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Ante helmenthic property of Karchura (Curcuma zedoaria.Rosc) an Experimental Evaluation.

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Abstract

The medicinal values of plants lies in some chemical substrates (Rasapanchak) that produce a definitive physiological action on the human body.The presently undertaken drug Karchura commonoly used for several diseases as a main prepration. Karchura has got much significance for its various pharmacological activities. The genuenity will be ensured through subjecting drug to physicochemical tests of API standards. There are many fatal diseases in world among which Helmenthiasis is one. More than 1/3 of world population is infected with worms. Infestation can cause morbidity and some times death by compromising nutritional status, so it should have to treat the disease as early as possible.So experimental trial was taken on Krimi with Karchura.

Keywords-*Karchura,Helmenthiasis, Krimi*

Introduction

Helmenthiasis is infestation with one or more intestinal parasitic worms . It is major public health problem in the world. It is the most common

manifestation seen especially in growing children. This infestation is found throughout the world, but more prevalent in the developing countries of tropical and subtropical regions. In India it is quite widely prevalent and incidence is very high especially in poor rural population. More than 1/3 of world population is infected with worms . WHO estimated that infection with round worm (Ascaris lumbricoids), whip worm(Trichuris trichiure) and hook worm(Aneylostoma, duodenale and nacator americanus) with associated morbidity , affect approximately 250 million , 46 million and 151 million people respectively .About Half of the population in south India and 50 % of school children in tribal are as of central India are infected with Ascaris lumbricoids, Trichuris trichiure and hook worm. Thus worm infestation as public health problem needs mmediate attention from policy makers in India and South Asian countries. Infestation can cause morbidity and sometimes death by compromising nutritional statu ,affecting cognitive process inducing the tissue reaction such as granuloma and provoking intestinal obstruction or rectal prolapsed . Which adversely affects the physical and mental growth. It is posing a great threat to the integrity of health, growth and development of growing children. For this modern system of medicine have many drugs like Albendazole, Mebendazole, Pyrantel and Levamisole .

Each of these drugs are recommended by WHO for using large scale control program. They are all broad spectrum benzimidazole Anti-helmenthic. Although there efficacy against individual helmenthiasis , these drugs are also having some adverse effects like GI discomfort , head ache, dizziness, drowsy, insomnia, abdominal pain, nausea, vomiting, skin rashes and continous usage leads to carcinoma.By reviewing the history of vedic and Ayurvedic literature the great number of evidences for worm infestation (helmenthiasis) areavailable . In Ayurveda this condition has been dealt as Krimiroga.The importance of single drug therapy is increasing day by day hence more and more plants are screened to understand there pharmacological actions. The advantage of single drug therapy over compound

therapy. It is very easy and convenient from the point of processing and administration.

Among the many Krimighna dravyas the KARCHURA (Curcuma zedoaria. Rosc) is one of the important drug. The drug is having much significance and importance being extensively used for Krimi , swasa , kasa, pleeharoga , kusta , arsha , vrana , and gulma.The properties of drugs are Katu, Tikta rasa, Teekshna Guna, Ushna Veerya, Katu Vipaka, it acts as mainly Krimighna. It is also easily available and cost effective. It is quite reliable techniques to determine specific action of a drug Karchura. Thus it is simple, easy and convenient for patient and physician. Hence in this study the "Ante-helmenthic property of KARCHURA(Curcuma zedoaria. Rosc) an experimental evaluation" has been selected.

AimAndObjective-

1. To see the efficacy of the drug KARCHURA(Curcumazedoaria.Rosc).
2. ToevaluatetheKrimighna effect of KARCHURAMOOLA KASHAYA on Earthworms.

Methodology-

The genuine drug was collected from its natural habitat. Prepration of sample Karchura Moola Kashaya was carried out at Pharmacy of JGCH'S AMC Ghataprabha.

a) Prepration of the drug:This chapter includes raw drug collection,identification,drying, powdering of Karchura.

b) Phytochemical study and etc:This chapter includes Phytochemical,Physicochemical and Qualitative study of Karchura.

Experimental study:

1. Earthworms:
Nearly 50 Earthworms (Pheretima posthuma)were collected from the KRC College of Horticulture Arabhavi, Tq-Gokak.

2. Control drug:
5%Dextrose purchased from the medical stores was taken as the control.

3. Standard drug:
Albendazole suspension manufactured by Unichem Laboratories Ltd Mumbai ,batch no.02094-UN3was purchased from medical stores and was taken as the standard in this study.

4. Trial drug : Karchura Moola Kashaya is prepared as per the standards of Ayurvedic Classics .With different concentrations of trial drug.

Procedure:

Earthworms collected were washed well with distilled water. Initially to observe the normal motility and reaction of the earthworms and to fix the parameters assessing the motility 10 earthworms and to fix the parameters assessing the motility 10 earthworms were kept separately in 15ml of 5% dextrose in each petridish.

