A progressive pharmaceutical review on 
Sneha Kalpana

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ABSTRACT

Sneha Kalpana is a group of products of medicated taila and ghrita. This class of formulations is reported to treat a very wide range of diseases among patients of all age groups. Sneha Kalpas manufactured in Ayurvedic pharmaceutics are used extensively for medicinal as well as cosmetic purposes. It is one of the widely used techniques in Ayurvedic drug industry to achieve solubility of both fat-soluble and water-soluble extractives into the oil medium. It is the only Kalpana which is used through all four modes of administration of such formulations, i.e. pana, abhyanga, nasaya, and basti.

Key words: Ayurveda, Kalpana, Oleaginous medicament, Sneha

INTRODUCTION

Sneha Kalpana is one of the widely used and preferred dosage forms of Ayurvedic system of medicine. It is a pharmaceutical procedure which is followed to produce an oleaginous medicament from the substances such as kalka, kwatha, and drava dravyas, in specific proportions by subjecting them to a specified heating pattern and duration. By this process, one can ensure transformation of the active therapeutic properties of the ingredients to the solvents, and hence, one can recover fat-soluble as well as water-soluble chemical constituents.1-4

CLASSIFICATION OF SNEHA KALPANA

Sneha Kalpana is classified into various categories based on different parameters. Those includes as follows:

1. Based on the stage of paka: Ama Paka, Mridu Paka, Madhya Paka, Khara Paka, and Dargha Paka.[2]
2. Based on the origin yonies (sources): Sthavar (plant origin) and Jangam (fish, quadruped animals, and birds come under this group).[3]
4. Based on the types of utility: Pana, Anuvasana, Abhyanga, Shirobasti, Uttarbasti, Nasya, Karnapurana, and Dharana.[2-4,7]

CHRONICLED APPRAISAL OF SNEHA KALPANA

Vedas are the source of knowledge and Ayurveda is a part of it. Atharvaveda mentioned about pivas paka and taila paka, where visha dravyas are used in the processing. In Yajurveda, also Havi and Ajya are mentioned for Ghrita.[8]

Samhita Period

Samhita kala is considered as the golden period for Sneha Kalpana. In Brihtrayee, Sneha Kalpana flourished due to its immense use for different purposes ranging from external applications to internal administration through different routes.

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• Charaka Samhita[9]
  Primary knowledge of Sneha and its properties, source of origin, types, etc., is clearly mentioned. Systematic method of preparation, types of Snehapaka, proportions and Siddhilakshana of Sneha Kalpana, and their uses is discussed in this samhita. In CharakaVimanSthana, 7th, separately Sneha siddhi lakshana is mentioned. Different kalpas of Sneha Kalpana are elaborated.

• Sushruta Samhita[1]
  Sneha Kalpana has been elaborately described in Susruta Samhita. Acharya Susruta was the first mention about Sneha kashayas. Specific preparations such as Sadhauata ghrita and Sahasstrapaka taila are also highlighted in this treaty. At Chikitsa Sthana, Acharya Susruta enumerated types of Sneha, process of preparing sneha kasaya, Sneha siddhi lakshana, types of sneha paka, uses of Sneha, and evil effects of Sneha.

• Astanga Sangrah and Astanga Hridya[10]
  Both treatises mentioned Sneha Kalpana with some changes from the earlier treatises.

Kashyap Samhita[11,12]
Detailed explanation of Sneha dravaya, sources, classification, properties, and dose were mentioned.

Harita Samhita[13,14]
Taila taila properties and its importance are mentioned under Taila vassa varga. In 2nd and 4th chapter, the procedure of taila paka and types of paka with their lakshans are explained in detail. He also mentioned time duration for paka of ghrita and taila as 7 and 15 days, respectively.

Bhel Samhita[15]
Taila is mentioned for mardan and ushnodak as amupana for Chaturvidha sneha. In Vimansthana under Rasavimanadhya, taila is referred as the vehicle of choice.

Chakradata[16]
Clinical uses of tailas and ghritas are mentioned in this text. Different media have been reported to be used in the preparation of Sneha kalpas.

