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Review on *Parad Dosh* and its *Shodhana*

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ABSTRACT:

Rasa shastra has given an auspicious position to *Parada* as it has been considered as the physical essence of Lord Shiva. Vedas also consider *Parada* as a gift of nature. The classical text *Rasaratna Samucchaya* states that “*Siddhae rase Karishyami Nirdraaridrayam agadam jagat*” exposes the magical effect of *Parada*. Even though, administration of *Asudha Parada* causes severe illness than that of poison. As it is associated with a lot of impurities, it is advised to do both *Samanya Shodhana*, and *Visesha Shodhana* (general and specific purificatory methods before its internal administration. Otherwise these impurities may cause various toxic effects in body ranging from mild fever to death. Hence Rasa acharyas mentioned a number of purificatory procedures both general and specific to eliminate the *doshas* associated with *Parada*. As per modern science Mercury comes in three forms (Elemental, inorganic and organic), each with its own set of symptoms. The brain is the primary target organ for breathed mercury vapor, whereas mercurous and mercuric salts harm the gut lining and kidneys, confirming persistent exposure and methyl mercury are widely disseminated throughout the body. This article focuses on various *doshas* associated with *Parada* and its purificatory procedures.

Keywords- *Parada Doshas, Samanya-Vishesha Shodhana*

INTRODUCTION

Rasa shastra, the iatrochemistry of Ayurveda is mainly explores the utilization of metals and minerals for therapeutic purposes. Even though, one can easily see the extra ordinary importance given to the *Parada/Rasa*, as the whole branch itself named as Rasa shastra, the mercurial science. Rasa shastra has given an auspicious position to

Parada as it has been considered as the physical essence of Lord Shiva. Also, as it has the property of swallowing other metal, it is considered as the superior among all the metals and minerals. It not only has a spiritual & holistic significance, but has magical therapeutic effects also. *Parad* plays an important role in most of the *rasoushadhis*



in one or another form. The quotation given in classical text Rasaratna Samucchaya that “*Sidhe rase karishyami Nirdaaridryamagadam jagat*”¹ exposes the miraculous effect of *Parada*.

Even *Parada* has a number of wonderful properties, if one consumes *Asudha Parada*, it will cause severe illness than that of a poison as mercury is likely to be associated with various impurities². Hence acharyas explained certain purificatory process for *Parada* before its consumption.

This article mainly focused on various *parada doshas* mentioned in different classical books along with the *Shodhana* procedure for general and specific impurities.

Parada Doshas

Even different *rasa acharyas* mentioned various *doshas*, most of them mainly mentioned 3 *doshas* namely-
(i) *Naisargika*,
(ii) *Youngika*
(iii) *Oupadhika*.

These are again divided into various subcategories as shown in the given flow chart (Fig. 1)

Other than these 12 *doshas*, acharya Madhava has mentioned eight types of *Mahadoshas* in his book *Ayurved Prakash*. They are *Naga*, *Vanga*, *Mala*, *Vahni*, *Chapalya*, *Visha*, *Giri* and *Asahyagni*².

1. Naisargika Doshas The term *Naisargika* means natural. As mercury is a metal found in deeper surface of earth, it might be mixed with a number of natural impurities. These *Naisargika doshas* are further divided into many, varies from 3-10 according to different acharyas. But most of the classics mentioned the three – *Visha*, *Vahni*, and *Mala* as the *Naisargika Doshas*.

Table .1 Showing *Naisargika doshas* as per different acharyas

2. Youngika Doshas

The Sanskrit term *Youngika* refers combination. All the *rasa* classics mentioned mainly two *Youngikadoshas* named *Naga* and *Vanga* except *Rasamangalam* & *Anandakanda*. In the text *Rasamangalam*³ these are mentioned under the third category- *Oupadhikadoshas* and while the author of *Anankanda* added *Visha* in *Youngikadosha* along with above two⁴. Acharyas also mentioned the health hazards caused by these impurities as *Jadhya*, *Adhmana* and *Kushtha*.

These are mainly added for trading purpose. These metals are easily melted even at very low temperature and get mixed with *Parada* and these metals are heavy in weight. Thus it increases the weight of *Parada* and help in marketing for hike the rate⁵.

3. Aupadhika Doshas

Aupadhika dosha also known as *Kanchuka dosha*, which means covering. Acharya Sadanand Misra, the author of *RasaTarangini*, explained about the occurrence of these *doshas* in very well manner that due to the oxidation process, a grayish coloured layer appears on the surface of the mercury⁶. Consumption or exposure of *parada* having these *doshas* may results severe adverse effects as given in the table

Table no.2 Showing adverse effects of *Aupadhika/ Kanchuka dosha* *Anandakandakaraka* coined different names like *Kalika*, *Malini*, *Kapoti*, *RaktaKanchuka*, *salomi*, *Girija*, *Pindali* for *Kanchuka doshas*⁷.

