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A PHARMACEUTICAL STUDY OF *BHASMESHWARA RASA*

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ABSTRACT

Within the confines of this review, the pharmaceutical facets of *Bhasmeshwara Rasa*, meticulously described in accordance with the *Rasendra Chintamani* reference, are expounded upon. Elaborative discourse ensues, elucidating the intricate pharmaceutical methodologies employed in the formulation of *Bhasmeshwara Rasa*, encompassing procedures such as *Vatsanabha Shodhana* and *Bhasmikarana* of *Gomaya Bhasma*. This comprehensive exploration endeavours to serve as an instructive compendium for those desiring to replicate *Bhasmeshwara Rasa* in subsequent endeavours, furnishing them with a nuanced understanding of the requisite steps at each juncture of the production process. The most effective drug in *Ayurveda* can be still ineffective if not manufactured properly. Pharmaceutical studies adhere to stringent standard operative procedures in order to meticulously prepare a formulation while ensuring the validation of the entire process. This intricate endeavour commences with the meticulous acquisition of raw materials from reputable and bonafide sources. A rigorous protocol is assiduously followed throughout the process of drug manufacturing to ensure the utmost safety and efficacy of the final product.

KEYWORDS: *Bhasmeshwara rasa, Gomaya Bhasma, Vatsanabha, Kharaliya rasayana.*

INTRODUCTION

The history of infection and infectious disease is as old as mankind. The references to microorganisms are available in Ayurvedic classics in the names of *Bhoota, Krimi, Jantu* [1]

etc. Infections can be caused by a wide range of pathogens and bacteria is one among them. Presently, we confront a significant challenge concerning antimicrobial resistance, leading the world to explore alternative medicine as a potential solution.

Acharya Charaka and *Sushruta* have mentioned, that because of *Agantuja Hetus,* all three *Doshas* are vitiated and cause *Sannipataja Jwara*. In *Sannipataja jwara*[2], as all three *Doshas* are involved, mixed symptoms like body aches, diarrhoea, and anorexia are seen along with persistent fever with varying intensity which can be correlated with Typhoid fever[3] as per contemporary science. In typhoid fever, the causative pathogen is *Salmonella typhi.*

Bhasmeshwara Rasa[4] is a formulation mentioned under *Sannipataja Jwara Chikitsa* in *Rasendra Chintamani* which acts on all three *Doshas.* It is a *Khalviya Rasayana* containing V*anyopala Bhasma* (cow dung cake *bhasma), Maricha* and *Shuddha Vatsanabha* and its *Anupana* is *Ardraka Swarasa.*

Even though there is no *Parada* used in this formulation, still this formulation is suffixed with "*Rasa*" in its name *Bhasmeshwara*. And with only three ingredients used in the formulation, this makes it cost-effective and feasible.

In the Pharmaceutical study, the *Shodhana* of *Vatsanabha* which is one of the ingredients of *Bhasmeshwara Rasa* was carried out as per classical text. *Vanyopala* was subjected to *Bhasmikarana. Vatsanabha Churna* and *Maricha Churna* were prepared according to the general method of preparation of *Churna.* Preparation of *Bhasmeshwara Rasa* was carried out as explained in *Rasendra Chintamani.*

AIM

i. To prepare Vanyopala Bhasma using the general principles of marana.
ii. To prepare Shodhita Vatsanabha using Gomutra through Dolayantra Swedana.
iii. To prepare Bhasmeshwara Rasa using the principles of Khalviya Rasayana.

MATERIALS AND METHODS

The pharmaceutical methodology of the current study unfolded in three distinct phases, namely preparation of *Vanyopala Bhasma*, purification process of *Vatsanabha*, and ultimately preparation of *Bhasmeshwara Rasa*.

Table 1: Showing review of drugs in Bhasmeshwara rasa.

