

PREPARATION AND BIOCHEMICAL STUDY OF KADABA MASHA TAILA

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ABSTRACT

According to *Acharya Bhela* “*Kadambmasha Taila Anuvasana vasti*” is indicated in the ninth month of pregnancy. *Kadambmasha Taila* is mentioned in classics under *Garbhini Paricharya* by *Acharya Bhela*. According to classical reference this formulation contains *Tila Taila, kalka and kashaya of Masha and Kadamba Twak (Barleria prionitis L.)*. Present study aim for preparation *Kadambmasha Taila* and biochemical study of same. For preparing above said *kalka and kashaya dravya* are added to *murchita til taila* and boiled till attaining *Taila Paka Siddhi Lakshanas*. Further it was subjected to Biochemical analysis. Biochemical study reveal. The values obtained from analytical study can be considered for

comparing the values that will be obtained in future preparations and helps to check the quality of raw materials and standardize the finished product.

KEYWORDS: *Kadamb, Masha Taila; Taila Paka; Biochemical study.*

INTRODUCTION

Among the different *kalpanas* (Formulations) used in the treatment, *Taila Kalpana* is the most popular and effective one. Reference in different *Samhitas* and its efficacy in the treatment of different conditions are the reason for its clinical popularity. The main aim of *Taila Kalpana* is to potentiate plain *Taila*, and to convert *Taila* to treat different *Doshas* pacifying or vitiating different condition in different patients. *Tailas* are used in treatment of diseases explained in *Astangas* of *Ayurveda* for both *Bahya* and *Abhyantara Chikitsa*

(internal and external therapies). According to the condition of the disease, the processing of *Taila* with the specific ingredients is the need in clinical practice. *Sneha* (oil) preparations are having better results on *Vataja Rogas* (nervous diseases). *Sneha* is a special pharmaceutical procedure, in which the prescribed quantity of ingredients are added and *Sneha Paka siddhi* is carried out, till desired *Sneha Sidhi Lakshana* is attained. The purpose of *paka* is to potentiate the *taila*. *Kadambamasha Taila Anuvasana Vasti* is mentioned in *Bhela Samhita* for *Sukhaprasava*.

According to *Acharya Bhela* “*Kadambmasha Taila Anuvasana vasti*” is indicated in the ninth month of pregnancy. This *vasti* helps in the removal of *Aama Dosha* and old faeces and do *Anulomana* of *Vayu* which inturns lead to *Sukha* and *Nirupdrav* prasava. So I have taken this study to prepare the *Kadambmasha Taila* and biochemical study is done. *Anuvasana vasti*^[1] in the ninth month of pregnancy for *Sukhaprasava*.

AIM AND OBJECTIVES OF THE STUDY

To collect literary data and material data from authentic sources and prepare *Murchita Tila Taila*, *Kadambmasha Taila* as per classics and to analyse the Biochemical study (organoleptically and chemically) of *Kadambmasha Taila*.

MATERIALS AND METHODS

Methods of collection of data

The literary detail was collected from the authentic text books like *Bhela Samhita*, *Ayurveda Yoga Samgraham* and *Bhaishajya Ratnavali* where it is mentioned to take the ingredients for *Taila Murchana*^[2] and *Kadambmasha tail*^[3] as depicted on Table 1 and Table 2 respectively.

Source of data

Market sample of *Tila Taila* was collected from genuine source. The certified raw drugs prescribed in the formulations were collected from genuine source and drug authentication was done in shri B.M.K Ayurveda Mahavidyalya Belagavi. The Biochemical Study was carried out in the Central Research laboratory of Shri B.M.K Ayurveda Mahavidyalya Belagavi.