Mercurial toxicity –Modern aspect⁸

Nowadays the finer information and the mechanism of the actions of mercury toxicity are known with the progress of technology and science. The term *Mercurial’s* refers poisoning due to ingestion or inhalation of mercury or its compounds. It may be acute or chronic.

Signs and symptoms (Acute poisoning)

Mercury comes in three forms (Elemental, inorganic and organic), each with its own set of symptoms. The brain is the primary target organ for breathed mercury vapor, whereas mercurous and mercuric salts harm the gut lining and kidneys, confirming persistent exposure and methyl mercury are widely disseminated throughout the body.

1. Elemental (metallic) mercury is rapidly absorbed as a vapor through the lungs, reaching the bloodstream and entering the brain. The clinical picture can be split into three phases: the first phase, which is characterized by metal fume fever, the intermediate phase, which is characterized by severe multiorgan symptoms, and the late phase, which is characterized by only CNS symptoms. Headache, nausea, and cough are all symptoms of inhalation.
2. Ingestion of inorganic mercuric salts causes mucosal necrosis and widespread precipitation of intestinal mucosal proteins, culminating in hemorrhagic gastroenteritis and substantial fluid loss, terminating in shock. If the patient lives, he or she may develop acute renal failure.
3. Aryl, short- and long-chain alkyl compounds are the three different types of organic compounds. Because of their inherent qualities, such as lipid solubility, organic salts are better absorbed from the GIT than inorganic salts. Since it can accumulate in the brain and breach the blood-brain barrier, the CNS effects are more pronounced. In contrast, the kidney serves as the body's primary repository for inorganic substances.

Systemic signs and symptoms

a) **GIT** Metallic taste, voice hoarseness, feeling of throat constriction Mucous membrane of mouth, tongue appears in grayish white. Hot burning pain extends from mouth to stomach. Diarrhea with blood stains.

b) **Renal** –Oliguria and hematuria

c) **CVS** – Difficulty in breathing, hypertension

3. Acute exposures to organic mercury have a one- to two-week latency period. Symptoms involve the CNS, like visual field constriction, hearing loss, tremors etc.

Fatal dose:

*Mercuric chloride : 30-50 mg/kg

*Methyl mercury : 10-60 mg/kg

* Mercury vapor :10 mg/m³

Fatal Period: 3-5 days

Chronic Mercury Poisoning –Hydrargyris

Signs &Symptoms

- Mercury vapor inhalation causes a triad of symptoms including tremors, neuropsychiatric abnormalities, and gingivo-stomatitis.
- Anorexia, insomnia, abnormal sweating, headache, lassitude, increased excitability, tremors, gingivitis, hyper salivation, loosening of teeth with blue line in the gum, jaundice, increased urination, personality changes, and memory and intellectual deterioration are all symptoms of chronic inorganic mercury poisoning.
- Chronic exposure can cause glomerular and tubular damage. Mercury vapor inhalation causes a triad of symptoms including tremors, neuropsychiatric abnormalities, and gingivo-stomatitis.
- The effects of continuous exposure to organic mercury are: tremors, dysarthria, visual field constriction, deafness, impairment of memory and coordination.

Parada Shodhana

Shodhana

In rasa shastra, drugs cannot take for the therapeutic purpose without purification Mercury is no exception. As it is associated with a lot of impurities, it is advised to do both *Samanya Shodhana*, and *Visesha Shodhana* (general and specific purificatory methods before its internal administration. Otherwise these impurities may cause various toxic effects in body ranging from mild fever to death. The different methods Of *Parada Shodhana* are explained.

Parada Samanya Shodhana.

Samanya Shodhana of *Parada* is essential for the elimination of *Naisargika* and *Kanchukadosha*. As per

RasaTarangini, the properties of *Shuddha Parada* is similar to that of *Piyusha*(nectar).So Rasa Vaidya should do purification of *Parada* before its administration⁹.

Quantity of Parada for Shodhana

In *Rasa Ratna Samucchaya*, the quantity of *Parada* to be taken for its purificatory process is mentioned. According to that, for *Shodhana* and *Samskara*, *Parada* should be taken from 2000 *Pala*, 1000*Pala*, 100*Pala*, 50*Pala*,28 *Pala*,10 *Pala*,5*Pala* to 1/2 *Pala*¹⁰. While as per *RasaTarangini*, the quantity should be taken from 100 to 1*Pala*.Which indicates, one should not take less than 1/2 *Pala Parada* for purification¹¹.