Sharangadhar Samhita[17]
Acharya Sharangadhar has discussed details of Sneha Kalpana separately in Madhyam khand 9th chapter. This treaty deals with the method of preparation, proportions, uses, and types of paka and Snehasiddhilakshana.

Gadnigraha[18]
Acharya Sodhala devoted separate chapters for Sneha Kalpana, Tailadhirakaras, and Ghritadhirakaras in this treatise.

Shastra yoga[19]
The treaty owned by the Kerala Vaidyas also elaborated the ratios and different Ghrita and Taila preparations. 135 Ghritis and 96 Tailas are mentioned in this treaty.

Bhaishajya Ratnavali[20]
This treatise clearly described about Snehamurchhana. Method of preparation of Sneha Kalpana is also elaborated by Acharya Govind Das Sen.

REQUIREMENTS FOR SNEHA KALPANA[21,22]

Sneha Kalpana needs the following constituents:
1. Kalka dravya: Fine paste of medicinal plants and minerals should be taken as a kalka dravya.
2. Dravadravya: Water, Kwatha, Swarasa, Kanji, Ksheer, Dadhi, Takra, etc.
3. Sneha dravaya: Mainly different types of fat containing media such as Taila and Ghee.

CONCEPT REGARDING THE PROPORTION[3,22]
If the quantity of the ingredients is not mentioned, then the kalka, sneha, and dravadravya should be used in the proportion of 1:4:16, respectively. The ratio of kalka, sneha, and dravadravya mentioned in different classics is given in Table 1.

PROPERTIES OF SNEHA DRAVYA[23,24]:
The substance which possesses the properties such as drava (liquidity), sukshma (minute and capable of penetrating deep), sara (flow), snigdha (unctuous), pichchila (sticky), guru (heavy), sheetala (cold), manda (slow), and mrudu (smooth) is Sneha Dravya.

GENERAL METHOD OF PREPARATION
SnehaPaka process may be divided into three phases:
1. SnehaMurchhana.
2. SnehaPaka.
3. Pakasiddhi.
Snehamurchhana[24,25]

Before subjecting the drugs to Sneha paka, Sneha is supposed to undergo one particular procedure called as SnehaMurchhana. It is applied for both Taila and Ghrita. It is considered as one of the Samskaras of Sneha and helps the Sneha to acquire specific pharmaceutical as well as therapeutic property. In Brihattrayee, no reference can be traced regarding SnehaMurchhana. BhaishajyaRatnavali is the first text, which described the importance and method of Murchhana process. Murchhana alters the solubility pattern and absorability, which is desired to get maximum medicinal properties.

Objectives of murchhana process

- Amadoshaharatwa - removal of “Ama” which can be correlated to the “moisture content” which can be directly related to rancidity problems.
- Removal of bad odor of crude Taila or Ghrita.
- Sneha will acquire the capability to receive more active principles.
- Stability of the Sneha is also supposed to increase.
- Impart appealing color to the Taila.
- May alter the solubility and absorption of the finished product.

Snehapaka[7,26]

After completion of Tailamurchhana, Snehapaka is carried out with desired drug. Specified amount of kalka and dravadravyas [Table 2] are added and subjected to moderate heating till the watery portion is completely evaporated.

There are different opinions available regarding the method and time of addition of kalka and sneha during Snehapaka. According to SusrutaSamhita and Astangasangraha, kalka and drava dravyas are advised to mix in Sneha and processed. Acharya Sharangadhara did not specify the order in which the drava, sneha, and kalka should be mixed. According to the Keraliyavaidyas while preparing the Sneha Kalpana, first, the kalkadravya is mixed in dravadravya, then this mixture is poured in slightly heated Sneha and Snehapaka is done. This will facilitate uniform distribution of active principles in the Sneha.

Snehapanasiddhi lakshana[27]

- Stoppage of bubbling sounds (Sneha).
- Disappearance of bubbles in ghrita and appearance of bubbles in taila.
- Appearance of clarity in taila.
- Kalka does not adhere to the fingers.
- Kalka attains perfect wick shape when rolled between thumb and index.
- Kalkais neither very hard nor very soft.

