



OVERVIEW ON MURCHCHHANA: A UNIQUE PROCESS OF RASA SHASTRA

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ABSTRACT

Ayurveda is the science of life that is meant not only for the prevention of disease but also for the curing of various diseases. Rasa Shastra is the Iatrochemistry of Ayurveda which deals with the various pharmaceutical processes of all drugs and formulations used for the treatment of diseases. That involves various processes like *Shodhana* (purification/potentiation), *Marana* (incineration), and *Jarana* (polling), etc., of various drugs or substances. Among them, *Murchchhana* is one of the procedures by which various substances especially *Parada* (mercury) is converted into a stable form for therapeutic uses, so it is defined as producing of *Vyadhi Nashaka Guna* in *Parada*.

Keywords: *Murchchhana, Kupipakva Kalpana, Rasa Sindura*

INTRODUCTION

Rasa Shastra is a specialized branch of Ayurveda that deals with pharmaceutical procedures for drugs of metallic and mineral origin etc.¹ Every Substance in

this universe is an *Aushadha* (drug), before using that substance as an *Aushadha* (drug) it has to pass through various processes² so that it can be used for

therapeutic purposes. Several processes are mentioned in Rasa Shastra to remove its harmful effects and increase potency and efficacy. Such as *Shodhana* (purification), *Marana* (incineration), and *Jarana* (polling), etc., of various drugs or substances. Similarly, many methods are described to transform *Parada* (mercury) into a stable form for therapeutic uses as medicine and *Murchchhana* is one of them. *Murchchhana* is the process in which *Parada* when mixed with *Gandhaka* or various other drugs, becomes lusterless, achieves the *Vyadhi Nashaka* stage, and is converted into a suitable compound form, which is used for therapeutic purposes.³

Definition

Murchchhana is a process in which mercurial compounds develop the 'Avyabhicharita Vyadhighatakatva' property or potency^{3,4}. In this *Parada* (mercury) with or without *Gandhaka* (Sulphur) is converted into a suitable compound form, which can be used internally for curing diseases. Through this process, mercury and mercurial compounds develops definite disease-curing capacity, and even after *Murchchhana* mercury cannot return to its original form (*Purvaavastha*).^{4,5}

Procedure of *Murchchhana* - Acharya Shri Gopalkrishna Bhatt, has said that *Shuddha Parada* and *Shuddha Gandhaka* are triturated strongly and

are converted into blackish powder form (*Kajjalabha*). By making numerous *Sagandha* and *Nirgandha Murchchhita* formulations, the disease-curing properties of *Parada* enhances.^{6,7,8,9}

Characteristics of *Murchchhita Parada*-

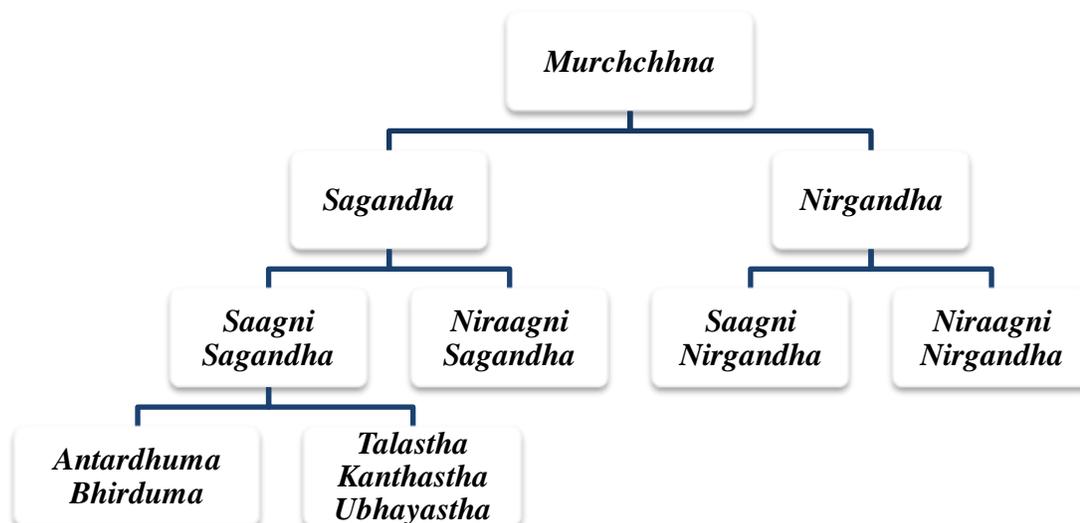
Kajjalabha (black-coloured powder), *Vihay Ganhchaplam* (the disappearance of mobility), *Murchchhita* (lose its original form), *Nanavarnopai* (different coloured compound form like Red coloured in *Rasa Sindura*).^{10,11,12,13}

