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## Mode of Action of Apunarbhava Bhasma Pareeksha through the Mitrapanchaka Gana



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### ABSTRACT

*Ayurveda* uses metals and minerals in the form of bhasma (nanoparticles). Preparation bhasma is performed by shodhana (purification) and Marana (incineration) processes. Shodhana is not only reducing impurities but also enhances the properties of metals and minerals. This is the first level in Marana. Marana is performed by mardana (trituration) with herbs and by giving puta (heat) that is to give puta to metals and minerals. It's useful to check the qualities of bhasma and to verify the completion of the bhasma procedure. In *ayurvedic* texts, many bhasmapareeksha's<sup>1</sup> are available but the apunarbhava bhasmapareeksha plays the major part among them. Those are varna (color), rekhapurnatwa, varitaratva, unnama<sup>2</sup>, apunarbhava, niruttha<sup>3</sup>, amladadhi pareeksha, dantagre Kacha Kacha, shlakshnata and mriduta, nischandra, anjanasadrusha sukshmatwa, nirdhoomatwa, gatara satwa, etc. Apunarbhava means punar utpada abhava<sup>4</sup>. Incapability to regain its original form. This test indicates the bhasma irreversibility state of becoming again the same metal or mineral. Apunarbhava and niruttha bhasma<sup>5</sup>pareeksha are used for apakwa bhasma or incomplete bhasma. Here apunarbhava bhasmapareeksha is performed with mitrapanchaka Gana dravyas or dravaka gana's. Mitrapanchaka gana<sup>5</sup> are guda (jaggery), ghrita (ghee), gunja (abrus precatorius), Madhu (honey), tankana (borax). Andrasataranginikara by replacing the guda by guggulu also same. Make a mixture of mitrapanchaka Gana and the sample of bhasma then heat it strongly according to its method of preparation temperature. Product of mixture at last in a crucible and not converted again into metallic form then its apunarbhava pareeksha (irreversibility test) is passed otherwise repeat the same process up to it passes the apunarbhava. In this article, the mode of action of mitrapanchaka Gana in apunarbhava pareeksha is discussed.

## INTRODUCTION

The principle of *rasa shastra* helps in enhancing the therapeutic properties of *rasa* drugs, therefore, these drugs nourish the whole body, improve the immune system and hence increase the natural resistance to infection. The word *rasa shastra* means the science of mercury. It is a specialized branch of Ayurveda dealing mainly with materials which are known as *rasa dravyas*.

### *Bhasma pareeksha*

A *bhasma* means ash obtained through incineration, the starter material undergoes an elaborate process of purification and this process is followed by the reaction phase, which involves the incorporation of some other minerals and/or herbal extract.

*Bhasma* is a unique preparation of *Ayurveda* that is obtained after the different processes, like *Shoshana*, *Bhavana*, and *Marana*. These *shodhana* processes help to remove the impurities and reduce the particle size. The term *Marana* means killing.

*Apunarbhava* means *punar utpada abhava*. Incapability to regain its original form. This test indicates the *bhasma* irreversibility state of becoming again the same metal or mineral.

*Apunarbhava* means incapability to gain its original form. The original metal and mineral *bhasma* cannot be reversible after the *Marana* process with *mitrapanchaka gana*.

The *Bhasma* sample is mixed with *mitrapanchaka Gana dravyas* and the same amount of heat is given according to the *bhasma* sample then leave it for *swangasheetata*. Open sample and check its metallic form even in minute amount. If there is any reversibility of metal or mineral particles then repeat the process up to get the irreversibility.

*Mitrapanchaka gana*<sup>7</sup>: As like the *dravaka Gana dravyas*, the *mitrapanchaka* also do the *dravana* (liquefies and maintain temperature) and *pakwapakwata* (properness) of the given *bhasma* sample. But in both of two have little change that is *mitrapanchaka* itself says it contains 5 numbers of ingredients or contents.

