



## Review Article

www.ijrap.net



### REVIEW ON PHARMACEUTICAL PROCESS TO PREPARE GOOD QUALITY OF DHATU BHASMA

Shiv Om Dixit<sup>1\*</sup>, Seema. M.B.<sup>2</sup>

<sup>1</sup>P.G Scholar, Department of P.G. Studies in Rasashastra and Bhaishajya Kalpana, S.D.M. College of Ayurveda, Kuthpady, Udupi, Karnataka, India

<sup>2</sup>Professor, Department of P.G. Studies in Rasashastra and Bhaishajya Kalpana, S.D.M. College of Ayurveda, Kuthpady, Udupi, Karnataka, India

Received on: 06/07/17 Accepted on: 14/08/17

**\*Corresponding author**

Email: shivom.dixit@gmail.com

DOI: 10.7897/2277-4343.085255

**ABSTRACT**

The pharmaceutical process plays a very important role in the preparation of any medicament. As far as the Bhasma (incinerated product) is concerned, different methods have been explained for Marana (incineration) of a single drug. The method to be adopted for Marana depends on the availability of the drug, the intended use of end product (bhasma) and most importantly the method by which Bhasma can be prepared with less number of Puta (quantum of heat). According to Rasa Ratna samucchaya, the quality of a Dhatu bhasma (incinerated metal) depends on the media which is utilized for the Marana. After reviewing different literatures, it can be stated that Bhasma prepared by using Parada (Mercury) or mercurial product is considered to be the best; the one prepared with herbal drugs is medium in quality; the one prepared by using Gandhaka (sulphur), Manashila (Realgar), Haratala (Orpiment) etc. is less potent and lastly the Bhasma prepared by using Ariloha (enemy metal) is considered to be Durgunaprada (not fit for internal administration). Especially arilohas are used for Dhatuvada (conversion of lower metal to higher one) and their use is mostly seen in the garbha druti processing of parada. Even though the parada of which jarana (processing of mercury) has been done using ariloha marita bhasma (incinerated metal along with enemy metal) can be used for the Rasayana (rejuvenation) purpose, the direct use of ariloha marita bhasma is contraindicated for therapeutic purposes.

Key words: Dhatu, bhasma, ariloha, lohavada, dhatuvada

**INTRODUCTION**

The Vedas are regarded as the oldest scientific literature available on this earth. They not only have described the use of herbal drugs but of metallic preparation also<sup>1</sup>. The use of metals for therapeutic purpose is seen in Atharva Veda<sup>2</sup>. The dosage form in which these metals were used during Vedic period may be different to that of bhasmas of present time. The method of preparation of bhasma or other dosage form is not elicited in Vedas. The use of metals for therapeutic purpose is also seen in Mahabharata<sup>3</sup>. During Samhita period the use of metals for internal administration was seen in different dosage forms like Leha<sup>4</sup> (semi solid dosage form), Churna<sup>5</sup> (powder) and Arishta<sup>6</sup> (self fermented alcoholic preparation). In these preparations, mainly herbal drugs are used as media for Marana and were converted into raja (powder) form. Later in Rasa granthas, the detailed explanation of each loha (metal) along with pharmaceutical processing method to be adopted and its therapeutic uses were dealt in an elaborate manner. The main aim of Rasashastra is to use Parada in different forms to get therapeutic effect, for Rasayana purpose, for Dehavada and for Lohavada. A reference from Raseshwara Darshana states that, a person can achieve Moksha (salvation) by proper use of Parada<sup>7</sup> i.e. he can enjoy Moksha during his life time itself and not after the death. These various references indicate that prime importance has been given to the use of Parada. Even in the preparation of dhatu bhasma, Parada is used as media and this variety of bhasma is considered to be the superior.

Pharmaceutical process plays a very important role in the preparation of any medicine. As far as the bhasma is concerned, different methods of marana processes are mentioned for a

single drug. The selection of medium used for marana process depends on the availability of the drug, the intended use of the end product (bhasma) and most importantly the method by which bhasma can be prepared with less number of puta. According to Rasa Ratna samucchaya, the quality will be decided on the basis of medium which is used during the preparation of dhatu bhasma.

**Table 1: Quality of bhasma with the medium used**

Sl. No.	Medium used for Marana	Quality of bhasma
1	Parada/Parada bhasma	Best
2	Herbal drugs	Medium quality
3	Gandhakadi	Low quality
4	Ariloha	Not fit for internal administration

The bhasma which is prepared by using Parada bhasma or Rasasindura is considered to be the best; bhasma prepared by using herbal drugs is medium in qualities, bhasma prepared by using Gandhakadi dravyas is bad and bhasma prepared by using Ariloha has harmful effect on the body<sup>8</sup>. These verses are mentioned for the preparation of bhasma which is used for internal administration.

