

**A CLINICAL STUDY ON ETIOPATHOGENESIS OF KOSH
SHAKHASHRITA KAMALA AND ITS SAMPRAPTI VIGHATANA BY
VASADI KASHAYA**

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ABSTRACT

Background: The illustration of *Varna* has been mentioned in our classics with great description. It helps in the categorizing the *Prakruta* and *Vaikruta Varna*. In the present disease *Kamala*, the important sign which a doctor come across is the *Vaikruta Varna* i.e., *Haridra Netradi*. Yellowish discoloration of scleral conjunctiva, skin etc., prompts the onset of this disease which in parlance is correlated with disease of Viral Hepatitis. Liver has been clinically involved in the pathogenesis of this disease, dysfunction of liver cell is responsible for various other constitutional symptoms. About 2.3 billion people of the world are infected with one or more of the Viral Hepatitis. It results in and around 1.4 million deaths each year. *Vasadi Kashaya* has been explained in *Baishajya Ratnavali*, *Pandu Roagadhikara* for *Kamala chikitsa*. It contains five *tikta rasa dravyas* which normalizes the

condition. Considering the increased incident rate and erratic food habits, the present study has been intended to evaluate the efficacy of *Vasadi Kashaya* in *Koshta Shakhshrita Kamala* through *Samprapti Vighatana*. **Objectives:** To study the process of *Samprapti Vighatana* through *Vasadi Kashaya* in *Koshta Shkhshrita Kamala* and to study its etiopathogenesis. **Methodology:** An open labeled single grouped clinical trial with pre and post test design was carried out in 30 subjects aged 16-70 years presenting with classical signs and symptoms of *Koshta Shakhshrita Kamala*. 40 ml of *Vasadi Kashaya* was given before and after food for 28 days. Detailed proforma was prepared to assess the results and observations. **Conclusion:** *Vasadi Kashaya* substantiate that it does interfere in breaking

of *Samprapti*. and does have beneficiary effect in *Koshta Shakhashrita Kamala*. **Results:** The statistical analysis reveals that most of the symptoms of *Koshta Shakhashrita Kamala* shows highly significant result.

KEYWORDS: *Koshta Shakhashrita Kamala*, *Vasadi Kashaya*, *Samprapti Vighatana*, *Varna*, Viral Hepatitis.

INTRODUCTION

According to *Ayurveda Agni Mahabhuta* is accountable for *Shareera Varna*. Among *Saptadhatu*s, *Rakta* is considered as *Jiva (Prana)* of living creatures. In its *Prakruta Avastha*, it endows with strength, complexion, happiness and longevity.^[1] When vitiates, it causes diseases like *Kamaladi Roga*. In the present disease *Kamala*, the vitiated *Pitta* and *Rakta* are being the main culprits and both are *Agni Mahabhuta Pradhana* entities. There will be derangement of normal color and complexion of the skin, alteration in *Mala Pravrutti* and accumulation of excess *Malarooopi Pitta* takes place.^[2]

In *Kamala*, the important sign which a doctor come across is the *Vaikruta Varna* i.e., *Haridra Netradi*. Two variants of this *roga* are noted on the basis of its *samprapti* and *lakshanas*. They are *Koshta Shakhashrita* and *Shakhashrita Kamala* are the two types of *Kamala*, the difference of these two is based on the *Pramana* of *Pitta* implicated. The *lakshanas* of *Koshta Shakhashrita Kamala* mimics with the symptoms of Viral Hepatitis, hence both are clinically correlated.

In India prevalence rate is 3-4%. About 2.3 billion people of the world are infected with Viral Hepatitis. It results in and around 1.4 million deaths each year.^[3] Although Viral Hepatitis being major public health problem across the globe, prevention and control strategies for this are, such as raising awareness through public education, vaccination, blood transfusion safety strategies, early diagnosis and effective medical support can be implemented and novel interventions are available.

Koshta Shakhashrita Kamala being *Pitta Pradhana Vyadhi*, and explained under the umbrella of *Raktavaha Sroto Dushtigata Vikara*. Management of this will throw a light on recommendation of *Shodhana* and *Shamana*. It is highlighted in the literature that a critical understanding of *Samprapti* is the right step in the treatment as *Samprapti Vighatana* is itself the treatment.

By considering all these, present study helps to develop some evidence regarding this aspect. So, with this motto of evaluating the efficacy of *Vasadi Kashaya* in *Koshta Shakhashrita Kamala* through *Samprapti Vighatana* and to study the etiopathogenesis of same disease has been carried out under the heading “A CLINICAL STUDY ON ETIOPATHOGENESIS OF *KOSHTA SHAKHASHRITA KAMALA* AND ITS *SAMPRAPTI VIGHATANA* BY *VASADI KASHAYA*”.