The motility and their reaction while pricking over the head are observed. Observation is done continuously for 30 minutes and then criterias for assessing the motility were fixed. 100ml each of 5% dextrose, prepared mool kashaya of the trial drug and Albendazole suspension (10ml i.e. 200mg dissolved in 90ml of distilled water) are taken separate, separately in 3 small jars.Ten earthworms of approximately same size were placed in each jar. Each of the earthworms is observed for its motility atan intervalof 10min. The reflex reaction while pricking over thehead is specially observed. The time taken for complete paralysis and death of earthworm was noted andrecorded. Thedeathofworms was as curtained by transferring them into a beaker containing warm water at 50C. If worm is alive this will stimulate and induce movements otherwise not.

Groups No of earthworms Study Duration

1. Control 10 Norma lcontrol with 5% dextrose 3 hour
2. Standard10Standarddrug-Albendazole suspension 3 hour
3. Trail 10 Standard dose of Karchura mula kashaya 3 hour

Result-

No change observed in motility of earthworms being placed in the control mediai.e.5%dextrose, they were found to have normal motility and reaction even after 3 hrs of placement.

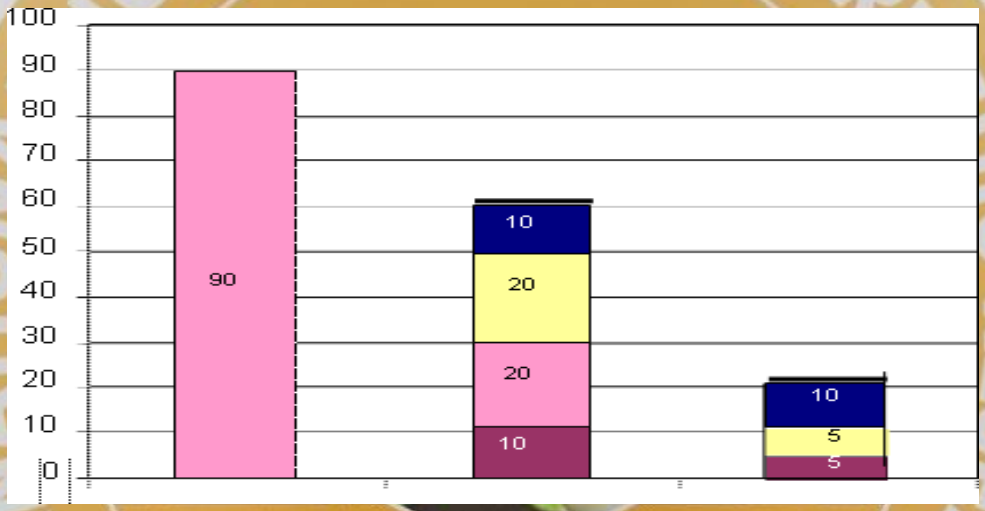
Rapid and marked changes observed in earthworms placed in standard drug media i.e. ABZ suspension. As soon as worms placed in the suspension, rapid irritable movements were seen followed by coiling in 5 minutes. Total paralysis observed in 10 minutes while complete death in 20 minutes . Similar changes were observed,but slowly gradually by taking longer time period,in earthworms placed in trial drug media in the form of Karchur mool kashay.For the first 10 minutes they showed irritable hyper motility.Thereafter they attained normal motility,which continued

for next 20 minutes. Then their motility reduced gradually in the form of coiling

in 50 minutes. The worms coiled and settled at the bottom. After 10 minutes (i.e. in 60 minutes) total death occurred which is as curtained by pricking the head while reflex reaction seen.The effect of control, standard and trial drug media on motility of earthworms is shown in fig No.1

Fig -1

Effect of control , trial and standard media on motility of earthworm



Conclusion-

After subjecting the sample for Physico-chemical,phyto-chemical and Animal Experimental the present study can be concluded as follows.

There is no reference of the drug in vedic period.Since Samhita period Karchura has been used in medicine .Ayurvedic classics have described therapeautic properties of the plant and have indicated in Krimi , Shwas ,Kasa , Arsha , Pleeharoga , Gulma etc.condition.There is no controversy observed as per the identification of the plant Karchura.

Karchura has Katu,Tikta Rasa, Ushna Veery,Katu Vipak,Laghu,Ruksha,Teekshna Guna and Kapha Vata shamak by the achary's of Nighantus such as Bhavaprakash,Kaiyadev nighantu, Dhanvantari Nighantu etc.

The phytochemical studies revealed that the trial drug Karchura has presence of

Alkaloids,Glcocyides,Flavonoids,Proteins and fixed oil.

For the experimental study In Vitro method was done by using Earthworms .They were more suitable for the study. Compared to the Standard Antehelmentic drug Albendazole ,the test drug Karchura showed good result.

Scopeof thefurther study-

1. The study can also conduct on Nemautic worms i.e Nemautic eggs are available and grown in culture media and try this study .
2. Krimighna action of Karchura drug can be taken into consideration for Clinical studies.
3. To identify the actua chemical constituents that are present on the Rhizome of Karchura, which are responsible for Ante helmentic action,suggested to conductfurther research on pure chemical constituents of drug to critically evaluate their activity.

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