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PHARMACEUTICAL STANDARDIZATION OF DADRUVIDRAVANA MALAHARA

K. Lakshmi Reshma[1], Ch. Sridurga[2]

[1]Final Year PG Scholar, Department of Rasa Shastra and Baishajya Kalpana, S V Ayurvedic College, Tirupathi, Andhra Pradesh, India
[2]Professor & HOD, Department of Rasa Shastra and Baishajya Kalpana, S.V Ayurvedic College, Tirupati, Andhra Pradesh, India

Corresponding Author: reshmagkollipara@gmail.com

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ABSTRACT

Background: *Dadruvidravana Malahara* is a unique herbs-mineral formulation elucidated in *Rasatarangini* under *Gandhaka Vijnaniya Taranga* for the management of *Dadru Kushta* and *Sikta Taila, Shuddha Gandhaka, Shuddha Tankana, Laksha Churna* and *Chakramarda Beeja Churna* are the ingredients. **Aim:** To standardize various steps involved in the preparation of *Dadruvidravana Malahara*. Materials and Methods: All the procedures involved during the preparation of *Dadruvidravana Malahara* were carried out as per classical references. **Result:** The final product was presented in the form of ointment and obtained quantity was 1215 gm. Prepared *Dadruvidravana Malahara* was maroon with a pungent odour. **Conclusion:** The steps carried out can be considered as standard for the preparation of *Dadruvidravana Malahara*.

Keywords: *Malahara, Dadru Kushta, Rasatarangini*.

INTRODUCTION

The key objective of the pharmaceutical study is to produce a safe, effective and quality drug. Efficacy and safety depend solelyon the quality of the drug. The fundamental part of Ayurveda lays in pharmaceutical processing. Right from the selection of raw drugs till the final product a drug has to undergo various *Samskara* like *Shodhana, Marana* etc. Each procedure brings

Gunantharadana (qualities) to the drug. *Dadruvidravana Malahara* is a herbo-mineral formulation described in *Rasatarangini* under Gandhaka *Vijnaniya Taranga* for the management of *Dadru Kushta* [1]. Here Acharya explains this formulation cures *Dadru Kushta, Sikta Taila, Shuddha Gandhaka, Shuddha Tankana, Laksha Churna* and *Chakramarda Beeja Churna* are ingredients. It is prepared by the *Malahara Kalpana (Mardana)* method. In the present study, a sincere effort hasbeen put to highlight the significance of pharmaceutical procedures and to standardize the method of preparation of *Dadruvidravana Malahara*.

AIM AND OBJECTIVES:

Pharmaceutical standardization of various steps involved in the preparation of *Dadruvidravana Malahara*.

MATERIALS AND METHODS:

Pharmaceutical source and place:

Raw drugs for the preparation of *Dadruvidravana Malahara* were collected from Anjineya Herbals, Vijayawada and Preparation was carried out in *Rasa Shastra* and *Bhaishajya Kalpana* department, SV Ayurvedic College, Tirupathi.

The entire pharmaceutical procedure was carried in different steps:

1. *Shodhana* of *Gandhaka* [2]
2. *Shodhana* of *Tankana* [3]
3. Powdering of *Laksha* and *Chakramarda Beeja* [4]
4. Preparation of *Dadruvidravana Malahara*.

Procedure:

Initially, *Shodhana* of *Gandhaka* was carried out with *Goksheera*. Milk was taken in a glass vessel. A cloth was tied to its mouth. *Ashuddha Gandhaka* was taken in a *Khalwa Yantra* and made into fine powder. *GoGhrita* was taken in a *Lohadarvi* and was heated on *Mandagni*. Fine powder of *Ashuddha Gandhaka* was added to *Lohadarvi* and heated till it gets completely melted. Melted *Ashuddha Gandhaka* was poured into milk through the cloth. *Gandhaka* was taken out from milk and washed with hot water. The above process is repeated 6 times.

Fresh milk was taken each time. After completion of the process, *Shuddha Gandhaka* was taken out dried, pounded into a fine powder, weighed and stored in a glass container.

Ashuddha Tankana was taken in a clean and dry *Khalwa yantra* and pounded into powder. It was taken in an earthen plate and heated on *Mandangi*. The heat was continued until the water content in the *Tankana* was completely evaporated. Then it is powdered and stored in an airtight glass container.

Laksha and *Chakramarda Beeja* were taken, and external impurities were removed. They were pounded separately in *Khalwa Yantra* and sieved through a cloth and fine powders were obtained.

Sikta was taken in a *Khalwa Yantra* and pounded into small pieces. *Tila Taila w*as taken in a stainless-steel vessel and heated till bubbles appear. Pounded *Sikta* was added to hot oil and mixed continuously until *Sikta* was completely melted in hot oil. Hot *Tila Taila* was filtered through a cotton cloth, to remove any physical impurities. Filtered *Sikta Taila* was collected in a vessel.