MATERIALS AND METHODS

Sample source

Minimum of 30 patients either gender were selected suffering from *Koshta Shakhashrita Kamala*. Patients were analyzed and selected accordingly fulfilling the diagnostic and inclusion criteria.

Preparation of drug: *Vasadi Kashaya*^[4]

Ingredients

Vasa, Guduchi, Nimba, Kirattikta, Katuki, Jala and Madhu.

All the five drugs were taken in equal quantity and *Kashaya* was prepared according to the classical method as explained in *Baishajya Ratnavali*.

Inclusion criteria

- Patients presented with *Lakshanas* of *Koshta Shakhashrita Kamala*.
- Patients aged between 16-70 years.
- Patients of either sex were taken for study.

Exclusion criteria

- Patients with other systemic disorders and metabolic disorders.
- *Kamala* with *Upadrava* and *Kamala* occurring as a *Upadrava* in other diseases.
- Pregnant women
- Cirrhosis of liver
- Obstructive jaundice
- Genetic liver disorders like Gilbert disease etc.,

Diagnostic criteria

- Diagnosis was made on the basis of *Lakshanas of Koshta Shakhashrita Kamala* mainly *Haridranetra*, *Haridratvak*, *Haridranakha*, *Haridramootra*, *Avipaka*, *Dourbalya*, *Sadana* and *Aruchi*.^[5]
- Raised levels of SGOT and SGPT
- Raised level of Serum bilirubin.

Investigations

- Complete haemogram
- LFT
- Urine Routine
- USG abdomen if necessary.

Study design

It was a single group open labeled clinical study with pre and post-test design.

Intervention

Sample size: 30

Drug: Vasadi Kashaya

Anupana: Jala Duration: 28 days

Dose: 40 ml morning and evening before food

Observation: 7th, 14th, 21st and 28th days of treatment.

Assessment criteria

Assessment was done based on the following parameters.

i. Subjective parameters

- *Haridranetra*
- *Haridratvak*
- *Haridranakha*
- *Haridramootra*
- *Aviapaka*
- *Dourbalya*
- *Sadana*
- *Aruchi*

ii. Objective parameters

- Serum bilirubin – Total
- Serum bilirubin – Direct
- SGOT
- SGPT

Statistical analysis

The obtained data was recorded subjectively and objectively before and after the treatment and it is analyzed with paired 't' test.

Overall assessment of treatment

Effect of treatment is shown in below table which is mentioned in Clinical Study chapter.

Relief	Number	%
Complete	9	30%
Marked	11	36.67%
Moderate	8	26.67%
Mild	2	6.66%
No	0	0

DISCUSSION

Kamala is a *Pitta Pradhanavyadhi* and one among the *Raktavaha srotodushigata vikara*.^[1] It is also considered as *Pittaja Nanatmaja Vyadhi*.^[6] *Kamala* is classified in two types, where the vitiation of *Pitta* decides the *Bahu pitta* or *Alpa Pitta kamala*^[7] condition *Koshta shakhashrita kamala* having excessively vitiated *pitta* hence falls in category of *Bahu pitta kamala*.

Yellowish discoloration of *netra*, *tvak*, *nakha* and *mutra* are primary recognizable symptoms with *aviapaka*, *dourbalya*, *sadana* and *aruchi* are also considered main symptoms.

Present disease is correlated to Viral Hepatitis based on their resemblance in signs and symptoms. It may present in acute form as a recent infection with relatively rapid onset, or in chronic form. The disease presents with an icterus, - yellowish discoloration at different body parts and raised in Serum bilirubin, etc., are recognizable symptoms.

Kamala is quite difficult to diagnose clinically because yellowish discoloration i.e., *peetatva* can also be seen in other diseases like- *pittaja* types of *gulma*^[8] and *arshas*.^[9] Hence laboratory investigation like raise in bilirubin and SGOT & SGPT levels helps in the further

diagnosis of the disease.

❖ Discussion on drug used

The selected medicine (*Vasadi Kashaya*) is indexed as Hepato-protective^[10] and have shown significantly improvement in clinical symptoms and significantly reduction in total and direct bilirubin, SGOT, SGPT which exerts beneficial effect on reduction of liver function tests.

