PHARMACEUTICAL STANDARDIZATION OF KANYALOHADI VATI

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ABSTRACT

Rasa oushadhis are the potent Ayurvedic preparations mainly containing metals and minerals. These oushadhis possess a wide range of therapeutic efficacy and are considered superior because of their qualities like small dose, quick action, palatability and longer shelf life. Kanyalohadi Vati is an important Rasaoushadi described in Rasa Tantra Sara Va Siddha Prayoga Sangraha indicated for the management of the diseases Anartava, Kashtartava and Aniyamithartava. The ingredients present in the “Kanyalohadi vati” are Kaseesa Bhasma, Elua (Musambaram), Twak, Ela, Sunthi and Gulkand. The main pharmaceutical procedures involved in the preparation of Kanyalohadi Vati are Shodhana, Bhavana, Marana, Elua nirmana, Gulkand nirmana, Churna nirmana and preparation of Kanyalohadi Vati. The specific pharmaceutical blend of these contents can result in a more effective formulation. Therefore the present study has been planned to standardize the method of preparation of Kanyalohadi Vati according to the method explained in the classical literature.

KEYWORDS: Kanyalohadi Vati, Shodhana, Bhavana, Marana, Elua nirmana, Gulkand nirmana, Standardization.

INTRODUCTION

Rasa Shastra is an independent and important branch of Ayurveda developed during the medieval period. It mainly deals with the knowledge related to Alchemy and pharmaceutical processes especially concerned with the drugs of metal and mineral origin.

Metals and minerals are the integral part of Ayurvedic therapeutics and are in vogue since Vedic period. During Samhita Kala, their use was limited in therapeutics when compared to herbal preparations. But, after the development of Rasa Shastra, the frequency of use of metals and minerals in treating diseases has been increased. Before their use, they should be subjected to specialized pharmaceutical processes like Shodhana, Marana, AmrutiKarana etc. Their use in therapeutics occupied highest place and is called as Rasa Chikitsa.

Kaseesa mentioned under Uparasa group possess various therapeutic properties. It is indicated in the management of several diseases like Kandu, Mutrakrichra, Switra, Krimiroga, Pleeha roga, Raktavikaras etc.[1]

Kanyalohadi Vati is a unique formulation described in Rasa Tantra Sara Va Siddha Prayoga Sangraha,[2] which contains 10 parts of Elua, 7 parts Kaseesa Bhasma, 20 parts of Gulkand and 5 parts each of Twak, Ela and Sunthi. Shodhana, Bhavana, Marana, Churna nirmana and preparation of tablets of Kanyalohadi Vati are the main pharmaceutical procedures adopted in the preparation of Kanyalohadi Vati. In the present study an effort has been made to highlight the significance of these pharmaceutical procedures and to standardize the method of preparation of Kanyalohadi Vati.

AIM OF THE PRESENT STUDY

Pharmaceutical Standardization of various steps involved in the preparation of Kanyalohadi vati.

MATERIALS AND METHODS

Collection of Raw Material

Kaseesa was obtained from Chennai. Rose flowers, Twak, Ela and Sunthi were obtained from the local market, Tirupati. Bhringaraja and Kumari leaves were obtained from TTD’s Sri Srinivasa Ayurveda Pharmacy, Tirupati.

Methods

Entire preparation of Kanyalohadi Vati was carried out in Department of Rasa Shastra and Bhaishajya Kalpana, TTD’s S.V. Ayurvedic College and Sri Srinivasa Ayurveda Pharmacy, TTD, Tirupati.

Pharmaceutical study was carried out in five stages

Stage I Shodhana and Marana of Kaseesa[3] (Rasamrita 3/158-159)
Stage II Elua (Musambaram) nirmana[4]
Stage III Twak, Ela and Sunthi churna nirmana[5] (Sh.M.Kh.6/12)

Available online at: http://ijapr.in
Stage IV: Gulkand nirmana

Stage V: Preparation of Kanyalohadi Vati tablets

Kanyalohadi Vati preparation

Reference: Rasa Tantra Sara Va Siddha Prayoga Sangrah Volume-1, Gutika prakaran

Materials: Kaseesa Bhasma - 110g, Elua -250g, Twak churna- 100g, Ela churna- 100g, Sunthi churna- 100g, Gulkand -500g.