Classification of *Murchchhana*

Murchchhana can be classified into various types as follow⁵-

- One type of *Murchchhana* i.e., *Vishadi bheda*
- Two types of *Murchchhana* i.e., (1) *Sagandha* and *Nirgandha* (2) *Saagni* and *Niraagni*.
- Three types of *Murchchhana* i.e., (1) *Antardhuma* (2) *Bhirduma* (3) *Nirduma*
- Five types of *Murchchhana* i.e., *Gandhbaddh* (2) *Gandhijirana* (3) *Rasagandahka Kajjali* (4) *Gandhapishti* (5) *Dhatupishti*, *Dhatupishti* again divided into the following types, viz. (a) *Kanaka Pishti* (b) *Rajata Pishti* (c) *Sulva Pishti* (d) *Abhra Pishti* and (e) *Krishna Lohapishti*.
- Various types of *Murchchhna*.⁷

Figure 1: Classification of *Murchchhana*



1. On the basis of material used^{3,5} –

a) **Sagandha Murchchhana**- In *Sagandha Murchchhana*, *Parada* (mercury) is made into *Murchchhita* form by adding *Gandhaka* (Sulphur) in different amounts. It is more common and popular in day-to-day practice as it is very safe to use. When used internally it does not produce any toxic effects on the body. e.g., *Kajjali*.

b) **Nirgandha Murchchhana**- In which no *Gandhaka* (Sulphur) is used with *Parada* (mercury). In this *Parada* (mercury) is made *Murchchhita* with other drugs like - *Tuttha*, *Kasisa*, *Sphatika* and *Lavana*, etc. This type of *Murchchhana* is not common and is generally toxic hence should be used with care. e.g., *Rasapushpa*.

2. On the basis of the process i.e., whether cooked with or without Agni^{3,5} -

a) **Saagni Murchchhana (With Agni)**- The method in which *Parada* (mercury) mixed with *Gandhaka* (sulphur) or other drugs is cooked with fire e.g., *Rasa Sindura*, *Rasapushpa*, etc.

b) **Niraagni Murchchhana (Without Agni)** – The method in which *Parada* (mercury) is mixed with *Gandhaka* (sulphur) or other drugs and mixed and triturated in *kharala* without using *Agni* e.g., *Kajjali*, *Mugdharasa*, etc.

Based on the above factors these can be grouped as follow –

- **Saagni Sagandha Murchchhana** - The process in which *Parada* (mercury) is mixed with *Gandhaka* (sulphur) and medicine is prepared using *Agni* i.e., using the *Kupipakva* method. ex. *Rasa Sindura*, *Makardhwaja* etc. It can be further divided into two types i.e., *Antardhuma* and *Bhirduma*.

- **Niraagni Sagandha Murchchhana**- The process in which medicine is prepared by mixing *Gandhaka* (sulphur) with *Parada* (mercury) without using *Agni*. Example - *Kajjali*, in which only trituration is done properly till good quality *Kajjali* is made.

- **Saagni Nirgandha Murchchhana** - The process in which *Parada* (mercury) is mixed with rock salt or other drugs other than *Gandhaka* (sulphur) and medicine is prepared using *Agni*. Example- *Rasapushpa*, *Rasakarapura*.

- **Niraagni Nirgandha Murchchhana** - The process in which medicine is made by adding rock salt or other drugs other than *Gandhaka* (sulphur) along with *Parada* (mercury) and without using *Agni*. Example- *Mugdha Rasa*.

3. On the basis of manufacturing method^{3,5}- Presence or absence of *Dhuma* (fumes) during their preparation

a) **Antardhuma Murchchhana** – In this process *Kajjali* is made after triturating *Parada* (mercury) with *Gandhaka* (sulphur) and is kept inside a *kupi* (glass bottle). Then the mouth of *the kupi* is closed by applying cork before exposing it to heat (*Agni*), so that vapours formed from *Gandhaka* will not be allowed to escape and remain inside the bottle only. As *Dhuma* (vapours) remains inside (*Antar*) *Kupi* only, that's why it is known as *Antardhuma Sagandha Murchchhana*. e.g., *Rasa Sindura*. This method requires good skills and should be done with all safety precautions as in this *Parada* (mercury) is made thermostable and it is collected on the neck of *Kupi* along with fumes of Sulphur and can break the *kupi* (glass bottle) due to blockage of *Gandhaka* fumes.

b) **Bahirdhuma Murchchhana** - In this process *Kajjali* made after mixing *Parada* (mercury) and *Gandhaka* (sulphur) is kept inside a *kupi* (glass bottle). Then the mouth of *the kupi* is closed by applying cork after the burning of *Gandhaka* (sulphur) so that vapours formed from *Gandhaka* will be allowed to escape and don't remain inside the bottle. As *Dhuma* means vapours come outside (*Bahir*) *Kupi* so-called *Bahirdhuma Sagandha Murchchhana*. e.g., *Hinguliya Manikya Rasa*, *Silasindura* etc.

c) **Nirdhuma Murchchhana** – In this process, *Parada* (mercury) is mixed with *Gandhaka* (sulphur) or other drugs and triturated in *kharala* without using *Agni* e.g., *Kajjali*, *Mugdharasa*, etc.