The preparation of sneha is mainly divided into three stages (paka)[28]

- Mridupaka
- Madhyampaka
- Kharapaka

AcharyaVagbhatt and Acharya Sharangadhara have mentioned two more stages proceeding and succeeding to above three stages, respectively. The Amapaka and Dagdhapaka are not suitable for therapeutic uses. AcharyaHarita mentioned one more stage of Snehapaka by the name of Viseshapaka which succeeds Kharapaka. The characters of various Snehapakas and their therapeutic uses are given in Tables 3 and 4.

PRECAUTIONS FOR THE SNEHA KALPANA[2,7,21]

There is an essential attention required during Snehapaka process. Lack of care may lead to poor quality of end product, loss during manufacturing, or early rancidity of the Sneha. Precautions that must be taken while manufacturing Sneha kalpa for obtaining a good quality standard finished product are further classified into different stages.

1. Before the process

- The Sneha must be pure, clean, and without slurry.
- The Sneha should be taken after performing Murchchanasamskara.
- The raw material used must comply with its identity, purity, and strength.

| Table 1: General and specific ratio of kalka, dravadravya, and sneha dravya |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Ratio | Kalka Dravya (Part) | Drava Dravya (Part) | Sneha Dravya (Part) | Reference |
| General | 1/4th | 4 | | Chakradatta |
| Specific | 1/4th | 4 (Water) | | Sharangadhara samhita |
| | 1/6th | 4 (Kwatha) | | Sharangadhara samhita |
| | 1/8th | 4 (Swarasa, Mansarasa, Dadhi, Ksheera, Takra) | | Sharangadhara samhita |
| | 1/4th | Up to 4 | | Sharangadhara samhita |
| | 1/4th | More than four, all equal to Sneha | | Sharangadhara samhita |
Tailapatra should be wide-mouthed and of suitable size. Size of Snehapatra depends on the batch quantity and nature.

2. During the process
   - Madhyamagni should be maintained throughout the process.
   - The mixture should be stirred in the initial stage for facilitation of homogenous mixing and stirring in a later stage to avoid sticking of kalka to the vessel resulting in carbonization.
   - Care should be taken to determine the proper stage of Snehapaka.
   - If SaindhavaLavana and KsharaDravya have to be added to Sneha, it has to be added to Siddha Sneha Kalpa and then filtered.
   - If Sarkara is mentioned in the formula, then it should be added to the final product after complete cooling.

3. After the process
   - To obtain maximum yield, the finished Sneha should be filtered in hot condition itself.
   - If Sugandhadravya has to be added, then it should be added gently and carefully when the Sneha is in a lukewarm condition.

   - If Sarjarasa, Madhu, and Wax have to be added, then it should be added after Sneha is filtered in the vessel in which the Sneha is to be filtrated.
   - The containers utilized for storage or packing should be free from moisture.

Table 2: Duration of Snehapaka in different liquid media

<table>
<thead>
<tr>
<th>Liquid Media</th>
<th>Time duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mamsa, Vasa, Vrihi, dhanya</td>
<td>1</td>
</tr>
<tr>
<td>Dugdha</td>
<td>2</td>
</tr>
<tr>
<td>Swarasas</td>
<td>3</td>
</tr>
<tr>
<td>Kwatha, Arnala, Takra</td>
<td>5</td>
</tr>
<tr>
<td>Valli, Mula</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 3: Characters of various Snehapakas (Paka sidhhi lakshana)

<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>Madhyampaka</td>
<td>Non-sticky, free from water content, no cracking sound, varti can be made.</td>
<td>Water content (-), cracking sound (-), froth appearance (taila), subsidization of froth (ghrita), desired color, odor, and taste.</td>
</tr>
<tr>
<td>Kharapaka</td>
<td>Kalka become hard, rough, darkened, water-free, and dry.</td>
<td>Color, odor, 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 color, odor, and taste.</td>
</tr>
</tbody>
</table>