Drug Name	*Vanyopala*[5]	*Maricha*[6]	*Vatsanabha*[7]
Latin Name	-	Piper nigrum	Aconitum ferox
Family	Bovidae	Piperaceae	Ranunculaceae
Part Used	Dried Dung	Fruit	Rhizome
Dosage form	*Bhasma*	*Churna*	*Shu. Churna*
Ratio	16 Parts	3 Parts	1 Parts
Rasa	-	*Katu, Tikta*	*Katu, Tikta, Kashaya*
Guna	-	*Laghu, Ruksha, Tikshna, Sookshma*	*Vyavayi, Yogavahi*
Virya	-	*Ushna*	*Ushna*
Vipaka	-	*Katu*	*Katu*
Karma		*Deepana, Pachana, Krimighna*	*Rasayana*

Figure 1.

Cow dung cakes

Figure 2.

Maricha

Figure 3.

Vatsanabha

A. Preparation of *Vanyopala Bhasma*

Reference: *Anubhuta*

Equipment: *Tulayantra*, *Khalva Yantra*, *Sharava*, Vessels, Match box, Cloth

Ingredients: *Vanyopala*

Method of Preparation

- *Vanyopala* was collected, made into pieces and dried completely under the sun.
- Completely dried *Vanyopala* was burnt in an open *Sharava.*
- It was allowed to get *Swangasheeta.*
- Afterwards, the ash formed was collected carefully.
- Then it is powdered in a *Khalva Yantra*, filtered through cloth and stored in an airtight container.

OBSERVATION

- The *Bhasma* obtained was soft to touch.
- The smell of *Gomaya* can be appreciated throughout the procedure.

Precaution

- The *Vanyopala* taken should be dried well.
- Prepared *Bhasma* should be well preserved in an airtight container.

➢ RESULTS

- Dried *Vanyopala:* 1 kg
- Ash obtained: 143.40gm
- % loss in ash: 85.66%

Figure 4.

Figure 5.

Figure 6.

Figure 4: Burning of Cow dung cakes.

Figure 5: Burnt Cow dung cakes.

Figure 6: Cow dung cakes after *Swangasheeta.*

Figure 7: Cow dung *Bhasma.*

B. Shodhana of *Vatsanabha*[8]

Reference: *Rasa Jala Nidhi.*

Equipment: *Tula yantra, Dolayantra, Ulukhala Yantra, Mrutpatra, Sharava*, Cloth, Gas stove, Measuring jar.

Ingredients: *Ashuddha Vatsanabha,* Fresh *Gomutra.*

Method of Preparation

- *Ashuddha Vatsanabha* was cut into smaller pieces.
- Then pieces of *Vatsanabha were* tied in a three folded clean cloth to make a *Pottali*
- Dolayantra setup was made and *Swedana* was done using *Gomutra* as the liquid media for 3 hours on *Mridu Agni*.
- On and often the *Gomutra* is added to the pot so as to keep the *pottali* immersed.
- After 3 hours, the hot *Pottali* is taken out and *Vatsanabha* is shifted to a vessel containing hot water to wash it.
- Skin of *Vatsanabha* was peeled off and was dried under the sun.
- Then dried in sunlight, fine powder was made and it was stored in an airtight container.

Observations

- It took nearly 10-15 minutes for the onset of boiling.
- The froth and bubbles were covered till the brim of the pot.
- The smell of *Gomutra* could be appreciated while boiling.
- *Vatsanabha* was swollen and soft after Swedana.
- Skin of *Vatsanabha* was loosened after boiling.
- Color of *Vatsanabha* changed from light brown to dark brown.
- After drying, color of *Vatsanabha* became blackish.

Precaution

- Care was taken that the bottom of the *Pottali* doesn't touch the base of the pot.
- The *Pottali* should stay within the *Gomutra* completely dipped/immersed.
- *Gomutra* was refilled as and when required to maintain the pottali immersed.
- Constant *Mridvagni* is maintained.
- The vessel was kept open throughout the procedure.

➢ RESULTS

- *Ashuddha Vatsanabha:* 400gms.
- *Shu.Vatsanabha* obtained: 134.50gms.
- % loss during shodhana: 66.37%.




