

CLINICAL EVALUATION OF ACTION OF KTRATATIKA(SWERIA CHIRAYTA) GUDUCHI (TINOSPORA CORDIFOLIA) GHANVATI IN MALERIAL FEVER DUE TO PLASMODIUM VIVAX

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ABSTRACT

Malaria is the most prevalent disease, which is the most destructive, most widely spread and most difficult to control, amongst the tropical diseases. At present at least 350,000,000 peoples are affected by malaria globally and there are between 1,000,000 and 1,500, 000 malaria deaths per year. Therefore actual selection and definition of specific anti malarial measures and even a particular task, appropriate to any given situation should be based on an analysis of the epidemiological, social, economic and political aspect of the situation. In recent years, emphasis of the worldwide struggle against malaria has changed from an attempt to control the disease. Unfortunately, malaria is again on the increase in many countries. Mainly owing to the natural ability of the malarial parasites and their insect vectors to acquire resistance to the chemicals used against them, so also unwise use of these majors, the movements of population and political instability, the present day increasing, resistance of the mosquito vector to usual insecticide, development of drug resistance to stain of malaria parasite and cut backs in many malarial programmers; hence lead to worldwide recurrence of these diseases. In *vishamjvara chikitsa*, there are different types of drugs described. Interesting thing is that most of drugs are bitter (*tikta*) in taste. *Kiratatikta –guduchi ghanvati* is to be administered in *vishamjvara*. Pilot study at the time of M.D. Synopsis was carried out with same doses i.e. 1 gm thrice in day in ten patient, we had satisfactory results in ten patients. Therefore, we had decided to go with this combination for *vishamjvara* i.e. malarial fever. Selection of patients were not below 15 years and above 65 years i.e. including adult male and non-pregnant females, because if fever continues there may be serious complications like, cerebral malaria. Thirty patients were selected for this study. A total thirty patients were given ‘*kiratatikta –guduchi ghanvati*.for seven day

Key words: *Guduchi, kiratikta vishamjvara, ghanvati, chikitsa*

INTRODUCTION

Today we are living in a mechanical era. This has changed the sight of viewing objects everything become materialistic. Positive health being & longevity of the life span have always remained the priority of

human beings for which his intellect and efforts are in constant pursuit since times immemorial. From ancient times man is constantly engaged in progressive research work dealing with evolution of disease

process and methods to prevent and or cure diseases, which might help to achieve the said goal. Aired, which literally means the science of life, is the oldest existing health care system a heritage of India.

It has been recognized by the World Health Organization as an effective complementary health system. Ayurveda an ancient science is the complete guide for the human being in his healthy state or in diseased state or in the other words ayurved is promulgate for the sake of human being who is the prime subject of this ancient science. *Jvara* is one such ailment, which seems to be leader of all the different ailments as it is a separate disease entity and also found as symptom of so many diseases. Hence all the ancient samhita have elaborated. *Jvara* is a foremost disease in the group of various diseases.

There are various types of *jvara* described “*vishamjvara*” is one of them one of the major types of *vataja-jvara*, is ‘*vishamjvara*’ which is characterized by occurrence of irregular pattern with periodicity and cold and hot stages and has various pattern of paroxysms is known as *vishamjvara*. Depending on the characteristics of paroxysms *vishamjvara* is classified as *santata* (continuous fever) *satata* (Twice in one diurnal period) *anyedyuska* (Quotidian fever), *Tritiyaka* (tertian fever), *chaturthaka* (Quart an fever) and *viparyaya* of last two. A single bout or rigor of malaria fever consumes 5000 calories. Loss of energy leads to the problem of malnutrition and low birth weight of the child. The above-mentioned subtypes of *vishamjvara*, resembles malarial fever. All types of permutations and combinations of fever seen due to mixed infections, which might be caused due to multiple bites of vector.