Method/ Principle: Shodhana, Marana, Elua nirmana, Gulkand nirmana and Churna nirmana

Apparatus: Gas stove, iron ladle, steel vessel, Khalwa yantra, knife, cloth, Multzani mitti, measuring jar, wide mouthed earthen pot, cow dung cakes, spoon, Sharava, Glass bottle, Iron vessel, sieve.

Kaseesa shodhana

Ingredients: Ashuddha Kaseesa - 500g, Bhringaraja Swarasa - Q.S. (Quantity Sufficient)

Procedure: Kaseesa was taken in a Khalvayantra and made into powder.

Sufficient quantity of Bhringarajaswaras was added to it and triturated till the mixture gets dried up. This procedure was repeated for 3 times. Shuddha Kaseesa was obtained.

Observations: After Bhavana the colour of Kaseesa was ash green.

2. Kaseesa Marana

Ingredients: Shuddha Kaseesa- 490g, Nimbu swarasa -Q.S. (Quantity Sufficient).

Procedure: Shuddha Kaseesa was taken in Khalva yantra and sufficient quantity of Nimbu Swarasa was added to it and triturated well. Chakrikas of uniform size and shape were prepared and kept in an earthen saucer and were allowed to dry. Then it was subjected to Sandhi bhandhana and Sharava samputa was kept for drying. Then it was subjected to Laghuputa. After self-cooling the Sharava Samputa was taken out and opened. The material was collected and ground. Again this procedure was repeated for five times.

Observations: Red coloured Kaseesa bhasma was obtained after 6th Puta. Maximum temperature attained during the Puta was 668°C. Gradual reduction in the weight of Kaseesa has been noticed in the whole process.

3. Elua (Musambaram) preparation

Ingredients: Ghritakumari Swarasa

Procedure: Fresh Kumari leaves were collected and its outer skin was peeled off. Pulp was taken and subjected for grinding in mixer grinder. Grinded pulp was filtered through a cloth to obtain Kumari Swarasa. Kumari swarasa was taken in an iron vessel and heated over moderate flame. It was heated continuously by stirring until it turned into semisolid consistency. Then it was transferred into a tray and exposed to sunlight till it gets completely dried and preserved.

Observations: Greenish black coloured Elua was obtained.

4. Twak, Ela and Sunthi churna nirmana

Ingredients: Twak- 100g, Ela- 100g and Sunthi -100g.

Procedure: Dried Twak, Ela and Sunthi were thoroughly checked for any external impurities, worms and insects. Later they were taken in Khalwa yantra and pounded separately. The pounded material was sieved through a cloth to obtain very fine powder.

Observations: Twak churna obtained was light brown in colour. Ela churna obtained was white in colour. Sunthi churna obtained was cream white in colour.

5. Gulkand nirmana

Ingredients: Rose petals -250g, Sugar - 500g.

Procedure: Fresh Rose flowers were taken; washed with water and dried. Petals were separated. A glass jar with a lid was taken. A layer of rose petals was spread evenly in the dry glass jar. A layer of the sugar was then spread over the rose petals. A layer of rose petals was again spread over the sugar layer. This process was done till the glass jar was completely filled with rose petals and sugar. The jar was closed with a lid and kept under sunlight for 6-7 hours daily for one month. The contents were stirred regularly using a clean spoon.

Observations: Dark pink colour Gulkand was obtained.

6. Mixing of Kaseesa Bhasma with component drugs of Kanyalohadi Vati

Ingredients: Kaseesa Bhasma- 110g, Elua -250g, Twak churna- 100g, Ela churna- 100g, Sunthi churna- 100g and Gulkand- 500 g.

Procedure: All the ingredients were added one by one in a Khalwa yantra and mixed well till a homogenous mixture was obtained.

7. Preparation of Kanyalohadi Vati

Ingredients: Homogenous mixture of Kanyalohadi Vati- 1,150g.