Then *Kadamb masha taila* was prepared with *Taila Paaka Vidhi* by adding *kadamb twak*, *masha* (each one part) and *murchitt tila taila* 4 parts and *drava dravya* 16 parts. The drug

under trial have been prepared in *Rasa Shastra* department, shree. J.G.C.H.S Ayurvedic Medical college Ghataprabha. Drug was Prepared according to *Shashtriya Snehapakavidhi*. The drug *masha* is aphrodisiac, carminative, diuretic, laxative, galactagogue and nervine tonic. *Masha*^[5] is specifically effective drug in treatment of *vatavyadhi*.

Method of Preparation

Taila Murcchana was carried with 1:4:16 ratio of *Kalka* (paste): *Sneha* (oil): *Drava Dravya* (liquid). After adding all ingredients the boiling was carried out until *Madhyama Paka*, i.e. the *Kalka* starts to roll between the fingers and no crackling sound was heard when put on fire.

Preparation of Kadambamasha Taila

Kadambamasha Kashaya was prepared by taking the drugs as mentioned in Table 3, Using *Murcchita Tila Taila* as the *Sneha Dravya*, *Kadambamasha Taila* was prepared taking *Kadambamasha Kashaya* as *Drava Dravya* and *Kadamba bark*^[6] and *masha* as *Kalka Dravya* respectively in the above mentioned ratio according to the reference.

OBSERVATIONS

Organoleptic changes observed in *kadambamasha Kashaya* after self-cooling are as mentioned in Table 4. Since the heating process was done in *Madhyamagni* (mild fire), there was no spillage of contents from the vessel.

Table 1: Showing the ingredients of Tila Taila Murcchana.

ingredients	Botanical name	Quantity taken
<i>Tila Taila</i>	<i>Sesamum indicum</i>	6000 ml
<i>Manjishta</i>	<i>Rubia cordifolia</i> Linn	375 gram
<i>Haridra</i>	<i>Curcuma longa</i> Linn	100 gram
<i>Lodhra</i>	<i>Symplocos racemosa</i> Roxb	100 gram
<i>Musta</i>	<i>Cyprus rotendus</i> Linn.	100 gram
<i>Amalaki</i>	<i>Emblica officinalis</i> Gaertn	100 gram
<i>Vibheetaki</i>	<i>Terminalia bellerica</i> Roxb.	100 gram
<i>Hareethaki</i>	<i>Terminalia chebula</i> Retz	100 gram
<i>Ketaki pushpa</i>	<i>Pandanus fascicularis</i> Linn.	100 gram
<i>Vata</i>	<i>Ficus bengalensis</i> Linn.	100 gram
<i>Hribera</i>	<i>Plectranthus vettiveroides</i>	100 gram
Water		24000 ml

Table 2: Ratio of ingredients for *Kadambamasha Taila*.

Ingredients	Quantity
<i>Taila</i>	64 <i>Pala</i> (3072ml)
<i>Kalka</i>	16 <i>Pala</i> (768gram)
Water(<i>Kadambamasha kashaya</i>)	256 <i>pala</i> (12288 ml)

Table 3: Showing the quantity of *Kadambamasha Kashaya* prepared according to *Bhaisajya Kalpna*⁷ (4 parts of water reduced to 1/4th part).

Ingredients	Quantity
<i>Kadamb twak</i>	7.5kg
<i>Masha</i>	7.5kg
Water	60000ml
Total quantity of <i>Kashaya</i> obtained	15000 ml

Table 4: Organoleptic characters of *Kadambamasha Kashaya*.

Organoleptic characters	Observations
Color	Dark reddish brown
Consistency	Thick
Odour	Characteristic <i>Kadambamasha</i> Smell
Taste	Bitter

ORGANOLEPTIC CHARACTERS OBSERVATIONS

The *Sneha Paka Lakshanas* (qualities of prepared taila)^[4] like, *Kalka* became soft, non sticky, can be rolled into *varti* (roll), produced no cracking sound when placed on fire were observed in *Kalka* and *Taila* during the end stage of process.

Precautions which was considered in this study

Continuous stirring was carried throughout the preparation of *Taila* to avoid burning of *Kalka Dravya* and big sized vessel was used to avoid the spilling of *Taila*.