Figure 8. **Figure 9.** **Figure 10.** **Figure 11.**

Figure 8: *Gomutra.*

Figure 9: *Swedana* of *Vatsanabha* in *Dolayantra.*

Figure 10: *Pottali* filled with *Vatsanabha.*

Figure 11: *Shuddha Vatsanabha.*

C. Preparation of *Bhasmeshwara Rasa*[9]

Reference: *Rasendra Chintamani*

Equipment: *Tulayantra, Khalva yantra, patra,* clean cloth.

Ingredients:

Vanyopala Bhasma: 80gms

Shodhita Vatsanabha: 15gms

Dry *Maricha*: 5gms

Method of Preparation

- *Maricha* fruits were separately pounded and filtered through a clean cloth to obtain fine *Churna*.
- *Vanyopala Bhasma, Maricha Churna and Shu. Vatsanabha Churna* was taken in the prescribed quantity in a clean *Khalva Yantra*.
- *Mardana* was until the attainment of homogeneity in the mixture of the final product.
- Stored in an airtight container.

OBSERVATIONS

- The *Bhasmeshwara Rasa* mixture was greyish in colour and characteristic smell was appreciated.
- It took nearly 20 minutes of trituration to get a homogenous mixture.
- *Bhasmeshwara Rasa* was having soft consistency.
- There was some amount of loss in the final product because of sticking to *Khalva Yantra.*

Precaution

- The ingredients should make a homogenous mixture, hence continuous trituration is necessary.
- All the equipment used should be clean and devoid of moisture.
- Store it in a glass bottle with an airtight seal to safeguard and preserve its potency.

➢ **RESULTS**

- Total weight of ingredients of *Bhasmeshwara Rasa*: 100gms
- Weight of *Bhameshwara Rasa* after procedure- 97.2gms
- Reason for weight loss: sticking in *khalva* while triturating.

Figure 12.

Figure 13.

Figure 12: Trituration of *Bhasmeshwara Rasa* ingredients.

Figure 13: *Bhasmeshwara Rasa.*

➢ Dose: 5 *Gunja.*[10]

➢ Anupana: *Adraka swarasa.*[11]

➢ Therapeutic uses: *Sannipata Jwara.*

DISCUSSION

Vanyopala, the dried cow dung cakes when subjected to incineration results in complete combustion of organic material leaving behind the inorganic ash. Since, there is no classical

Rasashastriya compendiums which elucidates the method of preparation of *Gomaya bhasma* complimentary *Pauranika* texts consider the bhasmas as *Vibhuti*. The simplest method of *Bahirdhuma Vibhutikarana* was used to prepare carbonless *Bhasma*.

Gomutra denatures the cardiotoxic pseudoaconitine and aconitine present in *Vatsanabha* hence reducing its toxicity without compromising its pharmaceutical effects. *Swedana* procedure ensures proper penetration of *Shodhana* media through the *Pottali* in an accelerated time when compared to generally used *Nimajjana* method.

Maricha churna is one of the simplest and widely used ingredient across ayurvedic pharmacopoeia. This preparation involves three steps including *Shoshana, Mardana* & *Galana* ensuring moisture free and equal particle size in the *churna*.

Bhasmeshwara Rasa contains no bhavana dravya hence *Mardana* method was utilized in the *Kharaliya* preparation. As the saying goes '*Mardanam Guna Vardhanam*', trituration of individual dry *Churnas* together facilitates homogenous mixing as well as the heat generated while attrition induces formation of complex compounds within the formulation.

The *Anukta Siddhanta* for formulations containing *Vatsanabha* directs the addition of *Tankana* as a complimentary *Agada* but few formulations such as *Bhasmeshwara Rasa, Prataplankeshwara Rasa* etc. do not have *Tankana* as an ingredient. Presence of *Vanyopala Bhasma* which in itself is the inorganic residue would contain higher concentration of biliary salts akin to *Gorochana* enriching the universal antidote property to the formulation. Similarly *Maricha* in a higher quantity when compared to *Vatsanabha* is considered as *Vishamarana Dravya*. The synergistic *Vishahara* action of *Vanyopala Bhasma* and *Maricha* nullifies the need for *Tankana*. Further toxicological studies to check the above hypothesis are needed.

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