➤ Norms for the selection of *vasadi kashaya*

- Easy availability of drugs and cost effective encourage the success of treatment.
- Preparation of *Kashaya* is simple and easy.
- Ingredients of *VasadiKashaya* are proved as Hepato-protector, Immuno-modulator^[11], Hepato-regenerative.^[12]

➤ Effect of *vasadi kashaya*

- *Deepana- pachana*^[13]
- *Pitta rechana*^[14]
- It works on accordingly on the basis of *Chikitsa Siddhanta*
- *Kamala hara, Pandu hara*^[15]
- *Yakriduttejaka*^[16]
- It also does the *Rasayana karma*.^[17]

➤ Mode of action of *vasadi kashaya*

- *Koshta Shakhashrita Kamala* is *Rakta pradoshaja vikara* which is caused by *vidagdhata* of *rakta* and *mamsadhatu* leads to the *Bahupitta Kamala*.
- *Koshta Shakhashrita kamala* is also known as *Bahu pitta Kamala* where greater amount of *Dosha Sanchaya* and *Dosha Dushti* occur. Hence the main aim is to remove the vitiated *Dosha* and at the same time to prevent the destruction of *Rakta* and *Mamsa*.^[18]
- In *Bahu Pitta Kamala* the drugs which acts on liver as *Yakrutottejaka* and *Yakrut Shodhana*^[19] given which leads to normal flow of bile.
- *Tikta rasa dravyas* are used because they are *Pitta Shamaka* in nature.
- *Vasadi kashaya* is one such drug which has got *Tikta-Katu rasa, Laghu –Rukshaguna, Vayu –Akash Mahabhuta Gunadhikya* which helps in the *Vighatana* of *Samprapti*.^[20]

- The properties of each drug of *VasadiKashaya* are summarized as follows -
- **Vasa** –One of the well-known drug in Ayurveda.it has got *Tikta rasa pradhana* and has been proved hepatoprotective against by D-galactosamine in rats and paracetamol induced hepatic damage.^[21] Ethylacetate extract of *Adhathodavasica* has potent hepatoprotective effect against CCl₄ - induced liver damage in rats.^[22]
- **Guduchi**– It is having *Tikta rasa pradhana*. This drug is proved as –Hepato-protective, Immunomodulatory,etc.,^[23] Ethanolic extracts of all the parts of Guduchi showed significant hepatoprotective effect by alanine aminotransferase (ALT), aspartate aminotransferase (AST) and total bilirubin (TBL) in the carbon tetrachloride-induced hepatic damage in rats.^[24]

Reduction in serum enzymes studies shows that it has the capacity to suppress the Kupffer cells which helps to prevent the hepatocellular damage. As it is one the best *Rasayana*^[25] mentioned in our classics helps to improves immunity.

- **Nimba** – Studies proved that this drug has got Immunostimulant activity and Hepato-protective activity. It exhibited potent hepato-protective activity against anti-tubercular drugs in an experimental study in rats^[26] and *Tikta rasa* and *sheetaveerya* helps in the *shamana* of *Pitta* and *Rakta Dushti*.
- **Kirattikta** – Studies shows that plant extract of *Kirattikta* used in chronic liver damage. It is having anti-viral activity, anti-hepatotoxic activity, hepatoprotective activity.^[27]
- **Katuki** – Being *tikta rasa* and *sheetaveerya* it is *Pitta Shamaka*. By considering its *rogaghnata*, it is *Deepana* and which helps in the *Avipaka* and *Aruchi*. It is also a hepato-protective, immuno-modulatory, antiviral, cholertic effect. It is *Samsrana*, best *Pitta rechaka*. Its active principle picroliv significantly prevents the decrease in the generation of free radicals, which lead to quicker repair of damaged cell membranes.^[28]

❖ DISCUSSION ON RESULT

In this clinical trial, the given drug i.e., *VasadiKashaya* had given good response by showing significant improvement in *lakshana* and as well as laboratory parameters which showed statistically significant.

While assessing the treatment response all the routine investigations were done with LFT, S. Bilirubin-Total, S. Bilirubin- Direct, SGOT and SGPT.

No major or minor unwanted reactions of the drug were observed during treatment period.

- S. bilirubin – Total, S. Bilirubin – Direct, SGOT and SGPT had shown highly significant results with p-value <0.001.
 - While assessing the treatment response patients had shown significant symptomatic relief subjectively.
1. Within 2-3 weeks – *Avipaka, Aruchi, Dourbalya* reduced.
 2. *Haridra netra, Haridra tvak, Haridra nakha* and *Haridra mutra* subsided when icterus reduced.

During the clinical trial, 30 subjects got good and satisfactory response from *Vasadi Kashaya* in above mentioned parameters in initial stage and 100% relief found.

❖ Discussion on samprapti of koshta shakhashrita kamala

It is the process of manifestation of disease by vitiated *doshas* which are constantly circulates in the body. Understanding the *Samprapti* is first and it is the right step in treating any disease. *Pitta and Raktadoshas* are the main culprits in the manifestation of this disease.

