

CONCEPT OF BHASMIKARANA

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ABSTRACT

Bhasmas are unique preparations of Ayurveda. They are commonly used in the treatment of diseases. They have great therapeutic value because they get absorbed easily in the body even in very small doses. This is due to their micro fineness.

Preparation of Bhasmas, is an elaborate process involving Sodhana and Bhasmikaran. The classical texts of Ayurveda prescribe in detail the way the above processes need to be performed. Bhasmas are prepared by Puta method. There are different methods of Putas explained for different metals and minerals according to their physical and chemical nature.

Bhasmas are prepared by the process of Marana by Putapaka method, the metals and minerals are converted in to micro fine form. The present study aims to study in detail the Concept of Bhamikarana as explained in classical Rasa Shastra texts.

KEYWORDS – Bhasma, Puta, Marana

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INTRODUCTION

Rasashastra is the science of herbo-mineral-metallic compounds. It mainly revolves around "Mercury" and its preparations. It also describes about various apparatuses, different kinds of furnaces, heating devices and heating schedules etc.

The review of ancient Rasa literature revealed that the ancient Rasaacharyas have recognized doshas in almost all drugs including Metals, Minerals and Mercury etc. They have specifically recognized the bad effects of each doshas of the drugs. To remove these doshas the have described suitable techniques and procedures such as Sodhana, Marana etc.

The Sodhana and Marana process which occupy a major portion of Rasa Shastra and a very important place amongst various processes explained in Rasa Shastra. They play a very important role in making the Ayurvedic Metallic and Mineral preparations free from toxicity and making them easily absorbable in to the system.

Rasa Shastra Scholars have evolved and described Marana process which literally means to kill i.e. when the drugs of Metal/Mineral origin have to undergo bhavana and putapaka treatments for several times. The repeated Bhavana and Putapaka treatments help in the conversion of the finest particles.

Definition of Sodhana

Sodhana is a process in which different drugs are treated with various peshanadi (grinding etc.) karmas after mixing them with other drugs mentioned for the purpose with a view to remove their malas (toxins)¹.

OBJECTIVES OF SODHANA PROCESS

In Rasa Shastra almost all the drugs right from mercury to poisonous herbal drugs are advised to be processed with specific sodhana methods before their internal use. Hence the Sodhana process is aimed to remove harmful substances/impurities present in the drugs. It has been observed that if Parada, Swarna etc metals and Abhraka, Makshika etc minerals are used in their impure form these are likely to produce harmful toxic effects or various diseases in the body. It also converts metal/mineral drugs in to suitable forms for further treatment with marana process. By the application of various sodhana processes prescribed in Rasa classics, physical and chemical changes take place and the impurities are removed from the drugs.

Definition Of Marana

Marana is the process in which metals and minerals are made in to paste with various drugs and juices. Then it is subjected to fire treatment in a measured manner for reducing them to ashes.

OBJECTIVES OF MARANA PROCESS

It is described in Rasa Shastra that various metals, minerals, gems and animal products etc. should be used after converting them in to bhasma or pisti form. The main objectives of making bhasma are these drugs are reduced to finest particles. So that these could be absorbed in to the system, mix with raktadi dhatus and produce their desired effects without producing harmful side effects. Besides this their natural properties are also enhanced and even new properties are also inducted.

Definition Of Putapaka

That which indicates the quantum of heat required by the Rasadi dravyas (Mercury/Metal/Mineral) for their “Proper paka” or incineration is known as Puta ². As neither less nor more heating is desirable. The medicines which are properly made pakva (supakva) are considered best i.e. hitamoushadha .Because they are only suitable for internal administration.

In general sense puta means the mode of heating. It indicates the source and amount of heat required or considered to be necessary for the paka (conversion) of the substance in to a suitable dosage form so as to make it absorbable in to the system. Thus the term putapaka used in this context forms a part of Marana process. This helps in converting the metals and minerals in to bhasma form by disintegrating their particles to a fine state of subdivision through the application of heat from different sources. In Ayurvedic Rasa literature various types of putas have been mentioned. These are considered

necessary for preparing different bhasmas from different Metals and Minerals. The Gaja Puta pit is shown in **Figure 1**.

Putas are the ancient method of heating devices, which are used for the incineration of different Rasadravyas like Metals, Minerals and Precious Stones. Putas are being used since Nagarjuna’s period. The texts describing putas and their time period is shown in **Table 1**. The process of giving Puta is shown in **Figure 2**.

