PHARMACEUTICAL STUDY OF KANADI TAILA AND ITS MODIFIED OINTMENT

Niranjan Manjunath Hebbar ^{1*}, M.S. Krishnamurthy ²

¹ PG Scholar, Department of PG studies in Rasashastra and Bhaishajya Kalpana, Alva's Ayurveda Medical College, Moodbidri, Karnataka, India

² Professor and HOD, Department of PG studies in Rasashastra and Bhaishajya Kalpana, Alva's Ayurveda Medical College, Moodbidri, Karnataka, India

Received on: 12/07/21 Accepted on: 18/09/21

*Corresponding author

E-mail: nanuniranjanhebbbar@gmail.com

DOI: 10.7897/2277-4343.1205135

ABSTRACT

Aims: To prepare Kanadi Taila as per classical method and its modification into an ointment by using petroleum jelly as a base, as well as to do its organoleptic and physico-chemical analysis. **Methods:** Kanadi Taila was prepared as per the classical method of Taila Kalpana and its modification into an ointment by modern infusion method by using petroleum jelly as a base. Then it was evaluated for organoleptic and physico-chemical characteristics. **Results:** The final product Kanadi Taila and Kanadi Taila ointment were of desirable consistency and quality. **Discussion:** Kanadi Taila is well-known medicine for its wound healing property, and it was prepared as per classical method but due to its difficulty in application, there is a need to modify it into a more patient-friendly form. Kanadi Taila was modified into a topical ointment with white petroleum jelly as the base for attaining the desired consistency. **Conclusion:** The formulation Kanadi Taila is mentioned in the text Ayurveda Sara, Tratiya bhaga Prameha chikitsa adhyaya. Appropriate Paka Lakshanas were observed during Taila Paka, as well as the prepared Kanadi Taila ointment was of desired consistency.

Keywords: Kanadi Taila, Ayurveda Sara, Vrana, Ointment, Pharmaceutical Study

INTRODUCTION

Ayurveda being one of the indigenous systems of Indian medicine has been in practice since ancient times. Ayurvedic medicines have already gained worldwide attention due to their safety and efficacy. With the growing need for safer drugs, attention has been drawn to their quality, efficacy, and standards. In Bahishajya Kalpana, several dosage forms have been derived, of which Sneha Kalpana¹ is also included. Sneha Kalpana plays a significant role in the treatment aspects of Ayurvedic science. It is the process where the active principles from the raw drugs are transferred into Sneha, Ghrita, Taila or such other fatty substances are used as a base. This Kalpana helps to obtain the extra benefits of the Ghrita or Taila used along with the property of the drugs for a longer time. Kanadi Taila² is a classical Taila preparation mentioned in text Rasa Ratnakara – Prameha chikitsa adhyaya. It contains twelve ingredients – Kana³, Madhuka⁴, Kushta⁵, Ela⁶, Renuka⁷, Haridra⁸, Daruharidra⁹, Samanga¹⁰, Sariva¹¹, Lodhra¹², Dhataki¹³, Tila Taila¹⁴. Kanadi Taila is well-known medicine for its wound healing property, but due to its difficulty in application, there is a need to modify it into a more patient-friendly form. In the present study, Kanadi Taila was modified into a topical ointment with white petroleum jelly¹⁵ as the base for attaining the desired consistency.

MATERIALS AND METHODS

Materials required for the preparation of Kanadi Taila, and its ointment were collected from Alva's Pharmacy, Mijar, Karnataka

Preparation of Kanadi Taila and its ointment was done in Dept of Rasashastra and Bhaishajya Kalpana, Alva's Ayurveda Medical College, Moodbidri. The pharmaceutical study was divided into

two practicals as preparation of Kanadi Taila and Preparation of Kanadi Taila ointment.

Preparation of Kanadi Taila

Type of procedure: Taila Kalpana

Date of Commencement: 7-01-2021

Date of Completion: 8-01-2021.

Material required: Khalva Yantra, steel vessels, spatula, weighing machine, cloth, measuring jar, fire source etc.

Procedure

Preparation of Kashaya

For the preparation of Kashaya raw drugs were cleaned and dried properly and drugs were made into coarse powder on weighing individually. It is then taken in a clean wide-mouthed vessel. The total quantity of drugs taken for Kashaya preparation is 1200gm (each drug 109g). To this vessel, 16 parts of water are added i.e., 19.2 L and the vessel is placed on fire until the 16 parts of water are reduced to 1/4th part i.e., 4.8 L. the reduced Kashaya is filtered through cloth and kept ready.

