

## KUPIPAKWA RASAYANA- AN EXPLORATION OF THE CLASSICS

Sushmitha V S<sup>1</sup>, Seema MB<sup>2</sup>, Radhika Ranjan Geethesh P<sup>3</sup>, Prabhakara Upadhyaya Renjal<sup>4</sup>

<sup>1</sup>PG scholar, <sup>3</sup>Associate Professor, <sup>4</sup>Professor; HOD;

Dept. of PG Studies in Rasashastra and Bhaishajyakalpna, SDM College of Ayurveda, Udupi., Karnataka, India;

<sup>2</sup>Associate Professor, Uttarakhand Ayurved University, Main Campus, Ayurveda Branch, Harrawala, Dehradun, Uttarakhand – 248001, India

Email: [sushvs317@gmail.com](mailto:sushvs317@gmail.com)

### ABSTRACT

*Bheshaja* is an important factor among the *Chikitsachatushpada*. *Rasaushadhis* are the medicines of metallic and mineral origin. Smaller dose and quicker action of these medicines makes them more acceptable than drugs of herbal origin. *Kupipakwa Rasa Yogas* being one of the *Moorchanayogas* of *Parada* has wide range of references in the texts of *Rasashastra*. The variations are appreciated in terms of different materials and equipments utilised during the preparation of *Kupipakwa Rasayana*. The first reference of *Kupipakwa Rasayana* is found in *Rasa Prakasha Sudhakara* of Acharya Yashodhara of 12<sup>th</sup> century. Other relevant references are collected from different *Rasagranthas*. Recently, adaptations of modified techniques are seen pertaining to the large scale preparation of *Kupipakwa Rasayana*. The differences in the materials and probability of their utility is analysed and a conclusion is derived considering their acceptance in the current era which would likely not compromise the efficacy of the product.

**Keywords:** *Rasaushadhi*; *Moorchana*; *Kupipakwa Rasayana*; *Koopi*; *Valukayantra*

### INTRODUCTION

*Bheshaja* has been placed in second order among the four factors of treatment. Among them *Rasaushadhis* are considered as the best when compared to the drugs of herbal origin in imparting health to the individual. Smaller dose, palatability and quicker action are the advantages of *Rasaushadhis* compared to other treatment modalities. Among the metallic drugs, *Parada* which is believed to be of divine origin is given utmost importance that the whole branch is named after it. It is such a drug that when administered after

*Moorchana* cures the diseases<sup>1</sup>. As this cannot be ingested alone, *Moorchana* has been mentioned in our classics which impart a definite property of curing the ailments<sup>2</sup>. *Moorchana* of *Parada* can be classified as *Kharaleeya*, *Parpati*, *Kupipakwa* and *Pottali Rasayana*. Among them *Kupipakwa Yogas* are one such *Paradakalpas* which are widely used in the current era. The medicines prepared from *Parada* (Mercury) and other compounds in a glass bottle, by applying heat through *Valuka Yantra* is termed as *Kupipakwa Rasayana*. It is a

*Sagnimoorchana* of *Parada*. The references regarding the *Kupipakwa Rasayana* varies according to different *Rasagranthas* when concerned to the use of container, nature of the cloth, its thickness, *Agni*, its duration etc. Hence an attempt is made to summarise these details based on the references available in the texts of *Rasashastra*.

### Review of literature

The first reference of *Kupipakwa Rasayana* is found in *Rasa Prakasha Sudhakara* of Acharya Yashodhara in 12<sup>th</sup> century where the formulation is named as *Udayabhaskara Rasa* in the context of *Rasabhasma*<sup>3</sup>. The word *Ghana rasa* is used for *Rasakapoor*<sup>4</sup>. By 13<sup>th</sup> century, various *Kupipakwa* formulations were in practice like *Sarvalokashraya Rasa*, *Mehari Rasa*, *Sarvanga Sundara Rasa* etc. which are stated in *Uttharardha* of *Rasa Ratna Sammucchaya*<sup>5</sup>. *Rasa Kaumudi*, pertaining to 16<sup>th</sup> century and *Ayurveda Prakasha* of 7<sup>th</sup> century has mentioned *Sindura Rasa* instead of the word *Rasa Sindhoora*. In *Rasendra Chintamani* the author has not only mentioned the method of *Anthardhuma* and *Bahirdhuma Kupipakwa Vidhi* but also explained yogas like *Rasakarapura*, *Agnikumara Rasa*, *Vangeshwara Rasa*, *Lauhasundara rasa* in detail<sup>6</sup>. Many *Kupipakwa* formulations are described in *Rasatarangini*. More than 250 *Kupipakwa Yogas* are described by Shri Harisharananandji in his book *Kupipakwa Rasa Nirmana Vignan*.

