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ROLE OF MITRAPANCHAKA GANA IN APUNARBHAV BHASMA PARIKSHA

[1]Deshmukh Kavita Shailesh
[1]Associate Professor- Rasashastra Bhaishajyakalpana Sumatibhai Shah Ayurved College, Hadapsar.

ABSTRACT

In Ayurveda Metals and Minerals are used in the form of *Bhasma* which are nanoparticles. *Bhasma* is prepared by performing *Shodhan* and *Marana* processes. *Shodhan* means the purification of metals and minerals. This is not only reducing the impurities but also enhance the properties of metal and mineral. It is the first step of *Maran* i.e. *Bhasmikaran*. *Maran* is performed by triturating with herbs and giving heat i.e. *Puta* to metal or mineral .To check the quality of *Bhasma*, to see the procedure of *Bhasma* is completed or not, Various Testes are described in Ayurvedic texts. Those are *Rekhapurnatva, Varitaratva, Unam Pariksha, Apunarbhava* and *Niruttha* etc. *Rekhapurnatva, Varitaratva* tests are useful to check the particle size, weight, Fineness etc. To observe that the *Bhasma* is prepared completely or not, are there any particles of metals or minerals are remained *Apakwa, Apunarbhava* and *Nirutthatwa* tests are important. *Apunarbhava Bhasma Pariksha* is performed with the group of *dravyas* called *Mitrapanchaka Gana* or *Drawaka Gana*. Jaggery, *Gunja* (*Abrus Precatorious)*, *Ghruta*,Borax and Honey are the contents of *Mitrapanchaka Gana*. *Bhasma* is called as *Apunarbhava*, when it is strongly heated along with Jaggery, *Gunja, Ghruta*,Borax(*Tankan*) and Honey in a crucible and not converted again into metallic form. In this article Review of *Mitrapanchaka Gana* and its role in *Apunarbhava Bhasma Pariksha* is discussed.

Keywords: *Apunarbhava, Mitrapanchaka gana, Bhasma*

INTRODUCTION: In Rasashastra any metal or mineral is converted in the form of *Bhasma* by performing *Shodhan* and *Marana* process. For the assessment of *Bhasma* whether the procedure is completed or not and to check the quality and purity of *Bhasma* various Ayurvedic parameters are mentioned in Ayurved texts[1]. These are organoleptic tests i.e. Colour, Odour, Taste etc.

Physical Tests i.e. *Rekhapurnatva, Varitaratva, Unam pariksha* etc.

Chemical Tests i.e. *Apunarbhava* and *Niruttha Pariksha*.*Rekhapurnatva-Bhasma* when rubbed within fingers it should be go into the *Rekha* means lines on the fingers.

Varitaratva- Bhasma which can be float on water is called *Varitara.*

Unam Pariksha-When *bhasma* floats on water, particle of grain put on that *bhasma* can be floating on it this is called *Unam Pariksha*.These tests are related to weight, particle size and fineness of Bhasma[2].

Apunarbhav and *Niruttha pariksha* , these are mainly used to assess the complete formation of *bhasma*[3]. If any particle is remained *Apakwa* the *bhasma* procedure is repeated. These tests are used for *bhasma* of metals.

Apunarbhava means *Bhasma* should not return to their original metallic form even in smallest amount, if heated with *Mitrapanchaka Gana* dravyas i.e. *Guda*-Jaggery, *Gunja*(*Abrus Precatorious), Ghruta,Tankan*-Borax and *Madhu*-Honey,

at the same temperature range given during *Marana* process.

MATERIALS AND METHODS:

Apunarbhava Bhasma Pariksha-

Apunarbhava means Punar utpada Abhava[4] Incapability to regain its original form. This test indicates the *bhasmas* irreversible state of becoming again the same metal or mineral. *Apunarbhava bhasma* is that, from which the original metal cannot be re obtained even after blowing in the fire, mixing with *Guda*-Jaggery,*Gunja*(*AbrusPrecatorious*),*Ghruta* ,*Tankan*-Borax and *Madhu*-Honey[5]

Mitrapanchaka Gana:

Melayati sarwa dhatuna angaragnou tu dhamanen[6].

It is the group of five *dravyas* i.e. Gunja (*Abrus Precatorious)* Honey,Jaggery, *Tankana*(Borax), *Ghruta*. *Bhasma* is mixed with these dravyas and same amount of heat is given. It should not return to their metallic form even in smallest amount, if heated with *mitrpanchaka gana dravyas*. These *dravyas* melts the metals and mixed with each other like friends means *Mitra*, so they are called as *Mitrapanchaka*.

As per Rasatarangini[7], The group of *Gunja, Tankana, Ghruta, Guggulu* and Honey is called as *Mitrapanchaka*. Instead of Jaggery, *Guggulu* is used. These *dravyas* are used to melt the metals i.e. *Lohadravaka/Dhatu dravaka*.

