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MALAHARA KALPANA – AN ANCIENT AND MODERN PHARMACEUTICAL APPROACH

Poonam Bhojak[1], J.G.Mitti[2], Nishant Kaushik[3]

[1]Assistant Professor, Dept. of Agada Tantra, [3]Assistant Professor, Dept. of Kaya Chikitsa;
Sri Ganganagar Ayurveda College and Hospital and Research centre, Tantia University,
Sri Ganganagar, Rajasthan, India
[2]H.O.D, Dept of Rasa Shastra and Bhaishajya Kalpana; Sri Kalabaireshwara Swamy Ayurvedic Medical College and Hospital And Research Centre, Bangalore, RGUHS, Karnataka, India

Email: poo88sonu@gmail.com

ABSTRACT

BhaishajyaKalpana is one of the most essential branches of learning in the science of *Ayurveda*. Among the innumerable dosage forms *MalaharaKalpana* is one of them in *BhaishajayKalpana. Malahara Kalpana* is the ointment preparation which has *Sikthataila* (beeswax and oil mixture) orghrta, as the basic constituent. The other ingredients may include herbal, metal or mineral contents depending upon the usage. The implication of this dosage form is vivacious. Though it holds firm roots in treating diseases the mention and explanation of this particular topic is scattered and quite inadequate in the classical texts. Hence the present article is an attempt to elucidate and unfold the *Malaharakalpana* in *Ayurveda* from literary context.

Keywords: *Malaharakalpana, Ayurveda, Bhaishajya Kalpana*, Ointments

INTRODUCTION

The percentage of curing and prevention of diseases is highly dependable on the treatment aspect. The treatment principles in turn are based on the proper and adequate knowledge of pharmaceutics without which no drug can be possibly formulated or utilized efficiently. This is where the science of *BhaishajyaKalpana*, the *Ayurveda* pharmaceutics comes to limelight. *Ayurveda, not* only science but a holistic way of living stands on the pillar of *Trisutras* i.e. *Hetu, Linga and Aushadha*. Among all of these the latter is held responsible for the alleviation of diseases as well as maintenance and promotion of health. The drug, irrespective of its origin (animal, herbal or mineral) acts as an instrumental aid to a

physician and hence has been placed next to the physician amongst the quadruples of treatment. No branch of *Ayurveda* can exist independently *without the aid of Aushdha or Bheshaja.* With the art and skill of formulation drugs can be made effective and knowing this *Ayurveda* has laid emphasis to the comprehensive and analytical knowledge of drugs; including-identification, procurement, processing, preservation, preparation and dispensing of prepared medicines under abroad heading known as "*BhaishajyaKalpana*". The roots of *BhaishajyaKalpana* dates back to the *Samhita* period evidentially. The principles of pharmaceutics and various formulations explained in the *Samhita* period hold a very high esteem till date in both traditional and modern pharmaceutics. With the development of *Rasashastra*, this branch of learning came to be recognized independently as an important science. Though the knowledge of various dosage forms is available and is pre-requisite to all *Ayurveda* physicians one still finds dearth of few dosage forms. Hence with this concern the present article has been sincerely attempted to fulfill the inadequacy of one such form used widely and frequently in treating patients called *MalaharaKalpana*.

Presently, MalaharaKalpana is ointment preparations which pose similarity to *malaham* preparations in Unani medicine and in modern medicine they are prepared using Vaseline[1]. In *Ayurveda*, the preparation of the *same comprises of;* the base which may contain anyone of the following i.e. oil, *ghee*, beeswax, *sarjarasa*. The base of *MalaharaKalpana* is prepared by melting 1 part of beeswax and 2-6 part of coconut/sesame oil[2]. If any physical impurities are seen in the wax it should be filtered through a cloth. To this, as per the formulation, add the fine powder of various ingredients and mix well. The fine powders may be of *Tankana/ Gandhaka/Kajjali/Mrddrashrnga/ Gairika/ Girisindoora/ Manashila/ Haratala/ Karpoora/ Pudinaarka etc.* Thus prepared ointment must be preserved in a wide mouthed container (glass/ plastic) having tight fitting corks. Generally, these preparations are used in *Vranashodhan and Vranaropana, Kushtaroga, Varnaprasadana* etc. The other frequently used method for the preparation is the trituration method where the base and other medicinal drugs are added and atriturated continuously up till they get mixed uniformly[3].

SiktaTaila is the basic content for the preparation of *MalaharaKalpana.* It is a mixture of Beeswax and oil. It is soft, smooth ointment like substance, used as an emolientor as a base in the preparation of different ointments. *Acharya Sadananda Sharma,* has described 2 methods for the preparation of this base which is given in table number 01, followed by its qualities in the next table. Few examples of *Malaharakalpana* with its ingredients and uses are compiled in table no. 03.