The term *Kupipakwa Rasayana* comprises 3 terms; *Kupi*, *Pakwa* and *Rasayana*, which means that the *Rasayanas* prepared in *Kupi* by subjecting it to heat. *Kupipakwa Rasayana* can be classified into *Sagandha* and *Nirgandha* based on the presence and absence of *Gandhaka*, *Kantastha* and *Talastha* according to site of collection of the product or *Anthardhuma* and *Bahirdhuma* based on the method of preparation. [Table No.1]

### Koopi:

It should be made of any of these materials- *Kaacha*, *Mrittika*, *Hema*, *Ayas*, *Taara*<sup>7</sup>. In *Rasendra Chintamani* containers of different materials like mud, iron, gold, silver and glass are mentioned<sup>8</sup>.

Several names have been quoted for container in different classical texts which are as follows: *Ruchira Kachaghathi* [*Rasa Prakasha Sudhakara*, *Rasayogasagara*, *Rasendra Sara Sangraha*, *Rasakamadhenu*], *Kachakoopi* [*Brihat Rasaraja Sundara*, *Rasatarangini*, *Rasamritha*, *Rasayogasagara*, *Rasendra Sara Sangraha*, *Ayurveda Sara Sangraha*, *Rasakamadhenu*, *Rasakaumudi*, *Rasendra Chudamani*], *Kachakumbha* [*Rasamrita*, *Rasakamadhenu*], *Kachamayaghata* [*Rasakamadhenu*], *Kuppika* [*Rasakamadhenu*], *Kupi* [*Brihat Rasaraja Sundara*, *Rasakamadhenu*], *Kachabhajana* [*Rasakamadhenu*], *Koopika* [*Rasakamadhenu*], *Koopi* [*Siddha Bhashaja Mani Mala*], *Goodavaktra Kachakalasha* [*Rasa Ratna Sammucchaya*], *Deerghanaaladridakoopi* [*Rasendra Chintamani*], *Krishnakoopi* [*Ayurveda Sara Sangraha*], *Strong Kachakoopi* which is neither too short nor too long [*Rasa Chandamshu*]

### Selection of mud for applying on the container:

It should be black in colour, sticky, soft without any stones. If such mud is not available then one can use yellow coloured mud. The mud should have the ability to withstand high temperature. In *Kupipakwa Rasa Nirmana Vijnana* the author also explains the preparation of mud which can be used for application on the *Koopi*- husk 2 parts, pieces of cloth 1 part and 3 parts of mud is taken and triturated by adding water. Equal quantity of human hair is added and pounded till it attains waxy consistency. This should not be allowed to dry. It should be left in a wet state till 7 days<sup>9</sup>. In *Rasakaumudi* we find the use of *Vajra mrit*<sup>10</sup> for the application on the container. In *Ayurveda Prakasha* the mud is prepared using 1 part of *Saindhavalavana*, ½ part of *Loha Churna*, ½ part of *Khatika Churna*, quantity sufficient water which are made into a thin paste and is applied over *Koopi*<sup>11</sup>. The author of *Rasakamadhenu* emphasizes the use of *Hatamrittika*<sup>12</sup> for the same. *Mritvastra* which is 1 *Angula* thick is applied on *Koopi* and dried<sup>13</sup>. In *Rasendra Chintamani*, *Keelaalaayaha Kritha Lepa*

prepared using *Lohachurna* and *Jala* with excessive *khatika* and *lavana* is intended for *Koopidridheekarana*.<sup>14</sup> *Mrithkarpata* is stated for the purpose in *Rasamritha*, *Rasendra Sara Sangraha* and *Rasakamadhenu*. *Mridvastra* is mentioned for the same in *Rasayogasagara*, *Rasendra Sara Sangraha* and *Ayurveda Sara Sangraha* where as the use of *Pata* is stated in *Rasakaumudi*. The authors of *Rasakamadhenu* and *Rasatarangini* mention the use of *Mrittikalipthaambara* and *Jalatooramritthika* respectively.