Procedure: 500mg pills of Kanyalohadi Vati of uniform size and shape were made manually and preserved in absolute sterile and moisture free glass containers.
Result

Table 2: Showing the changes in weight of various practicals in the preparation of *Kanyalohadi Vati*

<table>
<thead>
<tr>
<th>Name of the practical</th>
<th>Initial weight (g)</th>
<th>Final weight (g)</th>
<th>Loss in weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaseesa Shodhana</td>
<td>500</td>
<td>490</td>
<td>10</td>
</tr>
<tr>
<td>Kaseesa Marana</td>
<td>490</td>
<td>120</td>
<td>370</td>
</tr>
<tr>
<td>Twak churna Nirmana</td>
<td>500</td>
<td>480</td>
<td>20</td>
</tr>
<tr>
<td>Ela Churna Nirmana</td>
<td>500</td>
<td>400</td>
<td>100</td>
</tr>
<tr>
<td>Sunthi churna Nirmana</td>
<td>500</td>
<td>480</td>
<td>20</td>
</tr>
<tr>
<td>Elua Nirmana</td>
<td>1000ml</td>
<td>30</td>
<td>970</td>
</tr>
<tr>
<td>Gulkand Nirmana</td>
<td>Rose petals- 250</td>
<td>600</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>Sugar- 500</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Kanyalohadi vati Nirmana</em></td>
<td>Homogenous mixture - 1,160</td>
<td>1,150</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 3: Showing the Heating pattern of *Laghu Puta*

<table>
<thead>
<tr>
<th>Time (in minutes)</th>
<th>Temperature (in Degree Celsius)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 min</td>
<td>29°C</td>
</tr>
<tr>
<td>30 min</td>
<td>104°C</td>
</tr>
<tr>
<td>60 min</td>
<td>668°C</td>
</tr>
<tr>
<td>90 min</td>
<td>511°C</td>
</tr>
<tr>
<td>120 min</td>
<td>259°C</td>
</tr>
<tr>
<td>150 min</td>
<td>144°C</td>
</tr>
<tr>
<td>180 min</td>
<td>96°C</td>
</tr>
<tr>
<td>210 min</td>
<td>69°C</td>
</tr>
<tr>
<td>240 min</td>
<td>44°C</td>
</tr>
<tr>
<td>270 min</td>
<td>26°C</td>
</tr>
<tr>
<td>275 min</td>
<td>26°C</td>
</tr>
</tbody>
</table>

Table 4: Showing the Results of *Kaseesa marana*

<table>
<thead>
<tr>
<th>Puta</th>
<th>Weight of Shodita kaseesa (gm)</th>
<th>Weight of Nimbu swarasa (ml)</th>
<th>Weight of Chakrika (gm)</th>
<th>Weight of Chakrika after Puta (gm)</th>
<th>Colour</th>
<th>Hardness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>490.0</td>
<td>250</td>
<td>530</td>
<td>180.8</td>
<td>Blackish red</td>
<td>Soft</td>
</tr>
<tr>
<td>2</td>
<td>180.8</td>
<td>120</td>
<td>203</td>
<td>154.2</td>
<td>Blackish red</td>
<td>Soft</td>
</tr>
<tr>
<td>3</td>
<td>154.2</td>
<td>120</td>
<td>176.6</td>
<td>140.2</td>
<td>Blackish red</td>
<td>Soft</td>
</tr>
<tr>
<td>4</td>
<td>140.2</td>
<td>100</td>
<td>163.0</td>
<td>129.0</td>
<td>Brownish Red</td>
<td>Soft</td>
</tr>
<tr>
<td>5</td>
<td>129.0</td>
<td>100</td>
<td>132.4</td>
<td>120.6</td>
<td>Red</td>
<td>Soft</td>
</tr>
<tr>
<td>6</td>
<td>120.6</td>
<td>100</td>
<td>119.5</td>
<td>111.2</td>
<td>Red</td>
<td>Soft</td>
</tr>
</tbody>
</table>

Graph No.1 Showing the Heating pattern of *Laghu Puta*
Figure 1:

1- Ashuddha Kaseesa; 2- Bhavana with Bhringaraja Swarasa; 3- Shuddha Kaseesa; 4- Bhavana with Nimbu Swarasa; 5- Cakrika Nirmana; 6- Sarava Samputikarana; 7- Laghu puta; 8- Kaseesa bhasma

Figure 2:


Figure 3:


Figure 4:

DISCUSSION

The pharmaceutical procedures adopted in this study are Shodhana, Marana and Churna nirmana. Shodhana is done for Kaseesa.

**Kaseesa Sodhana**

Shodhana is done to convert materials into suitable form for further procedures, to remove visible and invisible impurities, to reduce the toxicity and to enhance the therapeautic properties.