Various procedures for *Parad Shodhana* are mentioned in different classics as explained below

1st Method¹²

Requirements

- 1.*Parada*-1part
- 2.*Sudhachurna*-1part
- 3.*Garlic*-1part
- 4..*SaindhavLavan*-1/2part
- 5.Warm water- As required.

Equal quantity of *Asudha Parada* and *Sudha Churna*(lime powder) was added to a *khalwayantra*, and *mardan* was done for 8 hours for 3 days. By the end of *mardan*, visible Mercury collected and filtered through four folded cloth and the remaining mercury which got merged with lime powder, collected back by *Urdhwapatan* procedure, using *damaru yantra*.*Parad* was then washed with warmwater and kept for further processing .Lime purified *Parad* was further triturated with equal quantity of *lashun Kalka* and half quantity of *Saindhav lavan* till it obtain blackish colour. Now this black colour, mixture is again washed with warm water until, clear, purified *Parada* obtained

2nd Method¹³

Required quantity of *Parad* taken along with *Ghrita kumari swaras*, *Chitrak mula twak* and *Rakta sarshap* (each of 1/16 part of *Parad*) taken in a *khalwa yantra*. This mixture further triturated with *Brihati kwath* and *Triphala kwath* for 3 days. At the end, thismixture is washed with warm water to obtain pure *Parad* free from *Sapta Kanchuka Dosha*

3rd Method¹⁴

Appropriate quantity of *Parad* and equal quantity of *Sudha churna* was taken in a clean *khalwa yantra* and triturated for 7 days continuously. By the end of trituration process, *Parada* globules get disappeared into lime powder partially. Then, visible mercury collected from mixture washed using warm water and kept separately.Further,all

collected mercury taken again in *khalwayantra*, added with *Grihadhuma*, *Haridra churna* and *Ishtika churna*(each 1/16 part of *Parad*).This is to be triturated for 3 days continuously.

Later, the above mixture is washed carefully with *Kanji* and filtered through four folded cloth to obtain pure mercury. This *Parada* will be free from *Sapta Kanchuka dosha*.

4th Method¹⁵

Required amount of Mercury is taken in a *khalwa yantra*. It is triturated with *Swarasa* of *Nagavalli* and *Ardraka*. Further mixed with three types of *Kshara* (*Sarja Kshara*, *Yava Kshara*, *Tankan*, each 1/16 part).The mixture triturated for 3 days and later washed with either warm water or with *Kanji*. This mercury will be free from *Sapta Kanchuka doshas* and shines like pure pearl.

5th Method¹⁶

Required quantity of *Parada* is taken and is added with *Trikatu churna*,*Guda*,*Yavani churna*, *Panchalavana* (*Souvarchala*, *Saindhava*, *Bida*,*Samudra* and *Audbhida*),*Chitrak mula churna*, *Triphala churna*, *Ksharatraya* (*Sarja Kshara*, *Yava Kshara* and *Tankan Kshara*),*Sarshapbija* and *Dattura bija*. The quantity of each ingredient should be 1/20 of *Parada*.

According to Ayurveda Prakash

Asudha Parad is triturated with equal quantity of *Lasuna Kalka* and *Saindhava lavana* for 7 days. Next day the mercury which collected from the above mixture, washed with warm water and thus obtained *Sudha parada*¹⁷.

Parad Visesh Shodhana

Table no.3 Enlisted the drugs for *Parada Visesh Shodhana* as per *Rasa Tarangini*¹⁸

Table no. 4. Enlisted specific drugs for removing the specific impurities as per *Ayurveda Prakasha*¹⁹

DISCUSSION

Parada, the super important inorganic metal has fascinating people for hundreds of years by its action and properties. Even though it is less using for therapeutics comparing to herbal drugs as it is a heavy metal. The hazardous effect causing by *Parada* are due to administration of impure mercury. But various purification methods are mentioned by our acharyas to improve the therapeutical efficiency by eliminating the impurities involved.

Even though purified, distilled form of mercury is available nowadays; there is a need of doing the classical *Shodhana* procedures because as these procedures are done with various herbal dugs like *Triphala*, *Haridra churna* etc, it

results in enhancing the therapeutic effects by reducing its toxicity. Also a material's physico-chemical alteration aids in increasing its biological availability, i.e., potentiating its biological efficacy on the human body. Lowered particle size aids absorption; smoothness leads to non-irritability; chemical alterations render the substance analogous to tissue cells; toxicity is reduced; and cell acceptance is raised.

Role of *Mardan* in purification: All the method mentioned in this article is done based on the principal of *Mardan*. The science behind this is, the heat produced by the friction between mortar and pestle would seize the non -heat resistant impurities. Rise in temperature also accelerates enzyme reaction but at the same time high temperature results enzyme inactivation²⁰. Hence, optimum temperature should be maintained by uniform *mardan* procedure.