Puta Yantra

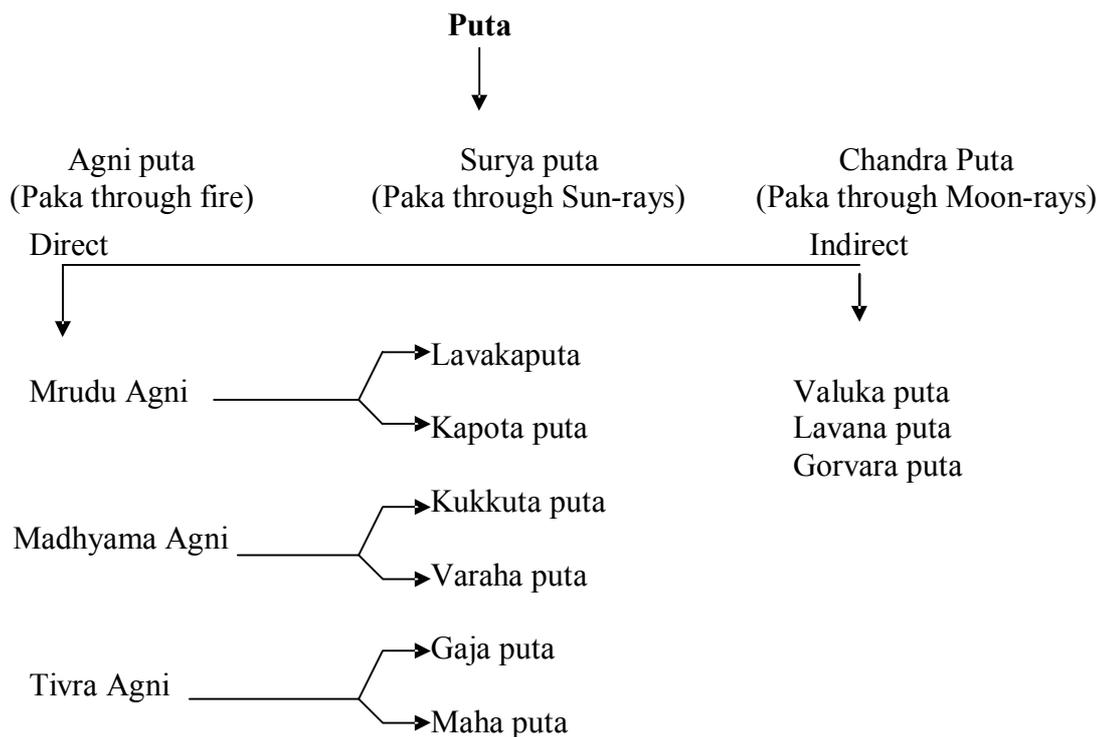
Puta is the ancient method of heating device explained by almost all Acharyas which is used for the Marana / Incineration of different metals, minerals etc. This yantra consists of two earthen Sharavas³ or pots which are keeping upside down i.e. the mouth of two Sharavas or pots are in contact with each other and the Dravya used for Marana is kept inside, properly filled the gap between the two Sharavas or pots and sealed with the help of Gopichandana smeared cloth and dried. Gopichandandana was used in olden days for smearing in the cloth. Now a days Multanimatti is used. Puta yantra is shown in **Figure 3**.

CLASSIFICATION OF PUTAS

According to the texts Putas have been divided into various types as below.

Different Types of Putas According To The Texts

There are different types of putas explained in various Rasa Shastra text books. They are shown in **Table 2** and **Table3**



Effects Of Putas

Putas is an important part of Marana process. Any Metal or Mineral subjected to Marana process needs some kind of puta for its paka. The property of particular Metal or Mineral increases in proportion to the number of putas given during Marana process. It is mentioned in Rasa Prakasha Sudhakara that more number of putas makes the metal highly effective. According to Rasendra Chudamani⁴, a greater number of putas help in making the bhasma more ruksha (rough), sukshma (fine), jalaplava (floatable on water) and in producing vichitragunadeepti (wonderful properties) in the bhasma. Further according to Rasendra Sara Sangraha⁵, putas numbering 10 – 100 enhances vyadhihara property in bhasma, 100 – 500 putas produce Vajeekarana property and the putas numbering 100 – 1000 are claimed to have the Rasayana property.

Putas Phala And Prayojana

The bhasmas of Lohadi dhatu becomes apunarbhava. They float on water and become rekhapurna. The bhasma attains deepana guna and sheegravyapti⁶. Doshavinasha occurs due to puta and new gunas are added to the bhasma prepared⁷.

Asuddha Asamyakmaritasya Dosha

The bad effects of impure and unincinerated metals and minerals are well explained in Rasa Shastra texts. Even the treatment for which is also found mentioned in the texts.