4. On the basis of place/location of finished products^{3,5}- Medicine prepared from *Murchchhana* can be further divided into three types on the basis of its location in *kupi* or Vessels in which they are

prepared i.e., *Talastha Murchchhana*, *Kanthastha Murchchhana*, and *Ubhayastha Murchchhana*.

a) Talastha Murchchhana – In this process finished product (Medicine) is obtained from the bottom (*Tala*) of the *Kupi*. e.g., *Samirapannaga Rasa*, *Swarna Vanga*.

b) Kanthastha Murchchhana- In this process finished product (Medicine) is deposited at the neck (*Kantha*) of the *Kupi* e.g., *Makaradhwaja*, *Rasasindura*. It is also known as *Urdhvastha Murchchhana*.

c) Ubhayastha Murchchhana- In this process finished product (Medicine) is obtained from both the sites i.e., from the bottom (*Tala*) and neck (*Kantha*) of the *Kupi* e.g., *Samirpannagarasa*, *Hinguliya*, *Manikyarasa*.

Importance of Murchchhana-

Murchchhita Parada is used for *Vyadhi-Nashaka* (disease curing) ability and *Parada Bhasma* is used for *Deha Siddhi*. But at some places, *Murchchhita Parada* is for *Deha Siddhi* and *Parada Bhasma* is indicated for *Rasayana karma*.¹⁴ By doing *Murchchhana*, *Parada* is converted into a different compound form which is stable and can be used for curing diseases, e.g., *Rasa Sindura*, *Makardhwaja Rasa*, *Anand Bhirav Rasa*, *Rasakarpura*, etc.

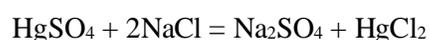
1. **Rasa Sindura** – It is identical to the red sulphide of mercury and has the same composition as that of the mineral cinnabar i.e., HgS. During trituration and when heated to about 50°C, the black mass of mercuric sulphide (metacinnabar) is formed. On heating, it gradually turns red and crystalline and sublimes within the long-necked glass bottle.^{15,16,17} $Hg + S = HgS$

The black sulphide becomes red on sublimation; the unstable black form is converted into a stable red form on heating. It can be used in various diseases like fever, diarrhoea, gonorrhoea, tuberculosis, ulcers, jaundice, obesity, and leprosy, etc.¹⁸

2. **Rasakarpura**- Mercury when boiled with one and a half times its weight of concentrated sulphuric acid, mercuric sulphate (HgSO₄) is formed.



On heating the dry mixture of equal weights of mercuric sulphate and common salt, mercuric chloride is prepared. It separates by sublimation on the cooler higher part of the bottle. It forms colourless needle-shaped crystals having melting points of 277°C and boiling points of 320°C¹⁶. *Rasakarpura*, *Nirgandha Kalpana* of *Parada* when prepared by the *Kupipakva* method generally requires *Manda Agni* (low temperature) as compared to the *Tivra Agni* (High-temperature upto 600-800°C) in different *Sindura Kalpana*. It is a greyish-white crystalline structure and therefore the compound thus formed is HgCl₂ or Mercuric chloride.^{19,20}



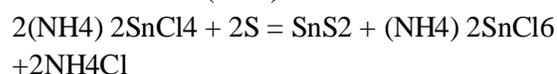
It is commonly used in *Raktaj* and *Twachasthita Roga* like *kushta*.²¹

3. **Rasapushpa**- During the trituration of mercury and ferrous sulphate, mercuric sulphate is formed, and some part of mercury remains free. The intimate mixture of converted mercuric sulphate, mercury, and rock salt is when heated mercurous chloride is formed. It sublimes to the cooler upper part of the bottle and therefore the crust of the sublimate is collected. It sublimes at 380°C.^{22,23}



It is often used as a diuretic (*Mutral*), *Pittahara*, *Varana Doshaharata*, and can also be used for *Jalodara*.²⁴

4. **Swarna Vanga**- *Swarna Vanga* is obtained as golden yellow scales of crystalline SnS₂, better known as mosaic gold. By heating, a combination of tin, Sulphur, and ammonium chloride in a glass bottle, stannate, and thiostannate are formed²⁵. It is used as *Rasayana*, *Premehahara*, *Balaya*, *Kaphahara*²⁶.



