



# A CRITICAL STUDY ON PARAD SHODHANA BY TRADITIONAL METHOD IN RASA SHAstra

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## ABSTRACT

**Background** Rasashastra, also known as Rasa or Parada, is said to have divine origins in ancient literature. In Rasa literature, the significance of Parada is stated for Rasa Chikitsa. Since the process of Shodhana is given more weight in Rasashastra, a variety of purifying techniques, including Parada, are outlined for each metal and mineral. In Rasashastra, "Shodhana" is a Sanskara (process or technique) that fundamentally brings forth alterations or alteration in qualities along with elimination of impurities from the metal or mineral. Shodhana has the literary sense of purifying. The current work focuses on purifying Parada, which was described in the classics and has medicinal potential. **Aim & Objectives of Study** Mercury was purified using traditional methods in accordance with the Rasa Tarangini reference, and its organoleptic characteristics were noticed. **Methodology** For Shodhana of Parada, there are several references written by various writers accessible in Ayurveda. Mercury was triturated in a stone mortar for 40 hours with an equivalent amount of Sudha Churna (limestone) for the current study. It was then continually triturated for an additional eight hours with Lashuna Kalka and Saindhava. Throughout the operation, specific observations and organoleptic characteristics were recorded. **Observation & Result-** Because the components are readily available, this approach was chosen. The total amount of mercury taken was 450g, of which 408g came from Parada acquired from Sudha Churna, and 350g came from Lashuna Kalka. With the use of this Shodhana (purification) technique, mercury may be made powerful therapeutically by being purified and employed in a variety of pharmaceutical procedures and formulations.

**Keywords-** Parada, Purification, Shodhana, Sanskara etc.

## INTRODUCTION

Rasashastra, Rasa or Parada has been referred to as having divine origins and being associated to Lord "Shiva or Hara" in ancient literature. The significance of Parada in Rasa literature as Rasa Chikitsa is stated in several instances. Due to the significance of the Shodhana process in Rasashastra, a variety of purifying techniques are outlined for each metal and mineral as well as for Visha and Upavisha (toxic substances). Even though the word "Shodhana" has a purification-related literary meaning, in Rasashastra it refers to a Sanskara (process or procedure) that essentially causes changes or alterations in properties in addition to purification. Using prescription medications and recommended techniques, such as trituration. It lessens damaging effects and gets rid of chemical and physical impurities. By preparing the raw material for further processing, like Marana, it increases the drug's medicinal value (incineration). Mercury is regarded as a heavy metal that contains a variety of impurities and has poisonous and harmful effects on the body, thus its purification is necessary.<sup>1</sup>

Mercury is one of the minerals and metals listed in Rasa Shastra Dravyas, which are mostly of Bhumijin origin (obtained from the ground). The fact that the entire branch of Rasa Shastra is named after Parad makes it simple to understand the extraordinary significance of mercury. According to Rasa Shastra, Parad cannot be used for medicinal reasons without being purified. Due to their origin, all metallic and mineral medications are likely to include varying degrees of impurities from diverse types of impurities. Earth is mined for the majority of the raw materials (metals and minerals). Therefore, there is a strong likelihood that undesirable, heterogeneous, poisonous, and impure chemicals may mix together. Shodhana is supposed to bring about a few characteristics that are necessary for the material to be assimilated into the living body safely and easily.<sup>2</sup>

## METHODOLOGY

Parada was obtained from the Department of Rasashastra and Bhaishajya Kalpana.....Ayurveda College and Hospital. The study was conducted in the teaching Pharmacy of college of Ayurveda and Hospital. As per the reference of Rasa Tarangini 5/27-30. Type of procedure adopted was Mardana (trituration). Equipment's required were stone mortar and pestle, vessel, cloth & spatula.

### Varieties of Parada based on Colour

Variety	Colour	Impurities	Uses
Rasa	Rakta	Which is free from all types of impurities	Rasayana
Rasendra	Shyava	Free from impurities	Rasayana
Soota	Ishat Peeta	With impurities	Dehasidhi, Lohasidhi
Parada	Shweta	With impurities	Sarva Rogahara
Mishraka	Mayura Chandrika Varna	With impurities	Sarva siddhidayaka

[References -Kajree Pardeshi and Vinay Kadibagil, Parada Shodhana (Purification of Mercury) by Classical Method, Research Article, www.ijapc.com e-ISSN 2350-0204 Int J Ayu Pharm Chem 2018 Vol. 9 Issue 2.]