Hot *Sikta Taila* was taken in a *Khalwa Yantra*. Fine powders of *Shuddha Gandhaka churna, Shuddha Tankana churna, Laksha churna* and *Chakramarda Beeja churna w*ere added little by little into *Sikta Taila* and mixed well. After cooling, the mixture attained semi-solid consistency. This maroon colour mixture is *Dadruvidarava Malahara.*

Table 1: Ingredients and quantity of Dadruvidarava *Malahara.*

Ingredients	**Quantity**
Sikta Taila	12 *Tola*
Shuddha Gandhaka	1 *Tola*
Shuddha Tankana	½ *Tola*
Laksha Churna	½ *Tola*
Chakramarda Beeja Churna	½ *Tola*

OBSERVATIONS:

- *Gandhaka Shodhana*: Melted *Gandhaka* looked like ghee. On pouring molten *Gandhaka* through cloth, impurities like small stones, mud, etc were filtered over the cloth. After *Shodhana, Gandhaka* colour was changed from dull yellow to thick, bright yellow colour with increased lustre**.**

GoDugdha and *GoGhrita Gandha* were observed in *Shuddha Gandhaka. Dugdha* was hot after *Dhalana.*

- *Tankana Shodhana*: Crackling sounds were observed during the process. *Tankana*, after *Shodhana* bloomed and turned in to white opaque substance.
- *Sikta Taila*: On complete melting of *Sikta*, a homogenous mixture of *Sikta* and *Taila* was obtained. On pouring hot *Sikta Taila* through cloth, impurities like small stones, mud, etc were filtered over the cloth.
- *Dadruvidravana Malahara:* Maroon coloured *Dadruvidravana Malahara* was formed**.**

RESULTS:

The final product was presented in form of ointment. Organoleptic characteristics and final weight are given in the table below

Table 2: table showing organoleptic characters of Dadruvidravana Malahara

Colour	maroon colour
Odour	Pungent
Texture	smooth
Final weight	1215 gms

DISCUSSION

***Gandhaka Shodhana*:**

Sulphur turns into liquid at 115.21°C. However, at that temperature, arsenic sulphides (Orpiment Melting Point [5]→ 310°C, Realgar Melting Point [6]→ 360°C) which are one of the chief impurities of sulphur stay in ghee as fine small solid particles. These crystals stay back in cloth and liquid sulphur flows freely through fine pores. Repetition of this procedure seven times removes any traces of arsenic.

'*Ghee* – Milk procedure' can effectively separate sulphur granules from external impurities. Pure sulphur is neither lipid nor water-soluble, therefore, both water and lipid-soluble impurities can be separated from sulphur, as sulphur has to pass through both media.

Ghee serves as a base for the uniform spreading of temperature. It layers fine powder crystals of sulphur and prevents them to get in contact with external oxygen, which otherwise causes oxidation and considerable weight loss.

Nowadays, most of the sulphur we get is extracted as a byproduct of petroleum refining. This type of sulphur will contain some amount of petroleum remnants. They dissolve in lipids as both are non-polar [7] and finally get eliminated from sulphur.

Gandhaka is highly *Pitta Vardhaka* [8]. Both ghee and milk are *Vata Pitta Shamaka Dravya* [9] and among them, ghee is the drug of choice among fats in reducing *Pitta.* Therefore, these can reduce *'Teevra Pitta Vruddhikara'* effect of *Gandhaka.*

Milk and *Ghee* are *Vishahara* and *Rasayana.* These can remove *Visha Dosha* of *Gandhaka* and impregnate *Rasayana* property to *Gandhaka.*

Calcium present in milk acts as a reducing agent which helps in the removal of impurities. Calcium also acts as chelating agent during detoxification.

Final cleaning with hot water removes greasy remnants of milk and ghee.

***Tankana Shodhana*:**

After *Shodhana* $Na_2B_4O_7.10H_2O$ converted into $Na_2B_4O_7.5H_2O$ due to the evaporation of water molecules during heating.

Purified *Tankana* contains more Boron *(13.48%)* compared to raw *Tankana* (10.08%).

***Sikta Taila Nirmana*:**

The base of the drug *Dadruvidravana Malahara* is *Sikta Taila. Sikta Taila* has emollient property. The *Taila* hydrates and softens the skin. It prevents the escape of water through the skin by forming a protective layer above the lesion.

Hydration of skin increases absorption of the drug. Thus, *Sikta Taila* might be the ideal base for the preparation of *Malahara*.

When Bee's wax is combined with borax it exhibits, emulsifying property thereby increasing the binding capacity among the ingredients of the drug [10].

***Dadruvidravana Malahara* Preparation:** *Dadruvidravana Malahara* was prepared as per the reference of *Rasatarangini*. It was prepared by following the general method of *Malahara Kalpana* and presented in the form of ointment. The prepared *Sikta Taila* was

taken in a *Khalwa Yantra*, to that *Shuddha Gandhaka Churna, Shuddha Tankana Churna, Laksha Churna* and *Chakramarda Beeja Churna* were taken one after the other and *Mardana* was done till a homogenous mixture which has butter-like consistency was formed. This mixture is *Dadruvidravana Malahara*. Organoleptic characterswere observed and stored in air-tight glass containers.

CONCLUSION

Pharmaceutical standardization helps in developing standard manufacturing procedures without disturbing the efficacy and safety profile of the drug. The pharmaceutical procedure involved here was *Shodhana, Dhalana, Nirjalikarana, Churna Nirmana* and *Mardana*. The *procedure of Shodhana* removes the toxins in *Gandhaka* and reduction of its compactness. *Shodhana* of *Tankana* removes its *Gurutvam*. *Churna Nirmana* and *Vastragalitam* procedure helps in size reduction and makes the drug more bioavailable. *Sikta Taila* acts as a binding agent and also gives proper consistency to the *Malahara*. This helps in the easy application of the *Malahara*.

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