In Rasaratna samuchchaya[8] Combination of *Gunja, Ghruta,* Jaggery, Honey, *Tankan* and *Guggulu* is described as *Dravaka Gana* . These all six *dravyas* are used to melt the metals. These are used in *Satwapatan* process of Metals and minerals.*Gunja* (*Abrus Precatorious*)-It is classified under *Upavisha*. It is *Vyavayi* means quick action in body. Therefore it helps to increase the rate of chemical reaction.

Madhu and *Ghruta* are *Yogavahi*. *Yogvahi* means which is capable of adopting and acquiring the properties of the drug with which it mixes.[9] *Guda* is *madhur* and *Snigdha*.They work as catalyst and increase the speed of reaction.

Gunja, Ghruta, Jaggery, Honey and *Guggulu* these five *dravyas* are organic in nature. *Ghruta, Madhu* and *Guda* contain sucrose, glucose, and fructose. After incineration in *Apunarbhava pariksha* they converted into the Carbon as per the chemical reaction [10].

Tankan means Borax i.e. Sodium Borate is mineral. It is used as a Flux in metallurgy, in the manufacture of artificial gems.

These dravyas acts as a reducing agent. According to Rasendrachintamani, *Mitrapanchaka* is used for "*Ekikaran*" i.e. homogenous mixture of *Abhrak Satwa*. *Abhrak Satwa* is mixed with *Mitrapanchaka* and strongly heated it mixed homogenously and becomes like *Kansya*[11].

This gives the clear idea regarding the action of *Mitrapanchaka Gana*. In *Apunarbhava Bhasma Pariksha* when any *Bhasma* is mixed with *Mitrapanchaka Gana* and heated. Free metals of *Bhasma* will gather and form a single mass which can be observed after the *Pariksha*. If the *Bhasma* is completely processed no any metal particle will be seen.

Procedure of *Apunarbhva Bhasma Pariksha*[12]:

The *bhasma* is mixed homogeneously with equal quantity of *Mitrapanchaka Gana.* It is sealed in *sharava samputa*. Then the direct heat is given. The amount of temperature is same which is used for preparation of particular *bhasma* and on the self cooling *bhasma* is observed. A lustre particle

in it shows presence of free metal which indicates improper incineration. If lustre particles are observed then *bhasma* procedure is repeated. For the *Apunarbhav pariksha* exact amount of heat is not mentioned . In Rasaratna samuchchay the word *Dhaman* is used[13]. This does not indicate the amount of heat. But Acharya Yadavji Trikamji used the word *Putanad*[13]. This clearly indicates the amount of heat should be same as *Puta* means same temperature which is given for the preparation of *Bhasma*. *Puta* is the process of giving heat and amount of temperature required to prepare the *bhasma* of any metal or mineral[14].

DISCUSSION: In Rasagranthas there is very less description is observed about this *pariksha* and variation in quantity of heat is also observed. Heat is very important criteria for *Apunarbhava pariksha*. Similar amount of heat which is used for *Puta* of bhasma prepared should be given[13]. This process is similar to the process of extraction of metal. The reduction of metal compounds to free metals in general, depending upon the reactivity of metals. Here the reduction of metal is achieved by smelting process. *Gunja*,Honey, Jggery,*Tankana* and Ghruta are the reducing agent. *Gunja*(*Abrus Precatorious*),, Honey, *Ghruta* and Jaggery are organic in nature. During high temperature they turn into carbon. Tankan acts as Flux which helps in the separation of molten metal from Gangue (impurities). In metallurgy, in smelting process Flux reacts with Gangue (impurities) and it form a low melting compound called slag. Due to this Flux liquid metal is easily separated from slag[15]. Incineration is called as *Apunarbhava* which, when strongly heated along with Jaggery, *Gunja*(*Abrus Precatorious*),, *Ghruta*, Borax and Honey in a crucible is not converted again into metallic form. These drugs on account of organic and alkaline nature of materials allows the unreduced metal particles present in the *bhasmas* to get melted at a low temperature than usual, which on cooling becomes hard and may be detected in the *bhasma* samples. *Bhasma* of good quality should not contain unreduced metal particle to ashes even in traces. It reflects the proper or improper incineration of *bhasma*. This test is important for *Bhasma*s of Metals

CONCLUSION: *Apunarbhava Bhasma pariksha* is important especially for metals. It indicates proper incineration of metals and formation of *Bhasma* which do not contain any lustre particle even in traces. Same amount of heat is required for this test which is given for preparation of *Bhasma.*

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Corresponding Author: Dr.Kavita Shailesh Deshmukh,Associate Professor-Rasashastra Bhaishajyakalpana Sumatibhai Shah Ayurved College, Hadapsar
Email:kirtitravels.deshmukh@gmail.com

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