According to *Rasayanasara* 1<sup>st</sup> and 4<sup>th</sup> layer should be done by applying *Madhu*. Seven layers are applied over the container and dried<sup>15</sup>

Once the mud over the container dries 1/3<sup>rd</sup><sup>16</sup> or 1/4<sup>th</sup><sup>17</sup> of *koopu* is filled with drug.

### **Valukayantra**

The word *Valukayantra* has been commonly used by most of the authors. It is also known as *Sikathayantra* / *Kavachiyatra*. Various materials are described in the classics for the preparation of *Valukayantra* like *Mrithpatra* according to *Rasayanasara*, *Bhanda* which is 1 *Vitasthi* deep,<sup>18,19</sup> *Bhanda*, which has the capacity of 5 *Aadaka Valuka*<sup>20</sup> with *Chidra* at its bottom [*Rasamrita*, *Rasendra Chudamani* and *Rasa Chandamshu*], *Subhande- Sachidramrithsthal* [*Rasendra Sara Sangraha*], *Bhanda* [*Rasakamadhenu*], *Mriththlipthasthal* [*Rasatarangini*], *Yantra* made of iron / mud [*Paradavijnaneeyam*] and *Loha* or *Mrithbhanda*, *Adah Saikathayantra*<sup>21</sup>. The measurement of hole at the bottom is *Tarjanyangulapramana* as per *Rasendra Chintamani* where as 2-3 *Angula* according to *Rasa Darpana*.

Most of the authors have mentioned *Kramagni* for the preparation of *Kupipakwa Rasayana*. According to *Rasa Ratna Sammucchaya* heat should be given to such an extent that the grass placed on the *Valuka* gets burnt at the end of application of *Mridu*, *Madhyama* and *Teevragni*<sup>22</sup>. The use of *Manda-Madhyama-Khara* is advised in *Rasendra Sara Sangraha*. In *Rasa Chandamshu Teevragni* is advised for the preparation of *Sameerapannaga*

*rasa*. In the context of *Haragauri Rasa*, *Manda-Madhyama-Hatagni* is mentioned<sup>23</sup>. Even though we find the use of *Mridu- Manda- Teevragni* in *Ayurveda Sara Sangraha*, unlike *Rasa Sindoor Mridu*, *Madhyama* and *Teevragni* should not be given for the preparation of *Rasakarpoora*, where the author specifies the use of only *Mandagni*. For the preparation of *Sameerapannaga rasa*, *Swarna Vanga* and *Swarnabhootatirasa Madhyamagni* is advised<sup>24</sup>. *Mridu- Madhyama- Uttamagni* is mentioned in *Rasayogasagara* where as *Teevragni* is advised for *Shilaasindoor*<sup>25</sup>

Sources of heat vary according to different classics like *Chaagavit* [*Rasakamadhenu*], *Vanopala* [*Rasatarangini*, *Ayurveda Sara Sangraha*] etc.

Corking materials like *Pashanakhatika*<sup>26</sup>, *Khadiya* or *Khatika* is used and after corking a layer of mud smeared cloth is covered over the cork<sup>27</sup>. *Multhanimitti* or jaggery and lime or lime mixed with jaggery or honey or piece of brick or 4 folded cloth which is smeared with mud should be tied over the cork using thread and upon the thread mud paste is applied and dried.<sup>28</sup>

*Rasagolaadi*<sup>29</sup>, *Kajjali* powder, *Tamra* pieces in case of *Tamrasindoor*<sup>30</sup> are the different forms of drug which are placed inside the container.

