A RATIONAL UNDERSTANDING OF SNEHA KALPANA

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INTRODUCTION

Rasa Shastra and Bhaishajya Kalpana is a unique branch of Ayurveda that deals with herbal, mineral, herbal-mineral preparations, among which Sneha Kalpana is an important one. The sources of origin of sneha are Shthavara eg: Taila, and Jangama eg: Vasa, Majja, Ghrita, Taila, Vasa, and Majja are the four types of Sneha. Due to its peculiar qualities, “Ghrita” is regarded as “the best” among them; It easily absorbs the qualities of other medications that come into contact with it. When it comes into contact with another drug or substances, it retains all of its natural properties [2]. Ghrita Kalpana and Taila Kalpana are the two basic forms of Sneha Kalpana. Sneha Murchana, Sneha Paka, and Pakadi Siddhi are the stages in the preparation of sneha kalpana. Kalpana is a method, type of modification, or strategy for preparing medicine [3].

Sneha Kalpana

The aim of "sneha Kalpana" is to absorb the fat-soluble and water-soluble active principles from the kalka dravya and kwatha dravya in to the sneha.

The aims of Sneha Kalpana are

- To make use of the therapeutic values of oil/ghee.
- To preserve the drug/drugs for a longer time.

One part of "Kalka dravya", four parts of "Sneha dravya," and sixteen parts of "drava dravya" are combined to make "Sneha Kalpana." The mixture is boiled until "Sneha- siddhi lakshana" are attained [4]. The essential ingredients of Sneha kalpana are as follows:

Kalka dravya

In case of fresh and wet drugs kalka is prepared by pounding in a Khava yantra. For dry drugs, the fine powder of these drugs is triturated with the necessary amount of water to prepare kalka [5].

Sneha dravya

Sneha dravya (oil or ghee) is taken 4 times to that of Kalka dravya [6].

Drava dravya

Drava dravya is taken 4 times to that of Sneha. The drava dravya may be

- Natural liquids (Gokshreera, Gomutra),
- Liquid preparations (Swarasa, Kashaya).

General method of preparation

- The ratio of kalka, sneha and drava dravya is 1:4:16.
- 1 part of Kalka, 4 parts of Sneha and 16 parts of Dravadravya are taken in a vessel, boiled and reduced to the quantity of Sneha [7].

Specific rules of Sneha preparation

Rule 1

The quantity of kalka dravya differs from the general ratio depending on the different drava dravya used [8].

<table>
<thead>
<tr>
<th>Table 1: Kalka dravya and drava dravya ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drava dravya</td>
</tr>
<tr>
<td>Ambu</td>
</tr>
<tr>
<td>Kwatha</td>
</tr>
<tr>
<td>Swarasa</td>
</tr>
</tbody>
</table>

Examples

- Jala-Pinda taila, Jatyadi ghrita
- Kashaya-Bala taila, Triphala ghrita.
- Swarasa-Arka taila, Arjuna ghrita.

Significance

- Swarasa and Kwatha are concentrated liquids when compared with Ambu. Hence, the quantity of kalka dravya taken in snehapaka with swarasa and kwatha as drava dravya is less for Ambu.

Rule 2

In the case of godugdha (milk), dadhi (curd), mamsarasa (meat soup), takra (buttermilk) used as drava dravya the quantity of ‘Kalka dravya’ should be 1/8th. However, for appropriate paka of ‘Sneha’ four times of water is also added [9].
Examples
- Godugda-Kshirashatphala ghrita
- Dadhi-Kottamchukkadi taila
- Ajadugda-Anu taila
- Mamsa rasa-Amrithaprasa ghrita
- Brihath Chaagalyadhi ghrita
- Brihath Aswagandha ghrita
- Takra-Grahaminihara taila

Significance
- Dadhi, Mamsarasa etc are concentrated liquids when compared with Amba. Hence, the quantity of Kalka needed for Snehapaka will be less for these liquids. However, to facilitate the transfer of active principles from the drava dravya in to the sneha, 4 times of water also should be added during the snehapaka.

Rule 3
If there are five or more "drava dravya," then the total quantity of each should be equal that of Sneha [10].

Examples
- Neelibhringadi taila
- Drava dravya are 6-Neeli swarasa, Bhingaraja swarasa, Aja ksheera, Narikela kshira, Mahishi kshira, Go dugdha.