### Dosha (impurities) of Parada are classified:

1. Naisargika Doshas
2. Yougika Doshas
3. Aoupadika Doshas

### Types of Shodhana (purification) explained are

1. Samanya Shodhana
2. Vishesha Shodhana

For Samanya Shodhana of Parada, many techniques have been used, including adding the medications listed below to Parada in a quantity of 1/16th part. The appropriate amount of Ghritakumari swarasa is added to the mixture, and it is extensively triturated for a day (12 hours). The combination is then carefully rinsed with fermented liquid (kanji) to remove all naisargika and Sapta Kanchuka dosha and achieve mercury-free mercury.<sup>3</sup>

The table 2 lists many medications that are used to purify mercury.

Drugs added	To purify
1. Grahadhuma, Ishtika churna (brick powder), Haridra churna (turmeric powder) and finely cut wool of sheep.	Naga dosha
2. Indrayana, Ankola and Haridra churna	Vanga dosha
3. Citraka Mula churna	Agni dosha
4. Aragwadha Twak churna	Mala dosha
5. Krsna Dhatura Panchanga or Bija churna	Capala dosha
6. Triphala churna	Visa dosha
7. Trikatu churna	Giri dosha
8. Gokshura churna	Asahyagni dosha

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The most important six general methods for purifying mercury to make it suitable for medical and pharmacological use have been outlined in the Rasa Tarangini treatise. Visheshha Shodhana is regarded as the Samskara of Parada by other scholars. On a Tapta Khalva yantra, Parada should be triturated for seven days<sup>7</sup> with Lasuna and Saindhava Lavana. After being triturated for three days with Nagavalli Swarasa, Ardraka Swarasa, and Ksharatraya, parada should be cleaned with water. Parada will be sapta dosha-free and shine like a Mukta (pearl). Sapta is absent from the Parada that Urdhwa Patana Vidhi extracts from Hingula. Shodhana is applied to Kanchuka Dosha. In a porcelain dish, Parada's 1/16th share of Haridra Churna and Nimbu Swarasa-Q.S is taken and triturated for two days. When it has dried, it is filtered through four folded pieces of fabric to obtain Parada.<sup>4</sup>

### **SAMANYA SHODHANA OF PARADA**

To get rid of Parada doshas, Parada Shodhana must be performed for 3 to 7 days while using any of the following medications. Lime powder is known as Sudha, and other ingredients include Lashoona, Saindhava, Gritakumari Swarasa, Chitraka Kwatha, Rakta Sarshapa, Bhrahati Kwatha, Triphala Kwatha, Nagavalli Swarasa, Ardraka Swarasa, Yavakshara, Tankana, Sarjikshara, Haridra, and Ishtik.

### **VISHESHA SHODHANA**

The Visha, Vahni, Mala, Naga, Vanga, Chapalya, Giri, and Asahyagni, among others, are specifically removed from Parada by the Shodhana; Dosha (impurities). This process, carried out by Astadasha Samskaras, was designed to enhance and potentiate Parada. According to the Rasashastra literature, there are five different ways that mercury can be lost: Jala gati (loss by water when washing), Mala gati (loss of mercury with impurities), Hamsa gati (loss while moving mercury from one vessel to another), Dhuma gati (loss by vapours), and Jiva gati (loss of mercury like a soul). To obtain Parada's medicinal and pharmacological characteristics.<sup>5</sup>

### **AYURVEDIC PROPERTIES**

**Rasa** - Shadrasa

**Guna** - Snigdha, Sara and Guru,

**Veerya** – Ushna,

**Vipaka** – Madhura

**Karma** -Yogavahi, Rasayana, Vrishya, Balya, Vayastambhana, Pushtikaraka, Deepana, Agnivardhaka, Deha Loha Siddhikara, Ropana, Krimighna and Tridoshaghna,

### **VYADHI PRABHAVA**

For the purification of mercury in this investigation, Rasa Tarangini's advice was used as a guide. Various Rasayogas (mercurial formulations) including Kajjali, Arogyavardini Rasa, Angnitundi Vati, Shwasa Kuthara rasa, Bruhat Vata Chintamani Rasa, Suta Shekhara Rasa, Rasa Parpati, Loha parpati, etc. might include pure mercury as an ingredient.<sup>6</sup>

Materials	Duration (in hours)	
Ashodhita Parada	Mardana with Sudha Churna	Mardana with Lashuna Kalka
Sudha Churna	40 hours	12 hours
Lasuna		
Saindhava lavana		

[References -Kajree Pardeshi and Vinay Kadibagil, Parada Shodhana (Purification of Mercury) by Classical Method, Research Article, www.ijpc.com e-ISSN 2350-0204 Int J Ayu Pharm Chem 2018 Vol. 9 Issue 2.]