For clearing the neck of the *Koopu Tapta Lohashalaka*<sup>31</sup>, *Taptha Ayas Shalaka*<sup>32</sup> are advised. For assuring the time of corking the bottle testing with *Sheeta Shalaka* is mentioned in *Paradavijnaneeyam*.

### **Poorva karma:**

It includes arrangements for the preparation of *Kupipakwa Rasayana*. The instruments like weighing machine, mortar- pestle, vessel, bottle, cloth, mud, pyrometer, pot, sand, copper sheet, iron rod and firewood are collected. Strong glass bottle which is neither too long nor too short should be taken. It should be covered with mud smeared cloth and dried under sunlight. Such seven layers should be made. The main drug and the drugs used for levigation are collected. *Swarasa* or *Kashaya* of the *Bhavanadravya* which is mentioned for specific

formulation has to be prepared. Then levigation is carried to the main drug. The drug has to be filled up to 1/3<sup>rd</sup> quantity of the bottle. Initially sand has to be filled inside the *Valuka Yantra* upto a level of 1 *Angula* from the bottom of *Valuka Yantra*<sup>33</sup>, bottle is placed and remaining sand is filled upto the neck of the *Koopi*<sup>34 35</sup>. It is then subjected for heating.

#### **Pradhana karma**

Initially low heat should be given. As the procedure continues heat should be increased gradually i.e., *Kramagni*<sup>36</sup> should be given. *Gandhaka* which collects at the neck of bottle should be cleared using hot iron rod<sup>37</sup>.

*Aushadhipaakapareeksha*<sup>38</sup>:

- Sunset colour is seen at the bottom of the bottle.
- When cold rod is inserted upto the bottom of the bottle, *Nirdhuma* is seen.
- When thin sheet of copper is placed on the mouth of the bottle the particles of Mercury adheres on it.

Once the *Paka* of *Oushadha* occurs mouth of the *Koopi* should be closed in *Bahirdhooma* method. In the preparation of *Antardhuma* method corking has to be done immediately after filling the drug, when *Dhooma* appears, cork is removed and *Lohashalaka* has to be inserted till the bottom, moved around and removed to check for the presence of moisture<sup>39</sup>. According to *Rasamritha* heating has to be continued further in *Teevragni* as per the duration prescribed in respective formulations. Sand near the neck of bottle is cleared. The desired *Agnikala* varies according to preparations.

#### **Paschat karma-**

After the application of high temperature, heating is stopped and it is allowed to cool on its own. The procedure is known as *Swaanga Sheetala*. *Bahisheetala* is mentioned in the context of *Swarna Vanga*. Once it gets cooled on its own [*Rasamritha*, *Rasendra Sara Sangraha*, *Rasakaumudi*, *Rasakamadhenu*, *Rasayogasagara*, *Ayurveda Sara Sangraha*] the container has to be removed by separating the sand around it. The layer of mud should be cleaned carefully. At the centre of the

glass bottle a kerosene dipped thread should be tied below/ above the level of product collected and burnt. Water is sprinkled and bottle is broken<sup>40</sup> or it should be wrapped immediately in a wet cloth<sup>41</sup>. The bottle breaks at the site of the thread with a distinct sound. The product is collected, weighed and stored.