**Parada marita dhatu bhasma**

Many references indicate the use of Parada bhasma in dhatu marana and it is considered as the best. The processing methodology itself imparts wonderful qualities to the dhatu

bhasma which helps in effective management of different ailments<sup>9</sup>.

### Herbal drugs marita dhatu bhasma

If roots, fruits, leaves etc. herbal origin drugs are used as media, the obtained bhasma possesses medium therapeutic quality as it contains the constituents of the herbal drugs used for the preparation and also it may require more number of puta to get bhasma siddhi lakshana (features of properly prepared bhasma).

### Gandhakadi drugs marita dhatu bhasma

According to Rasarnava, the dhatu bhasma can easily be prepared by the use of Gandhaka and Makshika and this dhatu bhasma will attain Rasayana property and will be able to cure all the diseases<sup>10</sup>. Here Gandhaka is correlated to Lion and loha is correlated to Elephant. According to Rasa Ratna samucchaya, if Gandhaka, Manashila, Haratala, Makshika, Saindhava lavana, Srotaanjana etc. are used as media, the obtained bhasma possesses bad quality as it contains a little quantity of Gandhakadi dravya in the end product. Though the number of puta required to access bhasma siddhi lakshana will be less, bhasma will be having less therapeutic efficacy.

### Ariloha marita dhatu bhasma

The meaning of ari is enemy. Ariloha means the loha which is the enemy of other loha. The metal which kills the metallic properties of any other metal is considered to be Ariloha. By using ariloha we can easily convert the metal to its bhasma state but if it is used for therapeutic purposes, it imposes harmful effect on the body. According to Ayurveda Prakasha, Yashada is considered as the ariloha for Tamra. Here Yashada is the enemy of Tamra; if Tamra bhasma is prepared by using Yashada, the end product will attain harmful properties<sup>11</sup>. This bhasma is not fit for internal administration.

The detailed explanation of ariloha marita dhatu bhasma is available along with the reference of Parada garbha druti. Swarna, Rajata etc. bhasma are told to be prepared by using ariloha which can easily further be used for Parada garbha druti<sup>12</sup>. Here it highlights importance of ariloha marita dhatu bhasma. Without Parada garbha druti, the Parada cannot be used for Jarana process.

### Other references for Maraka dravya

According to Rasendra Mangala, different media are used for the preparation of dhatu bhasma<sup>13</sup>.

**Table 2: Different maraka dravya to prepare dhatu bhasma (according to Rasendra Mangala)**

Sl. No.	Name of the metal	Maraka dravya	Mishrita varga
1	Swarna/Gold	Naga	Vajree rasa+ Naga
2	Rajata/Silver	Makshika	Snuhi ksheera + Makshika
3	Tamra/Copper	Gandhaka	Aja ksheera + Gandhaka
4	Vanga/Tin	Haratala	Palasha+ Haratala
5	Naga/Lead	Manashila	Arka ksheera+ Manashila
6	Three types of loha/Iron	Hingula	Stree dugdha + Hingula

Here in these references only Naga is considered as the ariloha for Swarna.

The reference of Anandakanda adds to this reference<sup>14</sup>.

**Table 3: Maraka dravya according to Anandakanda**

Sl. No.	Name of metal	Maraka dravya
1	Abhraka satwa	Stree dugdha + Hingula
2	Upaloha	Gandhaka
3	Parada	Vajra

Text Rasendra Chintamani explains Maraka dravya under hema beeja preparation<sup>15</sup>.

**Table 4: Maraka dravya according to Rasendra Chintamani**

Sl. No.	Name of metal	Maraka dravya
1	Naga	Manashila
2	Tamra	Swarnamakshika and Gandhaka
3	Three types of loha	Hingula

### Concept of ari-varga

Reference regarding the concept of Ari-varga is also available in Anandakanda where the author has described the use of ari-varga (Swarnamakshika) in dwandamelapana (combination) of the two dhatus<sup>16</sup>.

### DISCUSSION

Dhatu bhasma is considered as one of the most potent arrow in the quiver of an Ayurvedic physician. The qualities like potent and fast action at low doses, being helpful in managing the

asadhyavyadhi (incurable diseases) makes the role of dhatu bhasma in clinical practice more pertinent. In the context of the same, we get an array of references regarding the preparation of the dhatu bhasma.