Amongst various *Shodhana* methods mentioned here, the one with *lashun swaras* considered as ideal²¹, which is an aboard of sulphur. This sulphur combines with mercury forms a best co-valent bond. As a result, triturated product turns to black amalgam. It is a miniature concept of *Kajjali*. The chemical reaction behind other purificatory methods is not unveiled yet.

CONCLUSION

Mercury, as it is obtained from the crust of earth, it may mixed with a number of physical and chemical impurities naturally. So it is mandatory to perform its purification before administration. This article concisely explained about various *Parada dosha* and the method of *Parad Shodhana* as per different classical text books including *Rasa Tarangini*, *Ayurveda Prakash*, and *Rasaratna Samucchaya* etc.

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Table .1 Showing *Naisargika doshas* as per different acharyas

S.N	Doshas	RV	R.H.T	R.R.S	R.R	R.P.S	R.M	A.P	R.T	R.K
1.	<i>Visha</i>	✓	✓	✓	✓	✓	✓	✓		✓
2.	<i>Vahni</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓
3.	<i>Mala</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓
4.	<i>Mada</i>					✓				
5.	<i>Darpa</i>					✓				
6.	<i>Gourav</i>						✓			✓
7.	<i>Chapal</i>						✓	✓	✓	
8.	<i>Uddinatwa</i>									✓
9.	<i>Koutilya</i>									✓
10.	<i>Anavarta</i>									✓
11.	<i>Sankara</i>									✓
12.	<i>Shandatwa</i>									✓
13.	<i>Naga</i>							✓	✓	
14.	<i>Vanga</i>							✓	✓	
15.	<i>Giri</i>							✓	✓	
16.	<i>Asahyagni</i>							✓	✓	
17.	<i>Garal</i>								✓	

*RV –Rasarnav, R.HT –Rasa Hridaya Tantra, RRS –Rasaratna Samucchaya,R.R-Rasa Ratnakar,R.P.S-Rasa Prakash Sudhakara, R.M-Rasendra Mangala, A.P-Ayurveda Prakash, R.T-RasaTarangini, R.K-Rasa Koumudi

Table no.2 Showing adverse effects of *Aupadhika/ Kanchuka dosha*

S.N	<i>Aupadhika Doshas/ Kanchuka Doshas</i>	Effect on human body after consumption of <i>Parada</i> with this <i>Dosha</i>
1.	<i>Bhumija – Parpati</i>	Cause dryness to the whole body by absorbing the liquid content from the tissues
2.	<i>Girija- Patini</i>	Cracked skin
3.	<i>Varija- Bhedi</i>	Results severe <i>malabheda</i>
4.	<i>Nagaja- Dravi</i>	Causes liquefaction of bodily tissues by keeping more water within the tissues.
5.	<i>Nagaja- Malakari</i>	Aggravates <i>tridoshas</i>
6.	<i>Vangaja- Andhakari</i>	Results blindness.
7.	<i>Vangaja- Dhwankshi</i>	Hoarseness of voice and blackish skin discoloration

Table no.3 Enlisted the drugs for *Parada Vissha Shodhana* as per *Rasa Tarangini*¹⁸

S.N	Drugs added	To purify
1	<i>Grihadhuma, Ishtika churna, Haridra churna</i> and ash of finely cut wool of sheep	<i>Naga Dosha</i>
2	<i>Indrayana, Ankola</i> and <i>Haridra churna</i>	<i>Vanga Dosha</i>
3	<i>Chitraka mula churna</i>	<i>Agni Dosha</i>
4	<i>Aragwadha twak churna</i>	<i>Mala Dosha</i>
5	<i>Krishna Dattura panchanga</i> or <i>bija churna</i>	<i>Chapala Dosha</i>
6	<i>Triphala churna</i>	<i>Visha dosha</i>
7	<i>Trikatu churna</i>	<i>Giri Dosha</i>
8	<i>Gokshura churna</i>	<i>Asahyagni Dosha</i>

Table no. 4. Enlisted specific drugs for removing the specific impurities as per *Ayurveda Prakasha*¹⁹

S.N	Drugs used	To purify
1	<i>Aragwadha mula</i>	<i>Mala Doasha</i>
2	<i>Triphala</i>	<i>Visha Dosha</i>
3	<i>Chitraka</i>	<i>Vahni Dosha</i>
4	<i>Krishna Dattura</i>	<i>Chanchalya Dosha</i>
5	<i>Kanchi</i>	<i>Naga Dosha</i>
6	<i>Ankola Churna</i>	<i>Vanga Dosha</i>
7	<i>Trikatu</i>	<i>Giri Dosha</i>
8	<i>Trikantaka/Gokshura</i>	<i>Asahyagni Dosha</i>