Preparation of Kalka

Kalka is prepared from the choorna of Kana, Madhuka, Kushta, Ela, Renuka, Haridra, Daruharidra, Samanga, Sariva, Lodhra, Dhataki were taken in equal quantity each and Kalka is prepared by adding enough water.

Preparation of Kanadi Taila

As per the classical method¹⁶ of preparation, Kanadi Taila prepared with 1 part (297g) of Kalka, 4 parts (1200ml) of Taila and 16 parts (4800ml) of Kashaya. According to Sharangadhara

Samhita, Sneha Paka should not be completed within a single day. So Kanadi Taila was prepared in two days.

Procedure

1st day: Tila Taila was taken in a stainless-steel vessel and heated on a mild fire to remove the moisture content. The bolus of Kalka was added to the heated Taila slowly with constant stirring for homogeneous mixing. The prepared Kashaya is added to that Sneha and heated over Mandagni with continuous slow stirring for proper mixing. Taila was heated until bubbling was reduced, and it was kept overnight.

2nd day: The heating process was continued till the Sneha Siddhi Lakshana was attained. After attaining all Sneha Siddhi Lakshanas, the heating process stopped and Taila was filtered

through a clean cloth. The filtered Taila was measured and stored in an airtight container.

Taila Paka Siddhi Lakshana is assessed based on the following observations

1. Taila and Kalka - fire test - Burns without any cracking sound.
3. Consistency of Kalka: Soft, non-sticky, made into Varti also fingerprints are seen, colour was black.

Preparation of Kanadi Taila ointment

Type of procedure: Ointment preparation

Date of Commencement: 9-1-2021

Date of Completion: 9-1-2021

Equipment: Water bath, Weighing machine, Spoon, Stainless steel vessel, Glass jars for packing, Fire source etc.

Table 1: Ingredients for the formulation Kanadi taila

Ingredients	Family	Part Used	Quantity for kashaya	Quantity for kalka
Kana (<i>Piper longum</i> Linn)	Piperaceae	Fruits	109g	27g
Madhuka (<i>Glycyrrhiza glabra</i> Linn)	Fabaceae	Roots	109g	27g
Kushta (<i>Saussurea lappa</i> C.B.Clarke)	Asteraceae	Roots	109g	27g
Ela (<i>Elettaria cardamomum</i> Maton)	Scitamineae	Seeds	109g	27g
Renuka (<i>Vitex negundo</i> Linn)	Verbenaceae	Seeds	109g	27g
Haridra (<i>Curcuma longa</i> Linn)	Zingiberaceae	Rhizome	109g	27g
Daruharidra (<i>Berberis aristata</i> Dc)	Berberidaceae	Stem	109g	27g
Samanga (<i>Mimosa pudica</i> Linn)	Mimosaceae	Roots	109g	27g
Sariva (<i>Hemidesmus indicus</i> R.Br)	Asclepiadaceae	Roots	109g	27g
Lodhra (<i>Symplocos racemosa</i> Roxb)	Styraceae	Stem	109g	27g
Dhataki (<i>Woodfordia fruticosa</i> L.Kurz)	Lythraceae	Flower	109g	27g
Tila Taila (<i>Sesamum indicum</i> L)	Pedaliaceae	Seed	1200 ml	-

Table 2: Ingredients of Kanadi taila ointment

Ingredients	Quantity
Kanadi Taila	300ml
White Petroleum jelly	50gm

The ratio of the quantity of the ingredient taken

Petroleum jelly: Kanadi Taila = 1:6

Petroleum jelly: Kanadi Taila = 50g: 300ml

Procedure

Petroleum jelly is taken in a stainless-steel vessel. It is heated in a water bath while attaining 60 -70 °C, at which liquefies. At the same time, Kanadi Taila is also heated indirectly in a water bath. Then both petroleum jelly and Kanadi Taila are poured into another container. The mixture is stirred well for homogenous mixing. It is kept undisturbed to obtain ointment consistency.

RESULTS AND DISCUSSION

Table 3: Observations during Kashaya preparation

Time duration	Observation
9 AM	Started Kashaya preparation
9.15 AM	Kalka floats on water
9.45 AM	The water colour slightly changed to yellow
10.10 AM	Started to boil, Light aromatic odour, yellow
12 PM	Reduced to half, the smell of ingredients,
02 PM	Reduced to 1/4 th part, Kashaya become thicker, Dark yellowish-brown colour, Kalka sinks completely.