- 1) *Ghrita*<sup>8</sup> (ghee)
- 2) *Gunja*<sup>9</sup> (Abrus Precatorius)
- 3) *Madhu*<sup>10</sup> (Honey)

- 4) Tankana<sup>11</sup> (borax)
- 5) Guda (jaggery)<sup>12</sup>
- 6) *Guggulu* (Commiphora Mukul )<sup>13</sup>

### Drug Review

S.No	Drug	Latin name	Rasa	Guna	Virya	Vipaka	Karma
1	<i>Guda</i>	Saccharam officinarum	<i>Madhura</i>	<i>Guru</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Vata pitta shamaka</i>
2	<i>Gunja</i>	Abrus precatorious	<i>Tikta, Kashaya</i>	<i>Laghu, Ruksha, Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha Vata shamaka</i>
3	<i>Tankana</i>	Sodium pyro borate	<i>Katu</i>	<i>Ushna, Ruksha, Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha Vata hara, Deepa na, Saraka</i>
4	<i>Ghrita</i>	Clarified butter	<i>Madhura</i>	<i>Sheeta, Mrudu</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Vata-pittahara hara, Vrushya, Medhya</i>
5	<i>Madhu</i>	Honey Apis mellifera	<i>Madhura, Kashaya</i>	<i>Guru, Ruksha</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Tridoshahara</i>
6	<i>Guggulu</i>	Commiphora Mukul	<i>Katu, tikta, kashaya</i>	<i>Laghu, Sara, vishada</i>	<i>Ushna</i>	<i>Katu</i>	<i>Balya, rasayana, vanya, bhagnasandhanakrt, medohara</i>

According to *rasendrachintamani*, these *dravyas* are acted as reducing agents.

In *apunarbhava bhasma*, *pareekshaany bhasma* can mix with *mitrapanchaka Gana* and heat then free metals will collect and form a single mass which can be observed after the *pareeksha*. If there are no metal particles then the *bhasma* is passed the *pareeksha*.

## MATERIALS AND METHODS

According to *rasaratna samuchchaya mitrapanchaka gana* are *gunja, guda, ghrita, madhu, tankana*.

According to *rasatarangini*<sup>14</sup> *mitrapanchaka gana* are *gunja, guggulu, ghrita, madhu, tankana*. Here instead of *guda guggulu* is taken.

*Mitra* means friends. *Mitrapanchaka gana* also known as *dhatu dravaka* or *lohadravaka*.

But in *rasaratna samuchchya*<sup>15</sup> *dravaka gana* are *guggulu withguda, gunja ghrita, madhu, tankana*. These six drugs are used to melt the metals. Used In the *satwapatana* process of metals and minerals.

### The procedure of *apunarbhava pareeksha of bhasma*:

A sample of *bhasma* is to be taken and mixed with *mireapanchaka Gana* homogeneously with equal weights. Kept in crucible with *sharava samputayukta sandhi bandhana* properly. Sufficient *puta*(direct heat) is to be given. The same temperature or more than the *Marana* process temperature should be given and leave it for *swangasheetata*(shelf cooling). Then take out the sample mixture and observe the free metal radicals, metal taricles, and solid heavy metal or mineral, if available then find out it and repeat the whole *bhasma* for *Marana* process or *bhasmeekarana*. Again, repeat the same *pareeksha* up to the irreversibility achieved.

## DISCUSSION

### *Gunja*

Is *vyavayi* mean quick action in the body? So helps to increase the rate of a chemical reaction.

### *Ghrita and Madhu*

Are *yogavahi*. The meaning of *yogavahi* is to be capable of adopting and acquiring the properties of the drug with which it mixes.

### **Guda**(jaggery)

Is *snigdha and madhura*. They work as a catalyst and increases the speed of reaction.

*Except for tankana, all the mitrapanchaka gana are naturally organic. Guda, ghrita, Madhu contains fructose, sucrose, glucose. After the Marana process in apunarbhava pareeksha, all the mixture is converted into carbon as per the chemical reactions.*

### **Tankana**

Is sodium borate is a mineral. It's used as a flux in metallurgy and in the manufacturing of artificial gems.

Acts as a reducing agent. According to *rasendra chintamani*<sup>17</sup>.

Used for “*Ekikaran*” which is a homogeneous mixture of *abhraka satwa* with *mitrapanchaka Gana* and strongly heated homogeneously then becomes like *kansya*.

### **Guggulu**

Helps to retain the higher temperature for a longer period of time.

## **CONCLUSION**

The mitrapanchaka Ganas are alkaline and organic in nature, so allows the bhasma's metal particles to get melt at a low temperature than the actual temperature of bhasma given at the Marana process. if the sample becomes hard after the procedure then checks it once after swangasheetata. If hardness or metal particles show then repeat the same Marana for making bhasma and then again do apunarbhava pareeksha for irreversibility.

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