Hence the present study was planned to study patients of *vishamjvara* with malarial fever due to plasmodium vivax. P.Vivax is taken for study because it has not having more and serious complications like falciparum. The malaria is the most destructive, most widely spread and most difficult to control amongst all tropical diseases. Ayurvedic text mentions various plants and other formulations for the treatment of *vishamjvara*, e.g. *Swertia chirata*, *Alstoniasolris*. *Nyncytanthus arbo-tristis*, *Tinosporea Cordifolia*, *Mahasudarshan kwath ghanvati*, *vishamjvarantaka loha* and so on. It was decided to study the effect *Swertia chirata* and *Tinosporea cordifolia*, well known and commonly found plants in the patients of *vishamjvara*, with blood smear positive for malaria parasite due to plasmodium vivax. References of *kiratatikata* and *Guduchi* as an effective medicine in *vishamjvara*, are also found in various *Nighantu* and material medicas like compare material medica, vanaushadi chandrodayes, Indian material medica and so on. These both drugs are found all over Indian continent as will be seen later by its original nomenclature and is safe, cheap effective and readily available plant the criteria, which fit into the concept of ideal medicine as, proposed in *chikitsa chatushapada*. These are tremendous scope to efficacy of indigenous plants at this juncture. Ayurvedika texts are full of practical knowledge of these plants in combination or as a single drug. Here we use combination of drugs, which is used in *Ghanvatiform*. This *vati* is more convenient than *kwath*, *choorna* or *kalka*.

This is our sincere and humble effort primary to find a solution to the global

problem of Malaria which in particular has achieved serious dimensions in our country, to help the Government of India to achieved its goals and lastly to bring Ayurveda' to its height to glory. However little and insignificant efforts it may be, may it be a small contribution to Ayurved.

MATERIALS AND METHODS

1) **Aim and objective:** a) To study the clinical profile of *vishamjvara*. b) To observe the *Jvarghana* (antipyretic) effect *kiratikta* with *Guduchi* in the patients of malarial fever due to *plasmodium vivax* and especially for antimalarial effect.

2) **Material and methods:** -selected drug with dosage and number of patients:-

Capsule /tab (*Ghanvati*) made from aqueous extracts of herbs '*SWERTIA CHIRAYITA*' and '*TINSOPORA CORDIFOLIA*' in equal proportion is to be administer with the dosage 1 gm thrice a day at regular intervals for seven days and total of 30 patients are to be admitted for this trial on I.P.D. basis.

The all 30 patients included in this trial will be participating after taking written consent and information about the vyadhi and its treatment.

• **Participating Center:** M. A. PODAR HOSPITAL, WORLI, MUMBAI--- 400018 was center.

• **Inclusion criteria:**

• A patient should satisfy all the following criteria for entry to the trial.

1. Age 15-65 yrs. (Adult male and non pregnant females)

2. Positive blood smears for malarial parasites of *plasmodium vivax*.

3 Along with positive blood smears immunological test should based on "parasite specific enzyme for P-vivax will be done at initial stage and on the 7th day

for specific diagnosis and curation of patient.

• **Exclusion criteria:**

1. Age below 15 yrs and above 65 years (Pregnant females)

2. Suffering from malaria due to *plasmodium falciparum*

3. Patients suffering from major illness like cirrhosis of liver, acute renal failure, intestinal tuberculosis, AIDS OR HIV syndrome etc.

4. Having Hemoglobin less than 9 gms.

Parameters of assessment: The patients included in the trial have been monitored with the help of classical Ayurvedic text. The following parameter of assessment are seen,

• Mainly temperature and rigors are observed along with all other with 10 symptoms & signs including temperature and rigors are observed.

• All the patients were followed minimum for 7 days clinically on I.P.D basis Body temperature was recorded every 4 hours and along with rigor, are also noticed at that time.

• Think, Thin positive blood smears of all patterns were taken for trial and for parasite typing were carried out basically and on initial day and on seventh day also.

• Parasite count was done on day '0' and '7th' day.

• Our of selected 30 patients 10 patients 'optimal test' was done on 'o' day and '7th' day of the trial.