Table 4: Observation during various stages of Taila paka

Days	Stage of Taila	Time Duration	Observation
1 st day	Lukewarm (after adding Kalka)	After 10 min	Light yellow colour Frothy surface, Slight Kalka floats on the surface, The smell of Tila Taila
	After Adding Kashaya	After 15 min	Yellow colour, The smell of Tila Taila and Kashaya
	Started Boiling	After 30 min	Yellow colour, Initiation of boiling so Kalka started to float
		After 1hr 15 min	Yellow colour, Kalka is floating
2 nd day	Amapaka	After 2hr 30min	Yellow colour, Profuse bubbling, Kalka mixed partially with Sneha
	Madhyama Paka	After 3hr 30min	Yellow colour, Taila started separating from Kalka, Kalka Started to stick on the spatula
	Khara Paka	After 5hr 30min	Yellow colour, Kalka separated from Taila, Froth reduced

Table 5: Observation during various stages of ointment

Time Duration	Procedure	Changes Observed
9:30 am	<ul style="list-style-type: none"> All the apparatus were kept ready Ingredients were measured 	
9:45 am	<ul style="list-style-type: none"> 50 gm of petroleum jelly and 300 ml of Kanadi Taila was heated in a water bath 	<ul style="list-style-type: none"> Petroleum jelly liquefied completely A whitish transparent liquid was obtained
9:57 am	<ul style="list-style-type: none"> Liquefied petroleum jelly and Kanadi Taila was transferred to another vessel The mixture was stirred for few minutes for homogeneous mixing And kept undisturbed. 	<ul style="list-style-type: none"> The liquid in consistency for first 5 min The Colour was changed to yellow Became thicker in consistency last 15 min
10:10 am	<ul style="list-style-type: none"> Weight was measured Packing and labelling of the ointment 	<ul style="list-style-type: none"> 20 gm loss in weight

Table 6: Organoleptic characters of the formulations

Parameters	Kanadi Taila	Kanadi Taila ointment
Colour	Yellow colour	Yellow colour
Odour	Characteristic	Characteristic
Consistency	Smooth, Unctuous	Soft, Smooth ointment
Texture	Smooth, Greasy	Smooth, Greasy

Fig 1: Ingredients of Kanadi Taila

Fig 2: Preparation of Kashaya

Fig 3: Prepared Kashaya

Fig 4: Kalka

Fig 5: Tila Taila taken in a steel vessel

Fig 6: Adding Kalka

Fig 7: Adding Kashaya

Fig 8: Process of boiling

Fig 9: Phenodgamana

Fig 10: Varti

Fig 11: Fire test Kalka burns without sound

Fig 12: Filtering of Taila

Fig 13: Kanadi Taila

Fig 14: Petroleum jelly

Fig 15: Kanadi Taila

Fig 16: Indirect melting of Petroleum Jelly

Fig 17: Indirect heating of Kanadi Taila

Fig 18: Process of mixing

Fig 19: Mixture is transferred to a container and kept undisturbed

Fig 20: Kanadi Taila ointment

Results of Kanadi Taila preparation

Quantity taken: 1200ml
The quantity obtained: 1150ml
Loss: 50ml

Results of Kanadi Taila ointment preparation

Total Quantity taken: 350ml
Weight of ointment obtained: 330 gm
Loss in weight: 20 gm

Preparation of Kanadi Taila was done according to the reference from Ayurveda Sara Tratiya bhaga Prameha chikitsa adhyaya. Originally the formulation is referred to in the text Rasa Ratnakara- Prameha chikitsa adhyaya without a proper name for this formulation. As such no specific procedure was mentioned in the text for the preparation, hence the common Sneha preparation method was adopted. Later prepared Sneha was modified into ointment form. As per the classical method of preparation, Kanadi Taila was prepared with 1 part of Kalka, 4 parts of Taila and 16

parts of Kashaya. All the ingredients were collected from Alva's Pharmacy, Mijar, Karnataka. While preparing Kashaya the water colour changes to yellow due to the ingredients like Haridra and light aromatic odour due to the ingredients like Kana, Madhuka, Ela, Sariva etc. Kalka is prepared by taking 27 grams of each of the ingredients Kana, Madhuka, Kushta, Ela, Renuka, Haridra, Daruharidra, Samanga, Sariva, Lodhra and Dhataki, in Yavakuta Churna form. Kalka is prepared by adding enough water.