Significance
- If number of drava dravya are 5 or more than 5 in a sneha preparation, then the duration of Sneha paka will increase if each of these drava dravya is taken 4 times to that of sneha. Therefore, each of drava dravya should be taken equal to that of sneha.

Rule 4
If drava dravya are not mentioned in any of the Sneha preparations, water is to be used as a drava dravya. It should be four times the quantity of sneha used [11].

Example
- Water as Drava dravya in Pinda taila.

Significance
- To facilitate the transfer of active principles from the kalka dravya in to the sneha dravya, water should be added (though no drava dravya is mentioned).

Rule 5
If only ‘Kwatha dravya’ is mentioned in a sneha preparation, then ‘Kalka’ of same drugs may also be added during the snehapaka [12].

Example
- Kethakimuladi taila

Significance
The Kalka of the same drugs (taken for kwatha) may be added during the snehapaka to enhance the potency of sneha.

Rule 6
If ‘Kalka’ is not mentioned in a ‘sneha kalpana’, there sneha may be prepared without kalka [13].

Examples
- Nirgundi taila
- Nirgundi patra swarasa, Tila taila.

Significance
Swarasa alone is taken as drava dravya which is already a concentrated form. Therefore, there is no need to add kalka.

Rule 7
If ‘Puspa kalka’ is present in the preparation, it should be taken in 1/8th part to that of ‘sneha’ but not as per general ratio [14].

Example
- Vasa ghrita.

Significance
Flower being the reproductive part of the plant has high nutritive value and is more potent, hence it is taken in less quantity.

Specific time duration for Sneha paka
The duration of Sneha paka varies with the drava dravya taken.

Table 2: Showing specific time duration for ‘Sneha paka’ [15]

<table>
<thead>
<tr>
<th>Drava dravya</th>
<th>Time required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mamsarasa</td>
<td>1 d</td>
</tr>
<tr>
<td>Milk</td>
<td>2 d</td>
</tr>
<tr>
<td>Swarasa</td>
<td>3 d</td>
</tr>
<tr>
<td>Takra, Dadhi, Kanji, Gomutra</td>
<td>5 d</td>
</tr>
<tr>
<td>Roots, Creepers, Climbers</td>
<td>12 d</td>
</tr>
</tbody>
</table>

Significance
- Mamsa rasa easily get foetid and impart a bad odour within a day or two.
- Dugdha also gets spoiled within a day or two.
- Swarasa may take longer time period to give out active solute principles to the oleaginous media so the time period of snehapaka for 3 d is prescribed.
- 5 d are prescribed when liquid media used for Snehapaka are Kanji, Takra, Dadhi and Gomutra as their nature to impart chemical constituents may take a longer time.
- Valli and Mula are dried and hard substances; these may take as much as 12 d to give out their therapeutically potent principles to the oleaginous media.

General dosage and adjuvants
One pala (48g) is the general dosage of ‘Sneha Kalpana’ administered along with suitable adjuvants like warm water, honey, sugar, medicinal powders, decoctions etc.

Pharmaceutical aspect of Sneha kalpana
It includes Murchana of sneha and snehapaka.

Sneha murchana
Sneha Murchana is one particular procedure which is done on sneha before subjecting the drugs to Snehapaka. It is applied for both Taila and Ghrita. There are no references regarding Sneha Murchana in Brihattrayee. The importance and method of Murchana process is described for the first time in Bhaishaja Ratnavali [16].

Taila murchana
Ingredients of Taila murchana are taken in the following ratio.
- Taila taila taken as one part.
- 1/64th part each of the following drugs such as Manjista, Haridra, Hrivera, Lodhra, Musta, Nalika, Triphala, Suchipushpa mula rasa, Vataankura.
- The quantity of Jala is equal to the quantity of taila [17].
Procedure

- Tila taila is heated till it is free from froth. Kalka is added to it.
- Water is also added and the mixture is boiled on moderate heat till the tailapaka remains.
- It is filtered, stored and used for further pharmaceutical use.

**Ghrita murcchana**

Ingredients and quantity of drugs taken for ghrita murcchana are 1 pala each of Pathya, Dhatri, Vibhitaki, Jaladha, Rajani, Matalunga, swaras. 1 prastha each of Agya (ghee) and Jala is to be taken [18].