Table 1: Showing the general method of preparation of *Sikta Tailaas* per *Rasa Tarangini*.[4]

Sl.no.	Method
01.	**1 part** of pure beeswax and **6 parts** of sesame oil are mixed and melted over mild fire. When the wax melts and becomes a homogenous liquid mix well and stop heating. After cooling it becomes a soft butter like paste.
02.	**1 part** of pure beeswax and **5 parts** of sesame oil. Rest of the procedure is similar to the first method.

The former is to be followed during the winter season and the latter during the summer.

Table 2: Showing the Qualities of Sikta.[5]

Rasa	*Madhura rasa*
Guna	*Snigdha, Picchila*
Karma	*Sandhanakara, Vranaropaka, Bhutaghna*
Indications	*Bhagna, Vrana, Visrapa, Kandu, Kushta, Vatarakta, Varnya* etc.
Shelf life	1 year

Table 03: Showing the name, ingredients and uses of various *MalaharaKalpana* in *Ayurveda* classics.[6]

Sl.no	Name	Ingredients	Indication
1.	*2) Rasapushpa malahara 10:*	*shatadhauthaghrita, rasapushpa*	*Vranaroga*
2.	*8) Shwethamalahara 15:*	*Siktataila, Rala, tuttha.*	*Dagdhavrana.*
3.	*KarpooradiMalahara*	*Parada, Gandhaka, Kunduru, Guggulu, Loban and Karpura.*	*Vidradhi, galaganda, nadivrana.*
4.	*RalaMalahara*	*Tilataila, Rala, Tuttha*	*Agnidagdhavrana, Mutrendriyashotha, Arsha.*
5.	*VranamrtaMalahara*	*Gandhabiroja, Ralachoorna, Alasitaila and sikta*	*DushtaVrana, Upadamshajavrana*
6.	*VranamrtaShwetaMalahara I*	*Karpoora, Siktataila, Safeda.*	*Vranaroga*
7.	*VranamrtaShwetaMalahara-II*	*Guggulu, kapardikabhasma, suparibhasma, ela, katha, shatadhoutaghrta*	*Vranaroga.(AgnidagdhaVrana)*
8.	*GulabiMalahara*	*Kokum taila, erandataila, safeda, sindoora*	*Vipadika*
9.	*ChurnaMalahara*	*Sudhachoorna,karpaas, erandataila*	*Puyayuktavrana, Dushtavrana, Nadivrana*
10.	*DarunanashakaMalahara*	*Tuttha, Gairika, Kattha, Kalmishora, Mruddarashrnga, Maricha, Mehndi, Sikta, SarshapaTaila.*	*Darunaka, Arumshika, Indralupta*
11.	*PamaharaMalahara*	*Parada, Gandhaka, Maricha, Tuttha, Sindoora, Jeerakadwaya*	*Pama, Kachapika.*
12.	*ByuchiharaMalahara*	*Parada, Gandhaka, manashila,kattha, pashanbheda, Mruddarashrnga, goghrit*	*Pama,dadru, visphotaka*
13.	*DadrumanaMalahara*	*Crysophenic acid, carbolic acid, salicylic acid, yellow Vaseline*	*Dadru*
14.	*AadithakarambankalMalahara*	*Parada, Gandhaka , Mruddarashrnga, tuttha, goghrit*	*Madhumehajanitvrana,*
15.	*BhagandaranashakaMalahara*	*Rasakarpoora,Sindoora, Mruddarashrnga, Kattha, Karpoora, Satyanashibeeja, Goghrta*	*Bhagandar,Vranaroga*
16.	*KanthamalakaMalahara*	*Parada,Gandhaka, Mruddarashrnga, Kattha, Tankana, Kunduru, Bhallataka, Maricha, Nimbapatra, Sikta, Sarshapataila.*	*Kanthamala, Galaganda, Apachi.*
17.	*UpadamsharipuMalahara*	*Rasakarpoora, Karpoora, Mruddarashrnga, Kattha, Tuttha, yello paraffin.*	*Phiranga, Upadamshajavrana,*