• In case of patients who are otherwise a febrile but their blood smear show parasitaemia, their blood smears were studied on every '3'rd day.

- Primarily the *lakshanani* of *vega-avastha* and *lina-avastha* described in the next chapters ‘Vishamjvara’ *nidan* noted.
- Status of liver and spleen with respect to their enlargement is noted.

Investigations: -

- 1 Thin and Thick smears were done on ‘0’ day and ‘7’ day of the trial.
- 2 The parasite count was done on ‘0’ day & ‘7th’ day count becomes negative or absent.
- 3 Optimal test i.e. immunological test based on parasite specific enzyme LDH of *P. vivax* was done ‘0’ day and ‘7’ day in ‘10’ patients.
- 4 CBC, ESR was done on the first day of admission.
- 5 LFT, RFT, BSL ® was done on the first day of admission.
- 6 Urine test was done on first day of admission.
- 7 Abdominal sonography, chest x-ray and ECG were done if clinical findings are observed or if necessity.

RESULTS AND OBSERVATION:

Total patients infected with *p. vivax* are ‘30’.

Total cured patients are ‘27’.

‘19’ patients fall in group ‘A’ showed maximum parasite count ‘3988’ and minimum parasite count ‘1768’ .out of ‘30’ patients ‘19’ patients in group ‘A’ showed highly significant results.

a.) ‘8’ patients fall in group ‘B’, showed maximum parasite count ‘5190’ & minimum parasite count ‘2356’ .so out of ‘30’ patients, ‘8’ in group ‘B’ having significant results.

b.) ‘3’ patients are not relived by medicine. They are not improved clinically and also their blood smears remained positive for malaria parasite on the ‘7th’ day.

STATISTICAL DATA: ‘30’ patients were observed during trial and according to *lakshana* statistical data is as follows. **Table No.1**

Sr.No.	Symptoms & signs	Mean	S.D.	S.E.	‘t’ value	‘p’ value
1.	<i>Shaitya</i>	2.3	0.82	0.14	16.4	< 0.001
2.	<i>Santap</i>	2.5	0.83	0.15	16.6	< 0.001
3.	<i>Trushna</i>	1.8	0.64	0.11	16.3	<0.001
4.	<i>Aruchi</i>	2.0	0.60	0.11	18.1	<0.001
5.	<i>Shirshoola</i>	2.2	0.51	0.09	24.4	<0.001
6.	<i>Angamarda</i>	2.2	0.58	0.10	22.0	<0.001
7.	<i>Hrullasa</i>	1.6	0.48	0.08	20.0	<0.001
8.	<i>Durabalya</i>	1.9	0.47	0.08	23.7	<0.001
9.	<i>Annanabhilasha</i>	1.4	0.72	0.13	10.7	<0.001
10.	<i>Chardi</i>	0.6	0.8	0.14	4.2	<0.001

LAKSHANOPALABDHI: In the selected 30 patients for the study 10 main *lakshanas*

(symptoms) were noted. The number of patients with various *lakshan* is given below.

TABLE NO. 2

Sr.No.	Symptoms & signs	No. of patients	‘0’ th DAY	‘7’ th day
1.	<i>Shaitya (chills)</i>	30	30	03

2.	Santap (temperature)	30	30	03
3.	Trushna (thirst)	30	28	02
4.	Aruchi	30	30	02
5.	Shirshool	30	30	04
6.	Angamarda	30	30	03
7.	Hrullasa	30	30	02
8.	Dauabalya	30	30	02
9.	Annanabhilasha	30	28	01
10.	Chardi	30	14	01
Total		300	280	23

TABLE NO 3

Sr.No.	Description	Group	Percentage
1.	Total patient observed	30	100%
2.	Total lakshana observed in 30 patients	300	100%
3.	Total lakshana observed on '0'th day in 30 patients	280	90%
4.	Total lakshana observed on '7' th day	23	6.75%
5.	Total lakshana not observed in 30 patient on '0'th day	20	6.40%