As per Sharangadhara Samhita, Sneha Paka should not be completed within one day. So Paka of Kanadi Taila was completed in two days. By this process, the contact time between ingredients and Sneha will be more so that the potency of the preparation will be enhanced. The duration of heating on the 1st day was 1 hour 30 min. Taila was heated till reduction of bubbling, and it was kept overnight. On the second day, the heating process was continued, fire intensity was maintained throughout the process of preparation to get a desirable grade of temperature. Kalka was tested for Paka from time to time. During the Mridu Paka, Kalka was soft in consistency and the bulk of Kalka observed more. So, it took a little more time to reach Madhyama Paka. There was continuous bubbling during the preparation due to which constant stirring was needed to avoid sticking Kalka to the base of the vessel. After heating of 3hr and 30 min, Kalka can be rolled between fingers, but the presence of moisture is evident in Agni Pariksha. The colour of the Taila was changing gradually after each Paka which may be due to the chemical changes accruing in the Taila because of the ingredients. The colour change probably is an indication of solubility of active principles more into Taila with increased contact time. After 5-hour 30 min observing all the qualities of Sneha siddhi, the vessel is taken out from the fire and the oil is filtered through a clean cloth in its warm stage itself. 1150 ml of Kanadi Taila was obtained from 1200 Tila Taila. Yellow colour Taila is obtained due to the presence of Haridra. The characteristic smell of Kanadi Taila is also perceived.

For the preparation of ointment as a modification of Kanadi Taila, white petroleum jelly was selected as an ointment base. The infusion method was adopted here for preparation. In this method, the ingredients are indirectly heated and mixed properly to attain a homogenous mixture and kept undisturbed to attain ointment consistency. As above said the Petroleum jelly was indirectly heated at 60 to 70 °C, excess heating may lead to evaporation of the petroleum jelly results in loss of the product. After adding liquefied petroleum jelly to Kanadi Taila continuous stirring is carried out to get a homogeneous mixture. After mixing the mixture was kept undisturbed to get ointment consistency. The final output of the preparation was 330 g there is a loss of 20g in preparation. The yellow colour smooth and soft ointment was obtained.

CONCLUSION

The formulation Kanadi Taila is mentioned in the text Ayurveda Sara, Tratiya bhaga Prameha chikitsa adhyaya. In the present study, Paka Lakshanas were observed during Taila Paka, as well as the prepared Kanadi Taila ointment was of desired consistency. Precautions should be taken during Sneha Paka by the proper stirring of the mixture to avoid sticking to the vessel as well as Kalka should be checked from time to time for required Paka. To get proper consistency in the ointment the ratio of Taila and petroleum jelly play a very important role; after proper mixing of petroleum jelly and Kanadi Taila, it should be kept undisturbed to gain desired ointment consistency.

REFERENCES

1. Angadi Ravindra. Bhaishajya Kalpana Vijnana. 1st edition. Varanasi; Chaukamba Surabharati Prakashana; 2009. p.233.
2. Ramachandrayya. P. Ayurveda Sara. Tratiya bhaga. 1st edition. Muniyal; published by Muniyal Ayurveda Research centre; 2000. p.411.
3. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.452.
4. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.153.
5. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.307.
6. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.527.
7. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.411.
8. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.513.
9. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.54.
10. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.747.
11. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.348.
12. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.321.
13. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.236.
14. Shastry J.L.N. Dravyaguna Vijnana. Reprint Edition. Varanasi; Chaukhambha Orientalia; 2014. Volume: 2. p.883.
15. https://en.m.wikipedia.org/wiki/Petroleum_jelly [cited 2021 Aug 6].
16. Angadi Ravindra. Bhaishajya Kalpana Vijnana. 1st edition. Varanasi; Chaukamba Surabharati Prakashana; 2009. p.234.

Cite this article as:

Niranjan Manjunath Hebbar and M.S. Krishnamurthy. Pharmaceutical study of Kanadi taila and its modified ointment. Int. J. Res. Ayurveda Pharm. 2021;12(5):17-21 <http://dx.doi.org/10.7897/2277-4343.1205135>

Source of support: Nil, Conflict of interest: None Declared

Disclaimer: IJRAP is solely owned by Moksha Publishing House - A non-profit publishing house, dedicated to publishing quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. IJRAP cannot accept any responsibility or liability for the site content and articles published. The views expressed in articles by our contributing authors are not necessarily those of IJRAP editor or editorial board members.