

## Pharmaceutical Review of *Rasa Parpati* Preparation with respect to Different Ratios of *Gandhak* Used

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### Abstract

*Rasa Shastra* is a special branch in *Ayurveda* under which the pharmaceuticals of metals/minerals is studied. The preparations which are prepared in the form of thin flakes are termed as *Parpati* and the entire process is termed *Parpati Kalpana*. The *Rasa Parpati* is a special and commonly prepared preparation of mercury, unique in the field of *RasaShastra*. *Rasa Parpati* preparation is first mentioned in *Nagarjuna* for *Kushta Rogas* in 8<sup>th</sup> century and then *Chakradutta* described *Rasa Parpati* for *Grahani Roga*. It is prepared using different ratios of *Parada* and *Gandhak* using mild heat with the necessary precautions. *Parpati Kalpa* is one of the *Rasa Bandha* (process of binding mercury) which helps to remove the *Chanchalatvam* (unable to be stable) and *Durgrahatvam* (difficult to bind) of *Parada* (mercury). *Parpati Rasayanas* are cost effective medicines that have high therapeutic value and less toxicity. In this article, we have prepared the 3 samples of *Rasa Parpati* with different ratios of *Gandhak* and study of its organoleptic properties is done.

### Keywords

*Rasa Parpati*, *Parada*, *Gandhak*, *Loha Darvi*, *Gomaya Pottali*



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## INTRODUCTION

In the field of *Rasa Shastra*, mercurial preparations play a vital role in various disorders. *Rasa Bandha* is a process in which the liquid mercury is converted into powder or bolus form<sup>1</sup>. There are two different natures of *Bandhas* - *Agnisthayi* and *Anagnisthayi*. When mercury remains stable on exposure to heat, it is called *Agnisthayi* and when mercury is made stable without exposure to heat it is called *Anagnisthayi*. *Parpati Kalpa* is therefore *Agnisthayi Murchita Parada Bhandha*. *Parpati Rasayans* are equally important and highly effective therapeutics in diseases. The description of *Parpati* has been found in various texts of *Ayurveda* since 8<sup>th</sup> century A.D. *Nagarjuna* was the first scholar to bring out the role of *Parpati* in *Kushta Roga*. *Chakrapani*, the commentator of *Charaka Samhita* (11<sup>th</sup> century A.D.) has also emphasized the importance of *Rasa Parpati* in *Grahani chikitsa*<sup>2</sup>. *Parpati* is the final product after *Parada* that undergoes *Pota Bandha* with other ingredients like *Gandhaka* and other *Dhatu Bhasmas*. The general method of preparation is similar for all *Parpatis*, yet difference in ingredients gives a wide spectrum of therapeutics.

*Parpati* is prepared with a unique method of mercurial preparation called *Murchana*, which is of two types - *Sagandha/Nirgandha* (presence or absence of *gandhak*), *Sagni/Niragni*(processed with heat).

### Etymology

The name “*Parpati*” is given because of its form and the method of preparation as it is made in the form of thin flakes.

## MATERIALS AND METHODS

### Materials

**Table 1** Ingredients used and their quantities

S.N o.	Ingredient s	Sample 1	Sample 2	Sample 3
1	<i>Parada</i>	50 gm	50 gm	50 gm
2	<i>Gandhaka</i>	100 gm	200 gm	300 gm
3	<i>Ghrita</i>	25 gm	25 gm	25 gm

**Apparatus used:** *Loha darvi*, spoon, stove, *kadali patra*, *Gomaya pottali*

### Method

Purified Mercury (*Parada*) and two times Sulphur (*Gandhaka*) are taken in a mortar (*Khalwa*) in and *mardan* in *khalva* (mixed) till it becomes as *Kajjalabhasa* (just like *kajal*), *Slakshnata* (smoothness), *Anjana sadrusa sukshma* (minute), *Rekhapurnata* (able to move inside the finger print holes), *Jala pareeksha* (floatable on water), *Loha pareeksha* (If *Kajjali* is mixed with lime juice color of *Swarna* will not turn to white if it is properly prepared) and *Agnipariksha*



(fumes will come out without any ashes). This is then *mardan* in the mortar (*Khalwa*) till it becomes a homogeneous mixture. Later a pit is prepared using cow dung over the floor and pit is covered by a piece of plantain leaf or *Kadali Patra*. The *Kajjali* (25 gm) is taken in a ghee smeared spoon and is melted over *Loha darvi*. Once it is melted fully and starts leaving the *ghee*, it is taken off from the fire and poured slowly on the *Kadali patra* placed over cow-dung pit. Another *Kadali patra* is covered over the melted *Kajjali* and a little amount of fresh cow dung (*Gomaya Pottli*) is spread over it and gently pressed. Once mixture is cooled and the flakes of the *Parpati* are taken out, powdered and preserved.