Due to *Pitta prakopaka nidana*, *Pitta* aggravates, the aggravated *Pitta dosha* burns the *Rakta* and *Mamsa* resulting in the *Kamala*. Because of *samanagunatva* of *Pitta* and *Rakta*, they both get vitiated more. These intern causes the burning of *Mamsadhatu* leading *Shithilata* of *Mamsa Dhatu* *Dushita Pitta* get mixes up with *Sthanika Pitta* resulting in yellowish discoloration of *netra, tvak, mutra* and *nakha*. Increase in *malaroopa* of *Pitta* in *koshta* resulting in *haridra mutra* and *varchas*.

Patient's complexion becomes yellowish just like that of the frog of rainy season (*Bheka Varna*), and his senses get impaired.

❖ Samprapti vighatana of koshta shakhashrita kamala

The word *Vighatana* means nothing but the destruction or cut off. Destruction of the process of manifestation of disease is called as *Samprapti Vighatana*.

Vasadi Kashaya is a formulation mentioned in *Baishajya Ratnavali* under *Pandurogadhikara*, containing five *tikta rasa pradhana* dravya namely *Vasa, Guduchi, Nimba, Kitratiktika* and *Katuki*. These drugs acts on liver and leads to normal flow of bile.

As *Vasadi Kashaya* is having *Tikta Katu rasa, Laghu, ruksha guna, Vayu-Akasha*

mahabhoota gunadhikya, which leads to *Samprapti Vighatana*.

The properties of *Tikta*, *Katu rasa* is useful in the symptoms of *Avipaka*, *Aruchi* as they pacify the vitiated *doshas* and they promote the *Dhatu poshana* and thus reducing the *Dourbalya* and *Sadana*. As *tikta rasa* is *Rakta shodhaka* and *Pitta shamaka*, it attribute to the reduction in *Haridra* of *netra*, *mutra*, *tvak*, *nakha*, etc.,

The hepato-protective and hepato-stimulant properties of the formulation are responsible for the better results in alleviation of elevated SGOT, SGPT, Total, Direct and Indirect Bilirubin levels.

Samprapti gataka

- *Dosha – Pitta*
- *Dushya – Rakta, Mamsa*
- *Agni – Jatharagni*
- *Ama – Jatharagnijanyaama*
- *Udhhavasthana – Amashaya*
- *Adhishtana – Koshta, Shakha*
- *Srotas – Rasavaha, Raktavaha, Annavaha, Purishavaha*
- *Srotodushti prakara – Atipravritti, Sanga, Vimargagamana*
- *Rogamarga – Abhyantara*

❖ Discussion on laboratory parameters

• Effect of treatment in Serum Bilirubin – Total

Vasadi kashaya shows significant effect in Serum Bilirubin – Total when compared the effect of *Vasadi Kashaya* before and after treatment.

• Effect of treatment in Serum Bilirubin – Direct

Vasadi kashaya shows significant effect in Serum Bilirubin – Direct when compared the effect of *Vasadi Kashaya* before and after treatment.

Usually Serum Bilirubin levels raises in conditions of *Koshta Shakhshrita Kamala*, *Rakta dhatu mala* is *Pitta*, when there is *Dhatwagni mandya*, the formation of *sara* and *Malabhaga* will be hampered. Serum Bilirubin can be taken as *Malaroopi Pitta*, which is found more in conditions like hemolytic jaundice where there is excessive damage of *Rakta Dhatu*. This can

be compared with the *Samprapti* of *Bahu Pitta Kamala* (*Asruk mamsa dagdhwargaya kalpate*).^[29]

- **Effect of treatment in SGOT**

Vasadi Kashaya shows significant effect in SGOT when compared the effect of *Vasadi Kashaya* before and after treatment.

- **Effect of treatment in SGPT**

Vasadi Kashaya shows significant effect in SGPT when compared the effect of *Vasadi Kashaya* before and after treatment.

SGOT and SGPT are sensitive indicators of liver cell injury. Whenever there is increase in enzymes they indicate the *Agni dushti* and *Pitta vrudhi*.

CONCLUSION

In present study, *Koshta Shakhshrita Kamala* can be correlated to Viral Hepatitis as clinical features of both diseases are similar.

Vasadi Kashaya was found to be effective in *avipaka*, *sadana*, *aruchi* and *haridra netradi* observed in patients of Viral Hepatitis. It is also found to be effective in restoration of normal liver function tests like Serum bilirubin –total and direct, SGOT and SGPT and can thus be advised as an excellent mean for the *Samprapti Vighatana* of *Koshta Shakhshrita Kamala*. On the basis of ingredients, it is presumed that it may exert adaptogenic, immune-modulatory effect and interfere in the breaking of *Samprapti* of *Koshta Shakhshrita Kamala*. Thus it is observed that it showed statistically significant relief with $p < 0.001$ in all the symptoms after the administration of drug. Hence, it can be concluded that *Vasadi Kashaya* does have good effect in *Koshta Shakhshrita Kamala*.

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