Dhatu bhasma prepared by Parada being used as the media is considered to be the best. The probable reason behind this could be conceptualized as follows. In this case Parada acts as a reducing agent. It forms an amalgam with the metals imparting special therapeutic attributes to the dhatu bhasma. Parada acts as a catalyst and helps in the formation of bhasma easily. It imparts its properties like yogavahitwa (synergistic action), laghutwa

(lightness) and rasayana (rejuvenator) to the bhasma rendering it to be the best among the dhatu bhasma prepared by various methods. According to Parada Samhita, dhatu marana should not be done without Parada and Parada sevana should not be done without Abhraka; if done so then it is going to do the vedha<sup>17</sup>(damage to the cells). Similarly, it is also quoted that if a bhasma prepared without using Parada is administered in a person then it is going to get deposited in the stomach cells as kitta<sup>18</sup> (waste product).

The dhatu bhasma prepared by using herbal drugs (moolikadhibhi) as medium is considered to be madhyama (medium in efficacy) because here in this case, the number of puta required will be more. Subsequently the time required to prepare bhasma will also be more. Moreover, high temperature is required to prepare bhasma by these dravya. Indeed the herbal drugs mentioned for marana may not be available in all the seasons. Though the alkaline or acidic constituents of these herbal drugs are helpful in the disintegration of the atoms of the dhatu and formation of newer compounds, this bhasma is considered to be inferior to that of Parada marita bhasma. The logic behind this interpretation could be put forward as, some of the organic matter of these herbal drugs may get incorporated with the metals and hence acts as impurity there. Though the percentage of such matter is very less, it may alter the therapeutic efficacy of the metal.

The other method of dhatu bhasma preparation is by using Gandhaka, Manashila etc. dravya as the media. Though this bhasma can be used for therapeutic purposes but its efficacy is certainly going to be less as compared to that of the bhasma prepared by using Parada or herbal drugs as the media. Here Gandhaka acts as reducing agent and facilitates the formation of the bhasma easily but at the same time Gandhaka will not get completely evaporated. This residual Gandhaka may act as an antagonist at times and thus reduces the therapeutic efficacy of the dhatu bhasma. This may also change the properties of the metal completely and due to this reason bhasma prepared by this method is least preferred for clinical purposes.

The last category of dhatu bhasma is prepared by using ariloha as media. Here ariloha means any loha (dhatu) which is considered to be the enemy of the metallic properties of any other metal. This kind of bhasma is not advisable for clinical purposes. This method requires less number of puta and is simple as far as the preparation aspect is concerned. The ariloha may have lesser melting point as compared to the main dhatu. So when the metals are incinerated along with the ariloha, their melting point also decreases and the bhasma could be prepared easily. They also make the metal brittle and hence facilitate the particle size reduction. Contrary to being the easiest method of preparation, this category is contraindicated for the therapeutic purposes. This is because the ariloha might not only kill the metallic properties but also the therapeutic properties of the metal. They might also form such compounds which could not be absorbed and assimilated in the body leading to their deposition in the tissues which might cause toxicity symptoms to arise in due course of time. These ariloha may impart teekhsna (bad quality) and ushna (hot potency, more than required) properties and also adulterates the dhatu bhasma. This category of bhasma is readily utilized in the lohavada where metals are used just for the processing of Parada.

In the context of dhatumelapana, we also get the reference of ari-varga. This ari-varga is definitely different from the ariloha. This not only incorporates the loha (metal) but also other rasa dravya (minerals). Their utility in dhatumelapana could also be understood in the context of melting points. They could decrease

the melting point of the metal having higher melting point and hence may facilitate the easy combination of the two dhatu.

## CONCLUSION

Ariloha or shatru dravya marita dhatu bhasma is used in Parada garbhadruti and dhatuvada. Though dhatu marana can easily be done with Gandhaka, Manashila, Haratala etc., the prepared bhasma is considered to have inferior therapeutic efficacy. Dhatu bhasma prepared by using herbal drugs is considered better as compared to the one prepared by ariloha and other rasa dravya. The dhatu bhasma prepared by using Parada bhasma or Rasasindura certainly has excellent therapeutic qualities and is considered to be superior among all other methods.