Mercury and Sudha Churna, each weighing 450g each, were combined in a mortar and ground for 40 hours. The remaining mercury was retrieved by washing the lime stone in warm water after the mercury was extracted from it and filtered through a cloth. The wet lime stone powder was spread out onto three to four trays to dry. Mercury was carefully removed from these trays once they had dried. A total of 450g of mercury was collected. After adding the same amount of Lashuna Kalka (408 g) and half as much Saindhava Lavana (230 g) to the collected mercury and triturating it for 12 hours, observations were made. With lukewarm water, the garlic paste was washed. To prevent mercury loss, the residual garlic paste was once more dried in trays for six days before being ground into a fine powder and filtered through cloth to remove any remaining mercury. The refined mercury that was weighed and kept in a glass or plastic bottle is the mercury that has been gathered. The observations were kept track of during the entire process.<sup>7</sup>

## PRECAUTION

The leakage of mercury was minimized by avoiding lime stone spills. Garlic paste should be carefully washed to prevent mercury loss. Salt and garlic paste were blended together until the mixture was completely black.

## OBSERVATION & RESULT

Triturating time	Observed changes during Parada Shodhana
Initial 45 min	Mercury did not mix with Lasuna paste
After 1 hour	Mercury started to disintegrate and mix with the Lasuna paste forming small globules
After 7 hour	Mercury got mixed completely with the Lasuna paste and colour of paste was brownish.
After 11 hour	Colour of paste was dark blackish greyish.

After 19 hour	Lasuna paste turned to dark black colour.
After 35 hour	Colour of Lasuna paste was remain black.
After 42 hour	Lasuna paste got rough and dried hard and was difficult for mixing
After 50 hour	Lasuna paste turned to tarry black colour

[References -Kajree Pardeshi and Vinay Kadibagil, Parada Shodhana (Purification of Mercury) by Classical Method, Research Article, www.ijapc.com e-ISSN 2350-0204 Int J Ayu Pharm Chem 2018 Vol. 9 Issue 2.]

The classics describe a number of Shodhana treatments using a variety of herbal remedies to remove the Dosha (impurities) contained in mercury. This technique was chosen for the purification of mercury because limestone, garlic, and salt all readily accessible. The Shodhana process was used to purify mercury and make it fit for human consumption. Prior to using mercury as a component in any Rasayoga (formulations) intended for internal administration, it is essential to carry out the process of purification. 450g of mercury total was extracted, 330g was retrieved, and 130g was lost.<sup>8</sup>

The loss is evident because mercury is an extremely brittle liquid metal. The contaminants would be captured by the heat created by the constant friction of the mortar and pestle and the uniformly rising temperature. The obtained mercury was bright and shiny white in colour due to the purification processes it had undergone; impurities may have been dissolved or absorbed in the lime stone powder, garlic paste, and salt during the trituration process, which increased the brightness of the mercury's colour. In vitro studies have demonstrated the benefit of garlic in heavy metal intoxication. Garlic is used in the process of purifying mercury because it also includes sulphur, which serves as a chelator for mercury poisoning and reduces the poisonous effects of the heavy metal.<sup>9</sup>

Mercury is a very fragile liquid metal, thus the loss is obvious. The heat produced by the persistent friction of the mortar and pestle and the steadily growing temperature would catch the impurities. Due to the purification procedures that the mercury underwent, it was bright and shiny white in colour. Impurities may have been dissolved or absorbed in the salt, garlic paste, and lime stone powder during the trituration process, which increased the brightness of the mercury's colour.<sup>10</sup> Garlic has been shown to be helpful in heavy metal toxicity by in vitro tests. The use of garlic in the purification of mercury is due to the presence of sulphur, which acts as a chelator for mercury poisoning and lowers the harmful effects of mercury.<sup>11</sup>

## CONCLUSION

Mercury pollutants are meant to be removed by purification. Parada is naturally extracted from the crust of the earth, where it is combined with some undesirable physical and chemical contaminants. Therefore, some protocols

must be followed before using mercury. Before using mercury for any purpose, it must first be purified. The whole trituration process required for the purification of mercury went place in accordance with the traditional references found in Rasa Tarangini. 350–450g of pure mercury were produced. 32% of the original amount was lost during the procedure. The mercury that was obtained was a brilliant, dazzling white.

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