Table 4: Therapeutic uses of Snehapaka

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ama</td>
<td>Not mentioned</td>
<td>No therapeutic use</td>
<td>No therapeutic use</td>
<td>No therapeutic use</td>
</tr>
<tr>
<td>Mridu</td>
<td>Nasya</td>
<td>Pana</td>
<td>Nasya, Pana</td>
<td>Nasya</td>
</tr>
<tr>
<td>Madhya</td>
<td>Basti, Pana</td>
<td>Nasya, Abhyang</td>
<td>Pana, Basti</td>
<td>All Purposes</td>
</tr>
<tr>
<td>Khara</td>
<td>Abhyanga</td>
<td>Basti, Nasya</td>
<td>Abhyang</td>
<td>Abhyang</td>
</tr>
<tr>
<td>Dagdha</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
<td>No therapeutic use</td>
<td>No therapeutic use</td>
</tr>
</tbody>
</table>


DOSE

Acharya Sharangadhara has mentioned a common dose for medicated Sneha for internal use as one tola (12 g).

MODERN APPROACH TO SNEHA KALPANA

In the modern era, various dosage form utilized by the customer can be devolve as novel drug delivery system (NDDS) for the sneha kalpana. Semisolid preparations intended for application to the skin with or without energy. They may be oleaginous or entirely free from oleaginous substances or may be emulsion of fatty/wax. Ointments are composed of fluid hydrocarbons embedded in a matrix of high melting solid hydrocarbons or the preparations in which the medicinal agent dispersed in a fatty base. Creams are the semisolid preparations consist of two phases in which one is aqueous or the other is oily/fatty base. Gels are the semisolid preparations in which the high degree of physical cross-linking occurs between the liquid phases constrained with a three-dimensional polymer matrix. Liposomes are the spherical vehicle consists of phospholipids in an aqueous environment. The amphiphilic phospholipids molecules form a cloned bilayer sphere to shield the hydrophobic group.
from aqueous. Ethosomes are the nanovesicles consist of phospholipids and containing a high count of ethanol (20–45%). Phytosomes may be defined as the bioactive component bounds by a lipid or a complex of natural ingredient and phospholipids.

**DISCUSSION AND CONCLUSION**

*Sneha Kalpana* is an effective and potent *Kalpana* which may contain water as well as fat-soluble active principles. *Sneha Kalpana* has different therapeutic uses described systematically in Ayurvedic classical literature. *Sneha kalpas* are advised for both *bahya* and *abhyantr pravaya*. Taila and *Ghrita* also have specific benefit of nutrition and preserve the drug for longer time. Acaryas have fixed the duration of *Snehapaka* because *mamsa rasa*, *vasa*, *vrihi*, and *dhanya* are easily get fetid and impart bad odor within a day due to biodegradation. *Dugdha* also gets spoiled within a day or two. *Swaras* as such is a thicker media when compared to above two liquid media, and due to daily *paka* process, it may not decayed and it may take longer time period to give out solute active principles to the oleaginous media so the time period of *Snehapaka* 3 days prescribed. 5 days are prescribed when liquid media used for *Snehapaka* are *Kwatha*, *Aranala*, or *Takra*, and their nature to impart chemical constituents may take a longer time. *Vali* (climbers) and *Mula* (roots) are dried and hard substances, these may take as much as 12 days of longer period to give out their therapeutically potent principles to the oleaginous media. Thus, we find a good rationality behind such an approach of our *Acaryas*, with respect to manufacturing time period. Modern sciences are indicating the unique methodology of general, sustain, and control pattern of drug delivery at target which is possible with dosage forms of Sneha Kalpana. Various new technologies are developed where both the aqueous and oily phases are used collectively. There are many research studies performed by scholar where the dosage forms development of *Ayurvedic* medicated oil in the form of ointment, cream, gel, etc. All the *Sneha kalpas* exhibit better preservation and quality and enhance therapeutic effect with better customer satisfaction as well as compliances. The conversion and dosage form development of various *Sneha kalpas* also helps to resolve the problems associated with handling, packaging, etc. NDDS and transdermal drug delivery system provide a new platform for the development of various medicated preparations mentioned in *Ayurvedic* classical literature. Liposomes, ethosomes, phytosomes, invasomes, and microemulsion are some of the new techniques which consist of liposomal material and having both lipid and water soluble properties as same as the *Sneha kalpa*. This review is aimed at compiling some basic information which may further assist in strengthening the knowledge of academician and researcher those who are intersected in such dosage forms.

**REFERENCES**

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