This method is repeated for each sample with different ratio of *Gandhak*(*dwiguna*, *chaturguna*, *shadguna*) and finally 3 samples have been prepared.

## DISCUSSION

### Precautions

1. Heat should never be too high. It should be on *Mandagni*.
2. It should be stirred continuously so that *Kajjali* does not stick to the margins of the vessel.

3. When *Ghrita* starts getting separated, only then it should be poured over *Kadali Patra*.

4. The bolus of *Kajjali* should be covered with *Gomaya pottali*.

5. *Kadali patra* has to be smeared with *Ghrita* so as to prevent adhesions of liquefied *kajjali*.

### Stages of *Rasa Parpati Paka*

Based on the amount of heat given, the *Parpati Paka* is of three types, viz., *Mrudu*, *Madhyama* and *Khara Paka*.

#### *Mrudu Paka*

*Parpati* prepared was of turquoise color and looks like *Mayura chandrika*<sup>5</sup>. *Parpati* remains soft and bends slightly<sup>6</sup>. In *Mrudu Paka*, chemical bonding between *Parada* and *Gandhaka* may not be formed properly.

#### *Madhyama Paka*

*Parpati* that is *Taila Varna* (colour of til oil)<sup>7</sup>, shiny black in colour, crispy and breaks with crackling sound, broken edges with silvery whitish in colour<sup>8</sup>, *Parpati* is of *Madhyama Paka*. *Parpati* passing such tests possesses rich medicinal properties. The importance of *Madhyama Paka* lies in the fact that a proper chemical bonding is established in *Parpati* which may acquire desired medicinal properties. Hence, *Parpati* prepared in *Madhyama Paka* is used for

therapeutic purposes.

### Khara Paka

*Parpati* of reddish colour<sup>9</sup>, which is dry and coarse in nature<sup>10</sup>, such *Parpati* is poisonous and should be discarded. In *Khara Paka*, *Kajjali* burns in excess and might get converted into carbon (i.e., charred particles) which is of no medicinal use.

**Table 2** Organoleptic characters of three samples of *Rasa Parpati*(*Madhyam Paka* )

S. No.	Organoleptic properties	Sample 1	Sample 2	Sample 3
1	Colour	Shiny black	Shiny black	Shiny black
2	Test of completion	Crackling sound on breaking	Crackling sound on breaking	Crackling sound on breaking
3	shape	Flake-shaped	Flake-shaped	Flake-shaped
4	Taste	Teasteless	Teasteless	Teasteless
5	Touch	Smooth	Smooth	Smooth
6	Odour	odourless	odourless	Odourless
7	Appearance	Glittery	Glittery	Glittery

Note: sample 1 contains *dwiguna gandhak*, sample 2 contains *chaturguna gandhak*, sample 3 contains *ashtaguna Gandhak* with *Parada* for *Kajjali*.

### Therapeutic use of *Rasa Parpati*:

1. *Grahani* (~IBS/Mal absorption sprue syndrome)
2. *Atisara* (diarrhoea)
3. *Jalodara* (~ascites)
4. *Gulma* (~tumour)
5. *Sotha* (swelling)
6. *Arshas* (haemorrhoids)

7. *Kushta* (~skin problems)
8. *Pandu* (~IDA)
9. Others as mentioned in different texts

### Discussion over 3 samples of *Rasa Parpati*:

The 3 samples of *Rasa Parpati* were prepared in different ratios of *Parada* and *Gandhak*. The ratios used are 1:2, 1:4 and 1:6 of *Parada* and *Gandhak* in samples 1,2 and 3 respectively. There is no research or physic-chemical analysis performed to evaluate the superiority of any of the samples. However, the texts recommend the ratio of 1:6 as the best one due to the higher amount of *Gandhak*. There have been studies which show the qualities of *Gandhak* as *kanduhar*, *kushtahar*, anti-bacterial etc. Due to these qualities, the ratio with higher *Gandhak* content is preferred for the synthesis of *Ayurvedic* drugs which then show better clinical efficacy. After the preparation of 3 samples an observation was made for its organoleptic properties. Although, there was no change in the organoleptic properties but there might be changes in the physico-chemical properties. There is a need to look more into the physico-chemical alterations produced in *Kajjali* by using various ratios.

## CONCLUSION

*Rasa Parpati* is prepared in 3 samples with different ratios of *Gandhak*. The *Parpati* prepared was glittery, shiny-black in color, flake-shaped, odourless, soft to touch and produced crackling sound on breaking. An observation was made into the 3 types of samples and no change in the organoleptic properties was noted. *Parpati* is a popular and successfully used preparation for the management of *Grahani* and indicated in various other diseases like *Rajayakshma*, *Kustha* and *Gulma* etc.

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