## REFERENCES

1. Rajshekhar Pandey, Metals and Metallopharmaceutics, Chapter 1, 2<sup>nd</sup> Ed. Raipur: Vaibhava Prakashana; 2008; p.1.
2. Rajshekhar Pandey, Metals and Metallopharmaceutics, Chapter5, 2<sup>nd</sup> Ed. Raipur: Vaibhava Prakashana; 2008; p.49.
3. Rajshekhar Pandey, Metals and Metallopharmaceutics, Chapter5, 2<sup>nd</sup> Ed. Raipur: Vaibhava Prakashana; 2008; p.49.
4. Agnivesha, Charaka Samhita revised by Charaka and Dridhabala with Ayurveda deepika commentary of Chakrapanidatta edited by Vaidya Jadavji Trikamji Acharya, Chikitsa Sthana, Rasayana Chikitsa, Tritiya Pada, Verse No. 15-23, 1<sup>st</sup> Ed. Varanasi: Chaukhambha Orientalia; 2007;p.384.
5. Sushruta, Sushruta Samhita with Nibandhsangraha commentary of Dalhanacharya and Nyayacandrika Panjika commentary of Gayadasacharya edited by Vaidya Jadavji Trikamji Acharya, Chikitsa Sthana, Mahakustha Chikitsa, Verse No. 11, reprint Ed. Varanasi: Chaukhambha Orientalia; 2014; p.449.
6. Vagbhata, Astanga Hridaya with Sarvangasundara commentary Of Arunadatta and Ayurveda Rasayana Commentary of Hemadri edited by Bhisagacharya Harisastri Paradakara Vaidya, Chikitsa Sthana, Prameha Chikitsa, Verse No. 29-32, 10<sup>th</sup> Ed. Varanasi: Chaukhambha Orientalia; 2014; p.679.
7. Umashankara Sharma 'hrishi', Hindi Sarva Darshana Samgraha, Raseshwara Darshana, Chapter No. 9, Verse No. 3, reprint Ed. Varanasi: Chaukhamba Vidhyabhawana; 2001; p.323.
8. Vagbhata, Rasa Ratna Samucchaya with Siddhiprada commentary of Siddhinandana Mishra, Chapter No. 5, Verse No. 12, 1<sup>st</sup> Ed. Varanasi: Chaukhamba Orientalia ; 2011; p.143.
9. Dhundhukanatha, Rasendra Chintamani with Siddhiprada commentary of Siddhinandana Mishra, Chapter No. 6, Verse No. 2, reprint Ed. Varanasi: Chaukhamba Orientalia; 2011; p.69.
10. Indradeo Tripathi, Rasaarnava with Rasachandrika commentary edited by Shri Krishna Dixit, Chapter No. 7, Verse No. 150-151, 4<sup>th</sup> Ed. Varanasi: Chaukhamba Sanskrit Series Office; 2001; p.109.
11. Madhava Upadhyaya, Ayurveda Prakasha with Arthavidyotini commentary of Gularaja Sharma Mishra, Chapter No. 1, Commentary of Verse No. 252-253, reprint Ed. Varanasi: Chaukhamba Bharti Academy; 2007;p.354
12. Madhava Upadhyaya, Ayurveda Prakasha with Arthavidyotini commentary of Gularaja Sharma Mishra, Chapter No. 1, Commentary of Verse No. 252-253, reprint Ed. Varanasi: Chaukhamba Bharti Academy; 2007;p.129.
13. Nagarjuna, Rasendra Mangala with Aihore commentary of H.S.Sharma, Chapter No. 2, Verse No. 53-55, reprint Ed. Varanasi: Chaukhamba Orientalia; 2008; p.45.

14. Shreebhairava, Anandakanda kriyakarana vishranti with siddhiprada commentary of Siddhinandana Mishra, Chapter No. 7, Verse No. 27-28, 1<sup>st</sup> Ed. Varanasi: Chaukhamba Orientalia; 2008; p.732.
15. Dhundhukanatha, Rasendra Chintamani with Siddhiprada commentary of Siddhinandana Mishra, Chapter No. 3, Verse No. 124, reprint Ed. Varanasi: Chaukhamba Orientalia; 2011; p.38.
16. Shreebhairava, Anandakanda amriteekarana vishranti with siddhiprada commentary of Siddhinandana Mishra, Chapter No. 4, Verse No. 211-212, 1<sup>st</sup> Ed. Varanasi :Chaukhamba Orientalia; 2008; p.74.
17. Niranjana Prasada Gupta, Parada Samhita with Hindi Teeka, Chapter No. 56, Verse No. 17, reprint edition. Mumbai: Khemaraja Shreekrishnadasa, Shree Venkateshwara Press; 2002; p.491.
18. Niranjana Prasada Gupta, Parada Samhita with Hindi Teeka, Chapter No. 56, Verse No. 18, reprint edition. Mumbai: Khemaraja Shreekrishnadasa, Shree Venkateshwara Press; 2002; p.491.

**Cite this article as:**

Shiv Om Dixit and Seema. M.B. Review on pharmaceutical process to prepare good quality of dhatu bhasma. *Int. J. Res. Ayurveda Pharm.* 2017;8(5):106-109 <http://dx.doi.org/10.7897/2277-4343.085255>

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 publish 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.