

CLINICAL EVALUATION OF TRIKATU CHURNA, MATULUNGASWARAS & MADHU (CHARAKOKTA YOGA) IN SHAKHASHRIT KAMALA

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ABSTRACT

Kamala is one of the most common disease. In about 20% patients, it becomes chronic and life threatening. Maharshi Charak signifies *Kamala vyadhi* as *Shakhashrit* and *Koshthashrit*. The present clinical project is exploratory observational open trial. We planned minimum of 30 patients of *shakhashrit kamala* as our sampling unit of age group 16 to 60 years. The criteria for selection of patient based on clinical features like *shwetvarchas*, *agnimandya* etc as scripted by Charak & on laboratory blood investigations. Charak insisted on *Trikatuchurna* with honey and *matulungaswaras* as *aushadhikalpa* in *shakhashritkamala*. Easy availability and cost wise affordability compel us to choose this *yoga*. The clinical variables assessed are *shwetvarchas*, *agnimandya*, *aruchi*, *atopa*, *hrullas/chardi*, *malavishtambh*, *jvara*, *daha* and *daurabalya* with the help of numerical rating scale on 0, 4th, 7th, 14th, 21st days of the trial. Statically highly significant results were obtained.

Keywords- *Shakhashrit kamala, Trikatuchurna*

INTRODUCTION

Kamala is an ancient disease named as “*Harima*” in Atharvaveda. Today’s customary *Ushna*, *Tikshna*, *Vidhahi* fast food diet makes common cause with this commonly popular disease – *Kamala*. Ayurveda referred *Kamala* as *Paitikna-natmajavyadhi*¹ Ayurvedacarya splits *kamala* as *Shakhashrita* & *Koshthashrita*. *Kamala* can be co-related with Jaundice, a disease marked by yellowness of skin resulting by an increased bilirubin concentration in the body fluids. This *raktapradosajavikara - kamala* is very commonly occurring disease, widespread throughout the world, shared by all ages, sexes & economical classes. In about 20% patients it becomes chronic & life threatening. Complications like ascites, liver cirrhosis, hepatic coma, cancer of liver, hepatic encephalopathy are part & parcel of Jaundice. Thus there is, indeed, a reason for concern.

Charaka praised highly of *Trikatuchurna* with Honey & *Matulungaswarasa* as a valued *kalpa* in treating *Shakhashrita kamala*. Non controversial status of *Trikatu*, easy availability throughout the year & cost wise affordability, compels us to choose this *yoga* as our therapeutic tool. Curbing *Kamala* epidemic at an individual & a societal level is as daunting a challenge. To assess the tolerability & therapeutic impact of the *Trikatuchurna* as *Kaphashamaka* & *Pittavrudhikara* in the treatment of *Shakhashrita Kamala* is planned.

MATERIALS & METHODS

Terms are clearly defined & criteria for admission the patient for the clinical study, is framed. Rules are laid down on which the diagnosis of *shakhashrit kamala* is to be based & stage of the disease is to be decided. Acharya Charaka pictured

'Shakhashrit Kamala' as *alpagni, vishthambha, svetavarcas, till pistanibhamvarcas* etc². With these signs, symptoms as tool in hand and with some structured laboratory investigations, we derived representative sample.

Inclusion criteria of patients

Age – 16 to 60 years.

Sex – Male / Female.

Weight – 40 to 70 kilograms.

The criteria for selection of the patient is based on clinical features and laboratory investigations. Availability of sufficient numbers of patients is a primary essential of clinical study. We planned minimum 30 patients of *Shakhashrita kamala* as our sampling unit derived from Mumbai and its suburbs, irrespective of their sex, *kala* and *prakriti*.

Exclusive criteria for patients. Patients suffering from ascitis, myocardial infarction, hypertension, diabetes mellitus, PR bleeding, haemetemesis, cancer of liver, cholecystectomy and pregnant woman were excluded the study.'