**Procedure**

- The ghee is taken in a vessel and heated over mild fire. Kalka is added to it.
- Water is also added and is boiled until all sneha siddhi lakshana appear and only the ghrita part remains.

**Significance of sneha murcchana**

- Ama, Dagdhapaka—Removal of “Ama” which can be correlated to the “moisture content” and directly related to rancidity problems.
- Durgandham vinshanthi—Removal of bad odour of crude Taila or Ghrita.
- Sneha will acquire the capability to receive more active principles, the Stability of the Sneha will increase. Murchana will give good odour and colour to the sneha. It may also alter the solubility and absorption of the finished product [19].

Table 3: Types of Snehapaka [21]

<table>
<thead>
<tr>
<th>Stages of Paka</th>
<th>Kalka</th>
<th>Sneha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amapaka</td>
<td>Water content (+), Cracking sound.</td>
<td>Water content (+), Cracking sound.</td>
</tr>
<tr>
<td>Mridupaka</td>
<td>Sticky, traces of water (+), Cracking sound.</td>
<td>Traces of water (+), Cracking sound.</td>
</tr>
<tr>
<td>Madhyamapaka</td>
<td>Non-sticky, free from water content, varti can be made no cracking sound.</td>
<td>Water content (-), Cracking sound (-), Froth appearance (taila), Subsidization of Proth (ghrita), desired colour, odour and taste.</td>
</tr>
<tr>
<td>Kharapaka</td>
<td>Kalka become hard, rough, darkened, water-free, and dry.</td>
<td>Colour, odour and taste may change.</td>
</tr>
<tr>
<td>Dagdhapaka</td>
<td>Rough, dry, and black often charred burnt.</td>
<td>Essential contents of Sneha particularly loss of colour, odour and taste.</td>
</tr>
</tbody>
</table>

**Utility of various Snehapaka according to Acharya Charaka**

- Ama, Dagdhapaka—Discarded/Not recommended for therapeutic use.
- Mridupaka—Nasya
- Madhymapaka—Pana, Basti
- Kharapaka—Abhyanga [22]

**Significance of snehapaka**

- In our classics Mandagni is said to be maintained throughout the process. The duration of Paka period depends on the nature of the kalka dravya used, the nature of drava dravya and the concentration of drava dravya, which will facilitate the extraction of maximum active principles from the drug into the sneha. Phenogama in case of oil and phenashanti in the case of ghee are mentioned as siddhi lakshana. Oil which contains unsaturated fatty acids upon hydrogenation produces excessive foam. On completion of Paka, it undergoes conversion from unsaturated fatty acids to saturated fatty acids [23].
- The reason behind the appearance of froth in oils and its disappearance in ghrita while preparing Sneha kalpaka lies in the structural difference between both oil and ghrita and further reaction which goes on in them after agni sanskara [24]. Both Phenogama and Phenashanti are physical phenomenon of surface tension. Kharapaka is good for external applications because it is totally devoid of moisture content. Hence it is easily absorbed through the epidermal cells.

**Sneha siddhi lakshana**

Confirmative tests for completion of snehapaka:

- When Sneha kalka is rolled between the thumb and index finger, it forms the “Perfect wick shape”.
- No sound is produced if a part of kalka is put into the fire, indicating the ‘loss of moisture’ in it.
- When the preparation is finished, foam appears in the "tailapaka" and disappears in the "ghrita paka."
- Desired colour, odour and taste of the ingredients become marked when paka is completed [25].

**Precautions for Sneha kalpaka**

During the preparation of Sneha Kalpana, utmost care and caution is needed. Inadequate maintenance will result in poor quality of finished goods, manufacturing losses, or early rancidity. Hence, the following safety measures must be performed.

**Before processing**

Good quality of all the ingredients should be kept ready.

**During the process**

The tailapaka should be carried in Mandagni; the intensity of the fire is
maintained constant. In the initial stage, the mixture should be stirred for the facilitation of homogeneous mixing and stirring in later stages to avoid sticking of kalka to the vessel resulting in carbonization. Proper care should be taken to determine the stages of Snehapaka.

**After Snehapaka process**
- To obtain the highest yield, the entire contents are carefully filtered through a clean cloth after obtaining the Sneha paka siddhi lakshana.
- When the oil is lukewarm, the sugandha dravya should be slowly added with constant stirring [26].
- Packing: Sneha are packed in air-tight containers.