For example, in case of Swarna Makshika, if it is not properly purified and incinerated makshika may cause mandagni, loss of strength, vishtamba, netra roga, kushta and gandamala⁸.

And the treatment is also mentioned in the texts as, intake of Kulatha kwatha or Dadima twak kwatha for makshika janya dosha shanthi⁹.

In case of Naga, intake of asuddha naga bhasma causes prameha, kshaya, kamala, kilasa kushta, pakshagata, sandhisula etc. The intake of Naga Bhasma which is not properly incinerated causes kushta, gulma, pandu, prameha, mandagni, sotha and bagandhara¹⁰.

The treatment for this is 1/4th Ratti of swarna bhasma with haritaki churna and 1 masha of sharkara for three days¹¹.

BHASMA PARIKSHA

The knowledge of various methods of examination of these Bhasmas is absolutely necessary because one single method may not be suitable to be applied for examining different bhasmas on account of their natural structural composition. It differs according to the type of metal/mineral used. The tests may be divided into Physical tests and Chemical tests.

Physical Tests**Varitara**

Jalaplava is the synonym of this test. It should be present in all the prepared Bhasmas. The meaning of this term is to float over the surface of water. If the bhasma floats over the water it can be regarded as a standard one¹².

Unnama Or Uttama

This is the reassessment test of the floating character of bhasma. A grain is to be kept carefully on the film formed in the previous test in water. The bhasma should not sink in water. Then the bhasma can be considered good¹³. Through these two tests lightness of the bhasma may be proved.

Rekapurnata

This is another test which again indicates the fineness of a bhasma. Here the bhasma is rubbed in between the thumb and the index finger. The particles of bhasma attain such a state that the bhasma could enter the furrows of the fingers. The test is known as Rekhapurnata¹⁴. If the bhasma does not attain this stage some more putas are required to complete the Marana process.

Anjana Sadrusha Sukshmatva

The Bhasma on application to eyes as Kajal, which does not cause any irritation proves the maximum fineness and softness, only the micro fine preparation can give such a results.

Nischandratva

This is not a common test applicable to all the bhasmas. It is prescribed only for the bhasmas of certain drugs like Swarna, Abhraka etc. A portion of bhasma should be rubbed in between the fingers and thumb and the rubbed portion is examined in sun's rays. If any shining particle is seen over the finger the bhasma cannot be Nischandra and should be subjected to further putas to make it completely lusterless¹⁵.

Gatarasatva

The properly prepared bhasma attains tastelessness. The presence of taste in Bhasma indicates the imperfectness of Bhasma. This may be due to less heat and the presence of inorganic compounds.

Mridutva And Slakshnatva

A Bhasma should be Mridu and Slakshna to touch. The softness and smoothness of the bhasma is also due to its fineness. If the bhasma does not acquire the required stage of fineness it cannot be soft and smooth and so it needs more putas.

Chemical Tests**Nirdhoomatva**

This is also not a common test applicable for all bhasmas. This is for Haritala and drugs containing Gandhaka. Some portion of bhasma is put on the fire to see whether fumes are coming out. If there is presence of

fumes it indicates that the Marana process is incomplete and some more putas are needed to complete the process.

Apunarbhava

This test is applicable to Metallic bhasmas only. If the bhasma is mixed the Mitra panchaka drugs i.e. Guda, Gunja, Tankana, Madhu and Gritha and put in to fire and if it is not converted into original metal, it is known as Apunarbhava¹⁶.

Nirutha

This test is also meant for detection of the regaining character of metallic bhasma. Silver which melts at a lower temperature is mixed with the bhasma to test its Niruthatva with a view to detect any unreduced or metallic portion remaining in the bhasma is attracted towards the melted silver and will mix with it. The weight of silver increases and proves the bhasma as Anirutha¹⁷.

The tests mentioned above are applicable totally or partially to the Bhasmas of different drugs. All the tests are not applicable to all the bhasmas. Selected tests are applicable to particular bhasmas. Until and unless these are not achieved, the process of bhasmikarana should not be considered as complete.

ANUKTHA PUTA MANA

In the absence of any recommendation about the type of Puta to the applied it should be decided by considering the nature of the metal/mineral subjected to Puta paka. If it is Mrudu dravya then the Puta having low capacity should be chosen but if it is a Madhyama or Katina dravya then the Puta having moderate or high degree of heating capacity should be used¹⁸.

Rasa Tarangini also mentioned the same opinion about the Anukta Puta that if there is no indication in the text about specific Puta, the scholar should asses the type of Puta on the basis of the hardness or softness of the minerals and metals decide accordingly¹⁹.