Treatment schedule: The management of *shakhashrit kamala* with pungent, sharp, hot, salty and excessive sour substances should continue till stool restores its normal yellowish coloration and *vayu* is pacified³. Charaka, in *Pandurogacikitsaadhya*,(Ch.Chi.16/129)insisted '*Trikatu*' with honey and *Matulungaswarasa* as *ausadhikalpa*, given in *shakhashritkamala*⁴. Effect of *Trikatuchurna* (summation of *pippali,marich&shunthichurna*), *Matulungaswaras* and *Madhu* (honey) in 30 patients made available. In nighantugranthas, likeness in the properties of *Matulunga* and *Nimbu* categorized⁵. Taking this textual remark into consideration and with less availability of *Matulunga*, we opted for *Nimbusvarasa* in place of *Matulunga*. 1 gram each *Pippali, Ma-*

rica&Shunthi administered orally with *Anupanaof Nimbusvarasa* and *Madhu*. The *shakhahsrit kamala* pictured as discoloration of *Purisha* i.e. *shvetavarchasa*. Application of this *Trikatuchurna* continued till stool restores its normal yellowish coloration. Hence the treatment schedule for each sibling differed and sometimes gets extended up to 21 days. Clinical signs and symptoms assessed on 0, 4th, 7th, 14th and 21st day of the trial. Laboratory examinations have done on 0 day for each patient and the next investigation of blood and urine carried out after conviction of reversion of *Shakhashrit Pitta* to *Kostanga*.

Protocol deviation: Application of *Trikatuchurna, Nimbusvarasa&Madhu* in *Shakhashrit kamala* gets broken with the occurrence of symptoms like *pitta prakopa* such as *dahadhikyata, murcha&bhrama*.

Trial design: This was prospective observational open study. Sample unit consisted of 30 siblings with 5 more in case of relapses and dropouts.

Patient consent: A written informed consent has been taken from each patient before starting with the screening. The data of each person kept confidential. The purpose and general objectives of the project duly explained to each patient. The personal focused interview method which involves patients reply in term of oral verbal responses is adopted to formulize data.

Analysis, Assessment & Evaluation: Charakacharya in *Pandurogachikitsaadhya* distinguished the signs and symptoms of *Shakhashrita* and *Kosthashrita-kamala*. We considered nine signs & symptoms i.e. *Agnimandya, Aruchi, Aatopa, Hrullas/Chardi, Malavishtambha, Shweta-varchas, Daha, Jwara, Daurabalya* for assessment of *Kamala* i.e. *shakha-kosthagamanamana* of *dosha*.

Self assessment scoring system

Sr.no.	Signs and symptoms	Criteria	Score
1	<i>Agnimandya</i>	<i>Samagni</i> Less intake but not digest Less intake followed by <i>shirogaurav,kasa,shwas,prasek chardi,gatrasadan</i> ⁶	0 1 2
2	<i>Aruchi</i>	Not present Willing to eat but can not eat due to taste Not willing to eat	0 1 2
3	<i>Aatopa</i>	Not present <i>Udaregudgudshabdha</i> <i>Rujapurvakshobh</i>	0 1 2
4	<i>Hrullas/Chardi</i>	No <i>Hrullas/Chardi</i> Excessive secretion of saliva in mouth Forceful ejection of gastric contents	0 1 2
5	<i>Malavishtambh</i>	Normal consistency of stool Decrease in frequency,volume and fluidity of stool Passage of hard stool,excessive straining ,associated lower abdominal pain and fullness	0 1 2
6	<i>Shwetvarchas</i>	Normal yellowish coloured stool <i>Raktabhpitshakrut</i> Pallor,Claycoloured stool and very offensive	0 1 2
7	<i>Daha</i>	Not present Frequently occurs ,present in specific part of body Continuous,present all over body	0 1 2
8	<i>Jwara</i>	Afebrile Febrile	0 1
9	<i>Daurabalya</i>	Not present Get tired after doing any extra work other than daily roution Always get tired and not willing to do any work	0 1 2

OBSERVATION & RESULTS

The focal point of our clinical research is to study *kosthagamanam* of *pitta* after administration of 'Trikatu' in *Shakhashrit kamala*. Clinical variables like *agnimandya*, *hrullas*, *shvetavarchas*, colouration of urine & stool etc are estimated by special designed follow up pro-forma check sheet. The assessment of good, moderate or bad result contains an estimation of the patient's quality of life. We attempted to collect opinions on the factual

evidence as far as possible. Opinions are guided by a scale of defined values. There is a range of values on a scale against which numerical expression of the opinion is shown. Bias is tried to reduce in this way. Scoring helps us to maintain a consistency of opinion throughout the period of review and abstract evaluation is made possible. Observations withstand statistical analysis the object answering the problem is satisfactorily be achieved. The percentage of effectiveness on the prescription of

Trikatu with honey and Nimbusvarasa is calculated in each patient.

Sex

Siblings having *Shakhashrit kamala* is randomly selected irrespective of sex. The number of male individuals registered are 23(76.66%) where as females are in 7(23.33%) numbers. As sample selection is random, this difference in number appears significant. Males are more mobile, engaged in traveling, drinking unsafe water, addiction of alcohol etc, obviously prone to *kamala*. But the sample size is too small to claim any linking of *Shakhashrit kamala* with sex.

