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

Neelam Choudhary*

*Department of Rasa Shastra & Bhaishajya Kalpana, Gaur Bharmin Ayurvedic College, Rohtak, Haryana, India

**Abstract**

*Rasa Shastra* is a special branch in *Ayurveda* under which the pharmaceutics 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 *Rasa Shastra*. *Rasa Parpati* preparation is first mentioned in *Nagarjuna* for *Kushta Rogas* in 8th 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. 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 8th century A.D. Nagarjuna was the first scholar to bring out the role of Parpati in Kushta Roga. Chakrapani, the commentator of Charaka Samhita (11th century A.D.) has also emphasized the importance of Rasa Parpati in Grahani chikitsa. 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>
<thead>
<tr>
<th>Table 1</th>
<th>Ingredients used and their quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.N</td>
<td>Ingredient</td>
</tr>
<tr>
<td>1</td>
<td>Parada</td>
</tr>
<tr>
<td>2</td>
<td>Gandhaka</td>
</tr>
<tr>
<td>3</td>
<td>Ghrita</td>
</tr>
</tbody>
</table>

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 figer 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. Parpati remains soft and bends slightly. 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), shiny black in colour, crispy and breaks with crackling sound, broken edges with silvery whitish in colour, 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, which is dry and
coarse in nature, 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)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Organoleptic properties</th>
<th>Sample 1</th>
<th>Sample 2</th>
<th>Sample 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Colour</td>
<td>Shiny black</td>
<td>Shiny black</td>
<td>Shiny black</td>
</tr>
<tr>
<td>2</td>
<td>Test of completion</td>
<td>Crackling sound on breaking</td>
<td>Crackling sound on breaking</td>
<td>Crackling sound on breaking</td>
</tr>
<tr>
<td>3</td>
<td>Shape</td>
<td>Flake-shaped</td>
<td>Flake-shaped</td>
<td>Flake-shaped</td>
</tr>
<tr>
<td>4</td>
<td>Taste</td>
<td>Tasteless</td>
<td>Tasteless</td>
<td>Tasteless</td>
</tr>
<tr>
<td>5</td>
<td>Touch</td>
<td>Smooth</td>
<td>Smooth</td>
<td>Smooth</td>
</tr>
<tr>
<td>6</td>
<td>Odour</td>
<td>Odourless</td>
<td>Odourless</td>
<td>Odourless</td>
</tr>
<tr>
<td>7</td>
<td>Appearance</td>
<td>Glittery</td>
<td>Glittery</td>
<td>Glittery</td>
</tr>
</tbody>
</table>

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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