## **DISCUSSION**

*Kupipakwa Rasayanas* are the unique *Murchana Yogas of Parada*. The formulations are prepared in glass bottle with the aid of *Valukayantra*. Though classics mention containers of different material, glass bottles are preferred these days owing to its easy availability and handling. The materials of containers like *Hema*, *Tara* which are mentioned in the classics may not sustain the temperature during the procedure. The neck of the bottle should be long enough to provide sufficient area for the collection of product. Heat-resistant glasses are believed to be better than any other ordinary glass available. It has been tested to withstand temperature changes of up to 1000<sup>o</sup>C<sup>42</sup>. To make it more heat stable 7 layers of mud smeared cloth is applied. *Multhanimiti* (fuller's earth) is preferred for application as it is soft and easily spreadable. One can also use black soil for the purpose as it becomes sticky when treated with water. But once the soil dries, it develops cracks. This can be overcome by smearing it on the cloth and then applying it on the bottle. It is then placed in *Valukayantra* where the sand is filled up to the neck of the *Koopi*. *Valukayantra* made of iron can be preferred as the specific heat capacity and heat retention is high compared to mud. Sand can retain heat for very long period as the heat transfer coefficient is very low<sup>43</sup>. These may prevent the abrupt heat variation thereby promoting gradual heating. Currently the vertical muffle furnaces are commonly used for the preparation of *Kupipakwa Rasayana* owing to its benefits over the classical sources of heating and maintenance of temperature. It also prevents the exposure to the products of combustion during the procedure. But, the use of electricity renders high cost of the product which can

be a disadvantage in the part of vertical muffle furnace.

Generally for the preparation *Mridu*, *Madhyama* and *Teekshnaagni* that is *Kramagni* is the pattern followed. For the preparations containing *Gandhaka* and *Parada* as ingredients the melting of *Kajjali* and onset of sulphur fumes can be considered as *Mriduagni*. The stage where there is a profuse fume, blocking of neck of the *Koopi* with sulphur and liquefaction of *Kajjali* can be considered as *Madhyamagni*. The absence of flame indicates the absence of free sulphur. This can be tested by insertion of red hot iron rod into the bottle. When there is no free sulphur, mercury starts escaping from the bottle which can be appreciated as silvery particles moving in spiral manner out of the bottle. This can be tested by placing a copper sheet on the mouth of the *Koopi*. Once the test is positive corking is done and *Teevragni* is given for desired period. The cessation of flame, appearance of red colour at the bottom of the bottle can be considered as the time for corking the bottle. For corking the *Koopi* one can use wood covered with mud smeared cloth as it is easily available and economical. The corking material thus used should be inert. The duration of heating differs according to the formulation. Once the *Teevragni* is provided the sand near the neck of the bottle is removed to provide comparatively cooler area for condensation. It is then allowed for *Swangasheetala*. Before breaking the bottle for collection of the product one should check for the site of collection of the product. In *Ayurveda Sara Sangraha*, the author explains the sprinkling of water at the site where the thread is burnt, but practically it is feasible to burn the thread and wrap it immediately with wet cloth. During breaking of bottle, the bottle breaks along the line of thread which could be due to abrupt change in the temperature. The product is then collected by gently tapping the bottle. Care should be taken to avoid mixture of glass pieces. It is then stored.

## CONCLUSION

The *Rasaushadhis* are well known for their rapid action and are supposed to be superior to other drugs. Hence, *Rasashastra* has a unique importance in the field of *Ayurveda*. The *Rasa* preparations can be categorised as *Kharaleeya Parpati*, *Pottali* and *Kupipakwa Rasayana*. The compounds prepared from *Parada* or other compounds in glass bottle by applying heat are termed as *Kupipakwa Rasayana* which requires special type of container preferably glass bottle), *Bhrasthri* and *Valukayantra* (Specially constructed instrument). It also has certain procedures like maintaining *Kramagni* (Specific heating pattern), *Shalakasanchalana* (Insertion of hot and cold rod during preparation) *Mukhabandhana* (Corking of a bottle), *Swangasheetikarana* (cooling on its own), *Kupibhedana*. (Breaking the glass bottle) and collection of product. On evaluating different texts variations with respect to container, mud for smearing, *Valukayantra*, pattern of heat, source of heat, corking material, accessory instruments etc were noticed. Due to the advancement of technology there has been a modification in the manufacturing techniques in the current era. Hence the selection of the materials for the preparation should be made such that they should not compromise the efficacy of the final product.

**Table 1:** Types of *Kupipakwa Rasayana*

Presence/absence of <i>Gandhaka</i>	Site of collection of product <sup>44</sup>	Method of preparation
• <i>Sagandha</i> • <i>Nirgandha</i>	• <i>Kantastha</i> • <i>Talastha</i>	• <i>Antardhuma</i> • <i>Bahirdhuma</i>

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