Sr.no.	Age group	Number	Percentage
1.	16 – 30	18	60 %
2.	31 – 45	07	23.33 %
3.	46 – 60	05	16.66 %
Total	30		100 %

Diet

A healthy person should take a balanced diet having all the six tastes in moderate amount. One should take hot, fresh food in good company at appropriate time. In our sample, we observed that siblings are predominantly nonvegetarians i.e.80%. Their diet is rich in fat and calories and lacks the roughage. Textual references detailed *Mamsahara* as *guru, ushna, snigdha* and *kapha-pitta vrudhikara*.⁷

Observation and Result of signs / symptoms

1. Shweta-varchas: It is observed that on the 4th day of therapeutic trial only one patient showed disappearance of *shwetavarchas*. On 7th day of inspection, 18 patients are viewed for *varnaparivartana*. On the 14th day, in 9 patients were restored normal yellowish colour of stool and 21st day of clinical trial 2 patients were associated with discoloration of stool.

In our clinical research trial, disappearance of *shwetavarchas* is significantly observed

Age

Ayurvedacaryas explicitly mentioned *kamala* as *pitta-prakopajanyavyadhi*. We offered age limit of 16 to 60 years. In our random sampling, we found that 18 siblings belonging to age group 16 to 30 years. This particular *vayavasthais pitta-dhatu-pradhan* and is with full of youth and vigour. Siblings belonging in this particular age group are prone for *pitta dusti* and vitiated *pitta* responsible for pathogenesis of *kamala*.

Percentage distribution by 'Age'

in more than 50 % (18) of siblings within first 7 days. Yellowish colouration of stool appears due to reversal of *Pitta* to *kostha*. The average day calculated for the stool to alter its pallor colour to its yellowish colour is found 9.93 (10th day).

2. Agnimandya: Agnimandya, the symptom of *kaphavruddhi*, is observed in 28 siblings on 0 day. With prescription of 'Trikatu', it gradually decreases and on 21st day 10 patients associated with *agnimandya* were found. The mean score value of *agnimandya* is 1.60 and 0.33 on 0 and 21 day respectively. This tapering of level of *agnimandya* occurred due to *dipan karma* of 'Trikatu'.

3. Aruchi: It is observed in our clinical experiment that 30 patients found on 0 day, number of patients tapered down to 15 at the end of the 21 days trial. Though there's found no suggestive change in the number of patients but the grades of *Aru-chi* changed significantly (1.73 to 0.5). The 'z' value obtained by Wilcoxon

signed rank test for *Aruchi* is 3.34 i.e. *Trikatu* with Honey and *Nimbusvarasa* significantly minimizes *Aruchi*.

4. *Atopa*: *Atopa* is the condition related to abdomen. *Atopa* mainly occurs due to aggravation of *vata* dosha. There were 14 patients of *atopa* found on 0 day of the treatment. '*Trikatu*' being *Ushna*, both in *guna* and *virya*, subsides the *vata* dosha. The 'z' value achieved by applying Wilcoxon signed rank test is 2.4489 which again is highly significant at 5% level in our clinical trial with '*Trikatu*' in *shakhashrit kamala*.

5. *Hrullasa* / *Chardi*: *Hrullasa* which is referred as '*Thutkaranam, Hridayasyautklesanam*' associates both with *sharira* and *mana*. One can consider *hrullasa* as primary stage of *chardi*. According to Ayurvedic text, these conditions are observed in *Panduroga* and *Panduroga* formulates the *Kamala*.

21 patients of *Hrullasa* and *Chardi* are observed on 0 day. Out of these, *Chardi* (emesis) appeared in 10 patients. *Chardi* as stated '*Amashayautklesabhava*' by Caraka, gets relieved significantly within 7 days of trial with '*Trikatu*'. The magnitude of symptoms decreased gradually and on 21st day, there were 8 patients *hrullasa* remained seen. The obtained 'z' value is 3.30. Referring to table values of z at 5% level, we can say that *Hrullasa/ Chardi* relieved significantly.

6. *Malavistambha*: It is observed that there are 19 siblings having *Malavistambha* on 0 day. 7 patients are left over with the symptom of *Malavistambha* at the end of the trial. The 'z' value for '*Malavistambha*' is calculated as 2.73 which is higher than the highest 1.96 obtainable by chance.

