC in animal model was effective and highly significant.

Software: spss17 version

Test: Paired t test

Confidence Interval: 95%

Correlation coefficient (r): 0.736

Mean difference ± SD: 17.07 ± 8.41

P Value (2 tailed): p<0.01.

Inference: Since the P value is highly significant (<0.01).Hence it is concluded that the GC was effective and significant.

DISCUSSION

The test drug GC indicated for the chronic skin ailments which can be substantiated by the above studies. The test drug had shown the moderate anti- histamine (both acute & chronic) action at 200 mg/b.wt. The test drug GC had revealed significant anti- histamine action in the rat.

CONCLUSION

The test drug Gandhaga Chunnam can be used in treatment of psoriasis and other allergic skin diseases. Pre clinically it has proper pharmacological effect on anti- histamine property. So these scientific investigations may be utilized to develop drugs from the siddha literary source for many chronic ailments. Further research is deserved to find out the clinical efficacy of the test drug Gandhagachunnam responsible for the observed biological activity. [6]

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