Rasa Kamadhenu, Rasendra Sara Sangraha, Rasa Ratna Samuchhaya have also mentioned the same opinion about the Anukta Puta.

DISCUSSION

Some vaidyas advise to use earthen pots instead of earthen lids (Sarava Samputa) for closing the pillets. It is not desired as in case of pots fire contact with metal or mineral would not be to the desired extent and thus hampering the desired chemical reaction to set in properly. Hence the use of sarava samputa is highly specific and appreciable in this context. In Sarava Samputa also two layers of pillets may only be put and not more so as to allow the heat reaction to effect the metal or mineral as per requirement.

For Abhraka, Loha, Mandura, Tamra and Makshika initially high temperature may be given followed by gradual tampering. If same temperature is given up to the

end of the process the bhasma does not become smooth and soft. And its colour change is also not up to the standard level.

In case of Swarna, Rajata and Naga initially low temperature is required followed by gradual increase. On completion of the process the bhasma should not contain specific taste and should be non - irritating to the tongue. And then the bhasma thus obtained is ground well, sieved or filtered through a silky cloth (at least 100 number mesh so that no bigger particles in the final product may remain present.

CONCLUSION

As far as possible Vanyopalas should be used as fuel and if wooden charcoals are to be used as fuel then proper care should be taken for the maintenance of heat. Now – a –days electric furnaces are also used for preparing almost all the bhasmas. But before using electrical furnaces we should standardize the heating schedule and temperature range of different putas. And once that is done the heating through electric muffle furnace may be used to attain better heating results and superior quality finished products. As in this system controlled heat may yield best results and heat loss may also be avoided.

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Table 1: Texts describing puta and their time period

Sl. No.	Name of the Text	Time Period
1.	Rasendra Mangala	7 th – 8 th century
2.	Rasa Hridaya tantra	9 th – 10 th century
3.	Chakrapani in Chakradatta	11 th century
4.	Rasarnava	12 th century
5.	Ananda Kanda	12 th century
6.	Rasendra Chudamani	12 th century
7.	Vanga Sena	12 th century
8.	Rasa Ratna Samuchaya	13 th century
9.	Rasa Prakasha Sudhakara	13 th century
10.	Rasendra Chintamani	13 th century
11.	Rasendra Sara Sangraha	13 th century
12.	Sharangadhara Samhita	14 th Century
13.	Bhavaprakasha	16 th century
14.	Rasa Kamadhenu	16 th century
15.	Ayurveda Prakasha	17 th century
16.	Ayurvediya Rasashastra	17 th century
17.	Rasa Tarangini	20 th century
18.	Rasa Jananidhi	20 th century

Table 2: Different types of putas according to various Rasa texts

S.No	Name of the text	Maha Puta	Gaja Puta	Varaha Puta	Kukkuta Puta	Kapota Puta	Lavaka Puta	Laghu Puta
1.	Ayurveda Prakasha	+	+	-	-	-	-	+
2.	Rasa Kamadhenu	+	+	+	+	+	+	-
3.	Rasa Chintamani	+	+	+	+	+	+	-
4.	Rasa Jananidhi	+	+	+	-	-	+	-
5.	Rasa Tarangini	+	+	+	+	+	+	+
6.	Rasa Prakasha Sudhakara	+	+	+	+	-	-	+
7.	Rasa Ratna Samuchaya	+	+	+	+	-	+	+
8.	Rasarnava	-	+	-	-	-	-	-
9.	Rasendra Chintamani	+	+	+	+	-	+	+
10.	Rasendra Sara Sangraha	-	+	+	+	-	+	-

Table 3: Different types of putas according to various Rasa texts

S. No	Name of the text	Kumbha Puta	Gorvara Puta	Bhanda Puta	Bhudhara Puta	Valuka Puta	Surya Puta
1.	Ananda Kanda	-	+	-	+	+	-
2.	Ayurveda Prakasha	-	+	-	+	+	+
3.	Rasa Kamadhenu	+	+	+	+	+	+
4.	Rasa Chintamani	-	+	+	+	+	-
5.	Rasa Jananidhi	-	+	+	+	+	+
6.	Rasa Tarangini	+	+	+	+	+	+
7.	Rasa Prakasha Sudhakara	-	+	+	-	-	+
8.	Rasa Ratna Samuchaya	+	+	+	+	-	+
9.	Rasarnava	+	-	+	-	-	+
10.	Rasendra Chintamani	+	+	+	-	-	+
11.	Rasendra Sara Sangraha	+	+	-	-	-	-



Fig 1: Pit for Gaja Puta



Fig 2: Performing Puta



Fig 3: Puta Yantra