RESULTS

- The observations obtained during preparation of *Taila* are mentioned in Table 5.
- The Organoleptic features of *kadambamasha Taila* are depicted in Table 6.
- The results of standardization parameters *kadambamasha Taila* are mentioned in Table 7.

Table 5: Showing the observations obtained during prepration of *Kadambamasha Taila*.

Ingredients	
Procedure starting Date	12/12/17
<i>Taila</i>	3072 ml
<i>Kalka</i>	768 gram
<i>Drava dravya</i> (<i>Kashaya</i>)	12288 ml
<i>Taila</i> obtained	2950 ml

Grain/loss in ml	122 ml
Grain / loss in %	3.97%
Net Quantity of taila obtained	2950 ml

Table 6: Showing the Organoleptic characters of *Kadambamasha Taila*.

Characters	Observation of <i>Kadambamasha Taila</i>
Colour	Golden yellow
Smell	Characteristic <i>Kadambamasha</i> Smell
Consistency	Thick
Appearance	oily
Taste	astringent

Table 7: Results of standardization parameters.

Parameters	<i>Kadambamasha taila</i>
Refractive Index at 40	1.4670
Saponification Value	198.01
Acid Value	1.97
Iodine Value	115.52
Rancidity	Negative
Specific Gravity	0.9207

DISCUSSION

The Crackling sound and froath was observed when *Kalka* was added to the hot oil initially, which is probably due to the moisture content in the *Kalka*. Continuous stirring is required or else the *Kalka* may stick to the bottom of the vessel thus resulting over charring of *Kalka*. After 5-10 minutes, crackling sound and froath got reduced, this indicates loss of moisture.

As by adding *Drava Dravya*, *Paka* was carried out for 2 days according to classics, for enhancing the absorption of active principles to the *Taila* by increasing the contact of all the ingredients at different temperatures for two nights which potentiates the chemical constituents into the *Taila*.

For preparing both *Kashaya* and *Taila*, *Mandagni* was maintained in order to reduce the loss of active principles due to overheating. Some chemical constituents present in the preparation may change their properties due to effect of thermodynamics.

- **Organoleptic characters**

Colour

The colour of the *Taila* was golden yellow. It had a characteristic odour of *Taila Paka*.

- **Physico- chemical parameters**

Refractive index

The Refractive index measurement can be used for qualitative and quantitative analysis as well as structural study. It is an intrinsic property of a substance. Hence it is used in determining the identity and purity of a chemical.

The R.I. of *Kadambamasha Taila* was 1.4670.

Determination of Saponification value

Medicated oil with high saponification value has a better absorption. The size of the molecule can be determined by this method. It is inversely proportional to the molecular weight of fat. High saponification value indicates the presence of fatty acids of low molecular weight. It is evident that *Kadambamasha Taila* possesses Sap. Value of 198.01.

Determination of Acid value

Acid number signifies the measure of the amount of carboxylic acid groups in a chemical compound, such as fatty acids or in a mixture of compounds. The acid number quantifies the amount of acids. It indicates the presence of free fatty acids in the sample. the presence of free acids and used to indicate the rancid state. Rancidity causes free acid liberation. So it is indicating *Kadambamasha Taila* is least prone to rancidity the Acid value was 1.97.

Iodine value

The Iodine number is a measure of degree of unsaturation of fat. The more the Iodine number, more the unsaturated fatty acid bonds are present. A high Iodine number indicates a high degree of unsaturation of the fatty acids in fat. The Iodine value was 115.52.

Rancidity - found Negative.

CONCLUSION

It is possible to obtain an oil of desired potency by follow the standard operatig procedure, it is quite evident from the analytical study that, more stable and quick penetrative medicaments can be obtained by follow the Sop. The values obtained from analytical study can be considered for comparing the values that will be obtained in future preparations and helps to check the quality of raw materials and standardize the finished product.

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