5. **Makaradhwaja** – It's identical to the red sulphide of mercury and has an equivalent composition as that of the naturally occurring cinnabar i.e., HgS. It also contains a very minute amount of gold together with mercuric sulphide. It can be used as

Vrishya, Vayastambhaka, Bruhana, Ayushya, Medha-kantivardhak, etc.^{27,28,29}

6. **Mugdha Rasa-** When *Parada* is mixed with double the amount of *Khatika Churna* and trituration is done properly till the *Mugdha rasa* attains its properties (*Chandrika nasan*). It is often used in children for the treatment of *Udar Roga* and *Aatishara* (Diarrhoea).³⁰

DISCUSSION

There are mainly two types of *Murchchhana* of *Parada* i.e., *Sagandha Murchchhana* and *Nirgandha Murchchhana*. When *Parada* (mercury) is *Murchchhita* with *Gandhaka* (Sulphur), it is called *Sagandha Murchchhana*. *Sagandha Murchchhana* is again of two types i.e., *Saagni Sagandha Murchchhana* and *Niraagni Sagandha Murchchhana*. Examples of *Saagni Sagandha Murchchhana* are *Rasa Sindura, Makardhwaj, etc.* and the examples of *Niraagni Sagandha Murchchhana* includes different types of *Kharaliya Rasa* like *Anand Bhairav Rasa, Iccha Bhedi Rasa, etc.* When *Parada* (mercury) is *Murchchhita* without *Gandhaka* (Sulphur) using other drugs, it is called *Nirgandha Murchchhana*. Similarly, *Nirgandha Murchchhana* is of two types i.e., *Saagni Nirgandha Murchchhana* and *Niraagni Nirgandha Murchchhana*. Examples of *Saagni Nirgandha Murchchhana* are *Rasakarpura, Rasapushpa, etc.* and the example of *Niraagni Nirgandha Murchchhana* are *Mugdha rasa, etc.* *Nirgandha Kalpana* has always held a secondary

status as compared to the *Sagandha* as the later is termed safer to use than the former. *Parada* (mercury) when combined with *Gandhaka* (Sulphur) becomes stable and less toxic. *Nirgandha* on the other hand needs to be administered in proper dosage and for an appropriate duration only.

Murchchhana and *Jarana* are the important processes of *Parada* (mercury) through which its toxic effects are minimized and its *Rasayana* and therapeutic effects are raised to a great extent. As per Ayurveda Prakash in certain contexts both terms are used as synonyms also otherwise both are different from each other, only in the context of *Gandhaka Jarana* both are used as synonyms and for the same objective.

The main difference between *Murchchhana* and *Jarana* is as follows i.e., in '*Murchchhana*' *Parada* (mercury) is converted into a new compound form of therapeutic importance and it may be used internally as such and it develops a definite disease-destroying power or potency while in *Jarana, Parada* does not convert in any form rather remain in its original (mercury) form. It consumes and digests some *Satvas* (metal contents of some minerals) and *Bijas* (Gold-Silver etc. metals) in specified amounts and returns to its *Purvaavastha* (original form). So, *Parada* cannot be used as such after *Jarana* like *Murchchhana* nor it develops a definite disease-destroying capacity/potency which is only possible after a specific aforesaid process *Murchchhana*.

Table: 1 Difference between *Murchchhana* and *Murchchhn* (3rd Samskara of *Parada*)

| | <i>Murchchhana</i> | <i>Murchchhn</i> |
|---|--|---|
| 1 | It's for <i>Roga Shantyartha</i> i.e., for disease-curing property for an individual | <i>Parada Dosha Haranarth</i> i.e., It's for destroying <i>Parada Dosha</i> (impurities). |
| 2 | Converts <i>Parada</i> in a new state which develops definitely disease curing or destroying property. | <i>Parada</i> (mercury) is triturated along with other substances to attain its <i>Nashtapishatva</i> stage (swooning or making mercury lose its form). |
| 3 | Makes <i>Parada</i> fit for consumption. | Destroy <i>Vangadi Dosha</i> (impurities) only which are present in <i>Parada</i> . |
| 4 | It is of many types like <i>Nirgandha, Sagandha, Saagni, Agnipishti, etc.</i> | It is the third <i>Samskara</i> of <i>Parada</i> , out of its sixteen <i>Samskara</i> . |

CONCLUSION

Every science develops when it achieves an understanding of its basic phenomena. *Murchchhana* is a process by which substances especially *Parada* (mercury) is converted into a stable form for therapeutic uses, so it is defined as producing of *Vyadhi Nashaka Guna* in *Parada*. So, it's important to study *Murchchhana* in detail starting from various chemical and physical changes occurring in *Parada* due to it along with their therapeutic applications.

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