7. *Daha*: In our clinical trial, there are 7 patients with mild to moderate degree of

'*Daha*' is observed on the 0 day. With application of '*Trikatu*', *daha* is elevated gradually in 1st 7 days, but it is tolerable. It may be due to *Ushna* and *Tikshnaguna* of *Trikatu*. Then it gradually gets down. 6 patients left over with mild symptom of *daha* at the end of the trial.

After applying Wilcoxon signed rank test, '*Trikatu*' is not found, the drug of choice for the symptom '*daha*' in *shakhashrit kamala* as the hypothesis of zero significance is not rejected. Accept H_0 i.e. there is no difference in the symptom of '*Daha*' by using '*Trikatu*'.

8. *Jvara*: *Jvara* was viewed in 18 patients on 0 day. Out of those 65% gets relieved on 4th day of therapeutic trial with '*Trikatu*'. On the last day of trial i.e. on 21st day, only one patient seen engaged with *Jvara*.

9. *Dourbalya*: *Dourbalya* is the symptom which is seen in all the patients in varying degree. Administration of *Trikatu* with Honey and *Nimbusvarasa*, togetherly shows no significant variation both in numbers and magnitude up to 7 days was found. This may be because of *Apatarpanaguna* such as *Ushna* and *Tikshna* of '*Trikatu*'.

Laboratory investigations

Laboratory investigations done on 0 day for each sibling and the next investigation of blood and urine carried out after reversal of *shakhashrita pitta* to *kostha* i.e. disappearance of the symptoms of *shweta-varchas*. Serum Bilirubin, SGOT, SGPT, CBC and Urine analysis are the investigations which are carried out. With the depicted features of '*kosthashrita pitta*' supplemented with relevant laboratory examination, the clinico-pathological impact of the '*Trikatu*' is assessed.

Serum Bilirubin

The direct fraction provides an approximate determination of the conjugated bilirubin in serum. The total serum bilirubin is the amount reacts after the addition of alcohol. The indirect fraction is the difference between the total and the direct bilirubin and provides an estimate of the unconjugated bilirubin in serum.

At 29 degrees of freedom, significant limit for 't' on 5 % level, is 2.05. The observed 't' value is 4.97 times the standard error. The noticed value for the total serum bilirubin is 6.006, for SGOT, it is observed as 4.238 & for SGPT; it is being verified as 5.75. Seeing all this changes in values Liver function test, it is confirmed that in our therapeutic trial, the drug 'Trikatu' administered with honey and *nimbusvarasa*, produced hypobilirubi-naemia effect.

CONCLUSION

In *Vividhashitapitiyaadhyaya*, MaharsiCharaka featured concept of *koshtha-shakha-kosthagamanam* of *doshas*. Charaka estimated *Vurddhi*, *Visyan-dana*, *Pakadi* five conditions in which retroversion of *shakhashritadosha* follows⁸. The focal point of our research is to study *kosthagamanam* of *doshain shakhashrita kamala*.

Our clinical project is an exploratory observational open trial which involves individuals having symptoms of *shakhashrita kamala* on the limited scale with view to secure greater insight. The criteria for selection of patient are based on clinical features like *aruchi*, *agnimandya*, *jvara* etc as scripted by Charaka & on laboratory blood investigations. The *shakhashrita kamala* pictured as discoloration of *purisha* i.e. *shwetavarchas*. Each sibling representing our sample compulsorily associated with *shwetavarchas*. Applica-

tion of *Trikatuchurna* with honey & *nimbusvarasa* continued till stool restores yellowish colouration. The average day for 30 patients calculated for stool to alter its pallor colour is found 9.93 (10th day). The Wilcoxon signed rank test, a non-parametric test is applied to compare the samples. The achieved 'z' value for '*shwetavarchas*' is 4.78 which is higher than the highest 1.96 obtainable by chance. The 'z' value for *agnimandya*, *aatopa*, *hrullas/chardi*, *malavishtambha&jwara* are 3.41, 2.44, 3.30, 2.73 & 3.72 respectively, which is higher than the highest 1.96 obtainable by chance. Hence it is certainly settled that the test drug *Trikatu* taken with honey & *nimbuswaras*, reduces these clinical symptoms significantly. In case of *aruchi&daurabalya*, there was no suggestive change, but the grades of these symptoms altered significantly. *Daha* was seen elevated initially but it was tolerable. It was due to *ushna, tikshagunas* of *Trikatu*.

The delicacy of the treatment of *shakhashrita kamala* revolves around reversal of *pitta* to *koshtha*. Easy to prepare, affordable & well tolerated with virtually no unwanted effects noted, it is noteworthy to continue *Trikatu* with honey & *nimbuswaras* in *shakhashrita kamala* for satisfactory & convenient results.

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