TABLE NO 4: UPSHAYA-ANUPSHAYA LAKSHANA

Sr.No.	Description	Group	Percentage
1.	Upashaya lakshana	259	86.33%
2.	Anupshaya lakshana	21	6.97%

DISCUSSION

Kiratatikta – guduchi ghanavati was administered to all the patients included in the study for minimum 7 days. The period of administrating ghanavati is seven days on the basis of traditional experience. Conclusions are done on the basis of clinical observation & statistical results of the study. As jvara is the king of disease it causes death of all creatures & is of serious nature. Hence chikitsak (physician) should make special efforts for its cure. After the administration of ghanavati the percentage of upashaya lakshana is 86.3 % & anupshaya lakshana is 6.75 % after the end of 7th days. It is concluded that the drug does not show 100 % results i.e. 85 % patients were cured.

15 % patients were not cured within 7 days. The improvement of symptoms & signs was noted at the end of 7th day. Santap i.e. fever subsided between 3 to 5 days & completely comes down at the end of 7th day. Other symptom like shaitya, aruchi, shirshool, etc also showed significant result. At the end of 7th day the 'P- value' of these lakshanas was moderately significant. At the end of the study the results were assessed & concluded on the basis of patient's observations, data & statistical analysis. It means that the study has shown significant results. This ayurvedic formulation is fully capable to treat the visham jvara i.e. is malarial fever with the action of deepan, amapachan, agnivaradhan & proper settlement of jatharagni.

CONCLUSION

From the clinical evaluation *kiratatikta – guduchi ghanavati* in *visham jvara* we can conclude that this formulation is “highly efficacious” & dependable drug or choice of drug for the management of *visham jvara* i.e. is malarial fever due to plasmodium vivax. Looking at the result obtained in this study, it can be safely concluded,

1. Drug is safe for internal use.
2. Result of the trial are sufficiently good to recommend the drug in the treatment of *visham jvara* i.e. malaria.
3. The drug is well tolerated.
4. None of the patient exhibited any toxic or side effect with use of *ghanavati*
5. *Ghanavati* formed is more convenient for patients than *churna or kwath*

The present study proves that efficacy of ‘*kiratatikta – guduchi ghanavati*’ in the management of malarial fever due to P. vivax. The cure rate is 86.3% means percentage of *upashya lakshana* is 86.3 % which is highly significant. By observing the encouraging result & more convenient form i.e. *ghanavati* may become the ‘choice of drug’ in malarial fever due to P. vivax i.e. *Vishamjvara*. However further studies are suggestive to know the detailed proper mechanism of action on large number of patients and other scientific parameter in the management of *vishamjvara* i.e. malaria by using this ayurvedic formulation.

REFERENCES

1. J.E.Park & B.K.Park –Text book of preventive social medicine, publisher-bhunaut, 18th edition 2005
2. Author Guyton –Text book of medical physiology, Harcourt asia pte.Ltd., 9th edition 1 December 1998

3. Davidson-Davidson’s principles of medicine practice ,publisher- Churchill Livingstone, 1 December,1996
4. K.D. Chatterjee – Parasitology,Protozoology & helminthology, CBS publishers & distributors Pvt.Ltd-2001
5. Y.P.Munjali ,surendra Sharma-Vol-I API text book of medicine-4th edition 1998
6. Mackie & Mc carteny –Medical Microbiology -1e, publisher-Churchill Livingstone, may 20 -1996
7. Essential malariology –Author-David A warrell, publisher-Hodder Arnold- 3 may-2002
8. Pandit Harisharti paradkar vaidya edited Vagabhata (Arundaata krut tika) – Astang Hruday- Rastiyasanskrit Santhan-2002
9. Kashinath pandeya - Charak samhita Chikitsasthan ,Choukhambha prakashan,Varanasi-1998
10. Amikadatta Shasri-Shushrut (uttartantara) Choukhambha prakashan-39-1998
11. Acharya Bhav mishra- Bhavprakash - 1998

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