



**STYPTIC ACTIVITY ON SIDDHA DRUG KADHALIPOO RASAYANAM
AGAINST ADRENOCHROME INDUCED HAEMORRHAGIC RATS**

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ABSTRACT

Background: This preclinical study was designed to evaluate the styptic activity of the Siddha drug Kadhalipoo Rasayanam by using dunnett's test methods on animal models. Inference: By the observed results, the values of trial drug treated animals were compared with the positive control drug.

KEYWORDS: Kadhalipoo rasayanam, Styptic activity and Adreno chrome.

INTRODUCTION

The present study was undertaken to study styptic activity of Kadhalipoo Rasayanam was assessed by the following parameters such as thrombin time, prothrombin time, clotting time, bleeding time, fibrinogen and activated partial thromboplastin time, were screened in albino rats. Kadhalipoo Rasayanam, a widely used drug in siddha system of medicine, often used to treat Menorrhagia. Due to the widespread use of this drug in clinical practice to treat several diseases, the aim of the kadhalipoo rasayanam study was to gain data on the styptic activity of this siddha formulation.

MATERIALS AND METHODS

Aim

Aim of the study is to evaluate the safety and efficacy of the siddha drug Kadhalipoo Rasayanam.

Materials used.

The experimental procedures described were reviewed and approved by institutional animal ethical committee of K.K College of Pharmacy, Chennai-122, and the IAEC approval no.KKCP 2013/009.

Animals

Wistar Albino rats of either sex, weighing 150 g to 200 g were purchased from King Institute of Preventive medicine Animal House, Chennai, India. Animal ethical guidelines of CPCSEA, Ministry of Animal Husbandry and Welfare, Government of india were strictly followed for the care and maintenance of procured animals. The

animals were take food on standard rodent pellet and RO water was provided *ad libitum*. The animals were kept for overnight fasting before experimentation.

Drug profile

Adrenochrome is a chemical compound produced by oxidized adrenaline. its chemical name is 3 - hydroxy -1- methyl -2,3 - dihydro -1H - indole -5,6 -dione. adrenochrome is induced psychotic reactions that it is change mood, behaviour and also triggered hallucinogenic effect. This drug may play a role in schizophrenia and other mental disorder. The drug purchased from ciron drugs and pharmaceutical pvt ltd.

Uses

The drug adrenochrome is a metabolite of epinephrine or metabolized pharmaceuticals epinephrine. The epinephrine used in treatment of allergic reactions that it is foods, insect bites, other drug allergies and also has a haemostatic effect which stops bleeding.

EVALUATION OF STYPTIC ACTIVITY

Procedure

Animals were randomized four groups of six animals each. group I received vehicle, group II and III received trial drug at the dose of 30 and 60mg/kg. group IV served as standard. The animals were administered the trial drug orally and the blood sample were collected periodically for evaluation.

Grouping

Group 1	Control	Distilled water 2ml, po, single dose
Group 2	Trial drug	Kadhalipoo Rasayanam (30 mg/kg), po, single dose
Group 3	Trial drug	Kadhalipoo Rasayanam (60 mg/kg), po, single dose
Group 4	Standard	Adrenochrome (Sigma) 10 µg/animal/i.p, single dose

Clotting time

The tail of the animal warmed for 1min in water at 40°C, dried and cut at the tip with a razor blade. A 25µl sample of capillary blood was collected into a microhaematocrit glass capillary. The chronometer was started when the blood first made contact with the glass capillary. The chronometer was started when the blood first made contact with the glass capillary tube. The blood left to flow by gravity between the two marks of the tube, 45 mm apart, by tilting the capillary tube alternately to +60° and -60° angles with respect to the horizontal plane until blood ceased to flow (reaction end point).

Bleeding time

The tail of the rat warmed for 1 min in water at 40°C and then dried. A small cut was made in the middle of the tail with a scalpel. Bleeding time started and noted when the first drop touched the circular filter paper and 30s intervals until bleeding stops.

Prothrombin time

0.1 ml of plasma mixed with 0.2ml of pt reagent (calcium thromboplastin) maintain 37°C, and absorbed the animals until formation of the fibrin clot. The time should be noted.

Activated partial thromboplastin time

0.1ml of plasma with 0.1ml of APTT reagent (cephalin-karolin suspension) incubated 37°C for 5minutes and then adds 0.1ml of 0.025ml cacl₂ solution, until formation of the fibrin clot visually detected. The time should be noted.

RESULTS

Parameters	Control	Group I KPR (30mg/kg)	Group II KPR(60mg/kg)	Group III AC(10µg)
Bleeding time (s)	88.33±1.667	88.01±0.819	86.72±3.178*	85.83±2.713**
Clotting time (s)	117.5±2.814	116.08±1.58	106.4±1.867*	100.8±2.386**
Prothrombin Time(s)	25.67±0.954	25.33±0.802	20.081±1.556*	19±1.033**
Activated thromboplastin time(s)	25.33±0.714	23.83±1.822	20.01±0.165*	14.02±1.033**
Thrombin time (s)	30.5±1.285	24.77±0.502	19.6±0.7191*	14.33±1.085**
Fibrinogen (mg/dl)	192.7±4.372	166.02±7.330	134.61±6.383*	117.5±2.141**

RESULTS AND DISCUSSION

In that study, No specific signs of toxicity were seen in any of the animals. The drug Kadhalipoo Rasayanam is expected to arrest or control bleeding. The test results of bleeding time, clotting time, prothrombin time, thrombin time, fibrinogen time values shows good result while using the trial drug Kadhalipoo rasayanam. Values are expressed as mean ± S.D followed by Dunnett's Test. *P < 0.05, **P<0.01, ***P< 0.001 compared.

Fibrinogen time

0.25ml of animal blood plasma add 0.05ml of saline, and incubated 37°C. After 30's add 0.1ml of streptokinase solution, wait for 30's, then add 0.1ml of bovine thrombin added. Start the stopwatch. 30 are later which time the fibrinogen clot formed.

Animal blood collection

For the remaining blood coagulation variables like prothrombin time etc, animals were anaesthetized with chloral hydrate (4% solution, 7ml/kg) prior to blood withdrawal. Arterial blood was collected by aspiration from the abdomen aorta which provided an abundant sample free of hemolysis. The blood sample immediately emptied into a plastic tube containing 0.11M sodium citrate at a ratio of 1:10 anticoagulant blood, gently mixed and centrifuged at 2500 g at 4°C for 10 min. plasma was separated and maintained in ice bath throughout its processing.

METHOD

After, one hour of treatment to the above respective groups, the following parameters such as bleeding time, clotting time, prothrombin time, activated partial thromboplastin time, thrombin time and fibrinogen were screened.

Statistical analysis.

All experimental results were expressed as mean ± SEM statistics was determined by student t test followed by Dunnett's Test. By using Graph PAD Prism 5.

INFERENCE

By the observed results, the values of trial drug treated animals were compared with the positive control drug Adrenochrome 10 µg/animal/i.p, single dose. The results (mean value) are assured as a good styptic activity response of trial drug.

CONCLUSION

By the observed results, the values of trial drug Kadhalipoo Rasayanam treated animals were compared

with the positive control drug Adrenochrome 10 µg/animal/i.p, single dose. The results (mean value) are assured as a good styptic activity response of trial drug.

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