**Gandhapaka (Patra paka)**

Sneha is flavoured by certain selected 'gandha dravya' is known as Gandhapaka. The 'line kalka' of such drugs are placed in the vessel into which the warm prepared Sneha is filtered. The Sneha is later filtered once more and packaged into suitable containers after cooling.

**Avartana**

Repetition, doing something repeatedly, or stirring or churning something are all definitions of the term Avartana. Therefore, it is the process of continuously adding properties. This potentiates the final product; to achieve the maximum benefit of the drug. Sneha which is subjected for repeated processing (paka) along with kalka dravya and drava dravya is called Avartita Sneha.

**Method of preparation**

The general procedures of Sneha Kalpana are followed to obtain Sneha. Kalka and Drava dravya are added for the second Avarthy and Sneha paka is done. Number of such repetitions would determine the number of Avartana. Variation in consistency, colour and odour of the product may be observed after each Avartana. Examples of Avartayukt Sneha Kalpana are as follows:
- Satapaka-Sahasrapaka Bala taila
- Satapaka Yastimadhu taila
- Sahasrapaka taila
- Satapaki trivrit taila
- Ksheerabala taila 101 [28]

**Advantages and disadvantages of Avartita sneha**

**Advantages of avarthita sneha are:**
- The reduced dosage.
- Quick action.
- Good clinical efficacy.
- Easy drug administration.
- Easy packing and marketing.

**Disadvantages of avarthita sneha are**
- Higher cost.
- Long time for preparation.
- More fuel.
- More manual labour [29].

**Kuzhambu**

Kuzhambu is a traditional preparation in Kerala, and is a special and evolved form of Sneha Kalpana. It is an oily preparation like Taila Kalpana, but here base of this Kalpana consists of Tila taila, Eranda taila, and ghrita in specific proportions. It is exclusively used for external applications and prepared by the permutation and combination of mahasneha.

Kuzhambu is a combination of three sneha dravya. In the Ayurveda classics there is no direct reference to Kuzhambu. Kuzhambu Kalpana is more Vatahara action than the Taila. By doing this process Vrachanchal of the Sneha will increase. Therefore, it will be no change in the ingredients but only in the Sneha dravya. The rate of absorption is higher than the use of single sneha and it is highly effective. Even though Kuzhambu is used mainly for Vata-vyadhi, it also possesses tridoshahara property. It acts as a Pushtikara and Bala vardhaka.

Examples of kuzhambu
- Kotamchukkadi kuzhambu
- Sneha dravya-Eranda taila, Tila taila, Goghrita
- Dhanwantharam kuzhambu
- Sneha dravya-Eranda taila, Tila taila, Goghrita [30]

**Significance of Avartana and Kuzhambu**

- Avartana results in molecular changes makes them more complex leads to increased penetration at the tissue levels. Avartita medicines are highly beneficial in neurological diseases, rheumatological diseases etc. where maximum penetration of medicines occurs results in curing the disease [28].
- Kuzhambu has high therapeutic potential when compared to single taila preparations, because of its thicker consistency, heat retaining capacity and lubricating nature. During its application it helps in increasing blood circulation and rate of absorption and penetration of drugs and thus has greater therapeutic value [30].

**Sneha kalpana with rasa dravya**

- Kushutarakshosa taila is a yoga in kustaroja chikitsa. The ingredients are Shuddha Parada, Shuddha Gandhaka, Sindhura, Haratala, Tamra, Manashila [31].
- Kasisadi ghrita–The ingredients are Kasisa, Manashila, Haratala, Gandhaka, Sindhura, Kampillaka [32].
- Vranarakshasa taila is a yoga in Vrana sotha chikitsa. The ingredients are Shuddha Parada, Gandhaka, Haratala, Manashila, Tamra bhasma [33].

**CONCLUSION**

Sneha kalpana is a unique dosage form of Ayurveda in which both lipid and water-soluble active principles are extracted. It is a very frequently used liquid dosage form and administered through all the routes of our body. Avartita sneha helps to prepare a potent oleaginous formulation of desired potency. Each 3 drugs in Kuzhambu have its own role in the combination. It has greater application in therapeutics specially as external application. Hence, Sneha kalpana is the most important dosage form which yields major therapeutic effects. It has greater application in therapeutics specially as external application.

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**CONFLICT OF INTERESTS**

Declared none

**REFERENCES**