The purification of Kaseesa was done according to Rasamrita i.e., Bhavana with Bhringaraja swaras.

**Reason to select Bhringaraja as Bhavana dravya**

The reason to select Bhringaraja as Bhavana dravya is that it has properties like Vata kapha hara, Agni Vardhaka, Deepana, Vibandhahara. To obtain these qualities in Kaseesa, Bhringaraja swarasa bhavana is considered as the best.

**Kaseesa Marana**

Metallic drugs should always be reduced to Bhasma form for internal use. Marana makes Shodhita dravayas adaptable, absorbable and assailable for the body. During this procedure, various physico-chemical changes take place gradually and after repeated processing metals change into such forms that are suitable for internal administration.

**Role of Nimbu swarasa bhavana**

Acharya Charaka has described Bhavana as one of the Samskaras. It is described that during preparation of any medicine, Bhavana with Swarasa of specific Dravya enhances the Bala (potency) of Aushadhi dravya. Wet trituration (Bhavana with Nimbu Swarasa) facilitates particle size reduction and homogenization leading to modification of properties (Gunantatradhana) of the end product. Bhavana helps in increasing the therapeutic efficacy by converting the Bhava dravyas into smaller particles and adding the trace elements in Bhasma and converting a metal into a Herbo-metallic compound.

Infact, grinding with lemon juice makes Kaseesa more absorbable in the body, as ferrous sulphate becomes ferrous citrate after this process and iron in ferrous form absorbs faster in the presence of citric acid. The administration of ferrous sulphate in crude form is in vogue in allopathic system of medicine for iron-deficiencies.

After attaining Subhavita lakshanas, Chakrikas were prepared of uniform size and shape to facilitate uniform distribution of heat during the Putapaka. These Chakrikas were dried properly, subjected to Sharava samputikarana, and then subjected to Laghu puta.

Puta is the heating system and heating schedule which indicates the quantum of heat required by the Rasadi dravyas for their conversion into suitable form (Bhasma).

Neither less nor excess heat is desired i.e. the desired quantum of heat is needed to be applied for making it converted to desired form suitable for internal use. According to classics Agni mentioned for Marana of Kaseesa is Laghu Puta. The maximum temperature recorded during Puta was 668°C. After that, gradual fall in temperature was noted.

The colour and consistency of Bhavita Kaseesa chakrikas were blackish grey in colour. Kaseesa turned from blackish grey to blackish brown, dark brown, and then to red (Sindhura) by the end of 6th Puta. Finally red coloured Kaseesa bhasma was obtained after the 6th Puta.

The material turned to soft powder without any lusture after complete process, which indicates...
that the temperature was sufficient for the formation of the desired compound.

Varitaratwa, Slakshanatwa and Rekhaburnatwa for Kaseesa Bhasma were checked after every Puta. Kaseesa Marana was done till all the Bhasma lakshanas were obtained.

Elua nirmana- Kumari swarasa was taken in an iron vessel and heated over moderate flame until it gets turned into semisolid consistency.

Gulkand nirmana- Gulkand was prepared by using Rose petals and Sugar in a glass jar and exposed to sun light.

Churna nirmana of herbal drugs

Elua, Twak, Ela and Sunthi were made into fine powder according to the reference mentioned in Sarangadhara Samhittha.

Preparation of homogenous mixture of all component drugs

In a Khalva yantra Kaseesa Bhasma and all other herbal drug Churnas were mixed in the ratio as mentioned in reference Sloka. Gulkand was added to it and triturated till it gets Vati consistency.

Preparation of Kanyalohadi vati

Pills of uniform size and weight were prepared and dried. They are preserved in absolute sterile and moisture free glass containers.

CONCLUSION

- Kanyalohadi Vati is one of the Kharaliya Rasayana in which Kaseesa bhasma, Elua (Musambaram), Gulkand, Twak, Ela and Sunthi churna are the main ingredients.
- The combination of all these drugs synergistically acts together to pacify the symptoms of Kashhtartava. All the ingredients of Kanyalohadi vati are having Sulahara, Vibandhahara and Vatanulomaka properties.
- Pharmaceutical standardization is the first step towards standardization of any drug. So it should be done with utmost accuracy. This leads to reproducibility of drug and production of safe and efficacious drug.

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