18.	ArshoharaMalahara	Haratala, Kattha, Goghrta	Arshas.
19.	ShirashoolantakaMalahara	NilgiriTaila, Lobanpushpa, Paraffin hard, Paraffin soft.	Shirashoola, Vrishchikadam-shaja Vrana
20.	AgnidagdhavranaharaMalahara	Rala, AlasiTaila,Sudhachoorna,	Agnidagdha Vrana.
21.	ManashiladiMalahara	Manashila, Ela, Manjishta, Laksha, Haridra, Daruharidra, Goghrta, Madhu.	Vranaropana
22.	ParadaMalahara	Parada, Nimbatwak, bhrngaraja rasa, Sindoora, Paraffin white, TilaTaila	NadiVrana, DushtaVrana.
23.	ParadadiMalahara	Parada, Gandhaka, Mruddarashrnga, Tuttha.Goghrta	Dushtavrana, Dadru, Pama, Kandu.
24.	NimbadiMalahara	Nimbapatraswarasa,Goghrta, Rasakarpoora, Sikta,	Vranaropana
25.	Kala Malahara	TilaTaila, sindoora, karpoora, tuttha	DushtaVrana
26.	Birojakalalmalahara	Gandhaphiroja hingula (Hgs)	Nadivrana, Dushtavrana
27.	Birojakaharamalahara	Gandhaphiroja,papadkar, coal, jangar. (Jangar is an acidic liquid kept in copper vessel and mixed with saindhava lavana/milk and left for three days in a covered state, after 3 days it converts into like blue material).	Vranaropana, Visphota.
28.	Jeevanthyadimalahara	Siktha, jeevanti, manjista, Darvi, kampillaka, Tuttha.	Varnaprasadana.
29.	Sindhooradimalahara	Sikthatailanagasindhoora, rasa sindhur, rasakarpoora, mudharasringa.	Vrana, Vicharchika
30.	Yashadamruthamalahara	Sikthataila,yashada .	Vranashodhana, Vranaropana.
31.	Tutthakadyamalahara	ghrita ,tuttha,kathika, kapardabhasma, tankana	Nadivrana, Dushtavrana.
32.	Tutthamruthamalahara	sikthataila , tuttha	Vranaropana, dushtavrana
33.	Navajeevanamalahara	Siktha, Purifiedahiphena, triphala,, churna, gandhaphiroja	Dagdhavrana.
34.	Hingulamruthamalahara	Sikthataila,hingulachurna, mudharashringa, tankana ,karpoora, rasakorpoora, spatika, sindhura.	Agnidagdhavrana.
35.	Hinguladhyamalahar	sikthataila, sindhoora, hingula.	Dushtavrana.
36.	Dwithiyasindhooradimalahara	sikthataila, rala and sindoora .	Pama, Vrana.
37.	Gairikadhyamalahara	sikthataila, gairika, sindhoora, haridrachurna.	Vranaroga
38.	Prathamasindhooradimalahara	sikthataila, tankana, sindhoora.	Vicharchika, Vipadika, Dushtavrana.
39.	Tankanamruthamalahara:	Sikthataila,tankana,sarjakshara, pushakaseesaand peepal tree kshara.	Vranaropana, Vranalekhana.
40.	Talakodayamalahara	sikthataila , haratala, kajjala, harithaki,kadhira,gairika , sindhoora	Vrana.

		and manashila	
41.	*Gandhakadyamalahara*	*Sikta, gandhaka,sindhoora, tankana and karpura*	*Pama*
42.	*Sarjarasamalahara*	*Siktataila, Sarjarasa, tuttha, spatika.*	*Agnidagdhavrana, Daha, Dushtavrana, Gudapaka, Arshas*

The above mentioned *Malahara* are few among the many. Many such are explained in the classical text. In fact under the one heading of *ArshoharaMalahara*, 4 types i.e. *pratama, dwitiya, tritiya and chaturtha* are present where all 4 vary in content and indication both. Similarly, *AgnidadghaMalahara*, has *prathama* and *dwithiya* types and so does *Shirashoolantakamalahara, Bhagandaranashakamalahara, kanthamalakamalahara, pamaharamalahara* and the list goes on.[7]

Modern Pharmaceutics

Ointments: [8,9,10,11]

These are the soft semisolid preparations, used for external application to the skin or mucous membrane. Here, the medicaments will be dissolved or suspended or emulsified in the base. Ointments are used as emollients or protective agents to the skin or as vehicles for the topical application of medicinal substances.

The absorption of medicaments by the tissues from the ointments, applied to the skin depends upon different factors.

1. Properties of the drugs incorporated.
2. Properties of the base, used in the formulation.
3. Condition of the patient's skin.
4. Site of application.
5. Duration of application.
6. Degree of friction, exerted while applying the ointment.

Characteristics of an ideal ointment:

1. It should be chemically and physically stable.
2. It should be smooth and free from grittiness.
3. It should be melt or soften at body temperature and be easily applied.
4. The base should be non-irritating and should have no therapeutics action.
5. The medicament must be finely divided and uniformly distributed throughout the base.

Ointment bases:

An ointment base, acts as a carrier or vehicle for the medicament. An ideal ointment base should be inert, stable, smooth, compatible with the skin, non-irritating and should release the incorporated medicament readily.

Factors governing the selection of an ideal ointment base

There is no ideal ointment base which fulfillall the requirements; because different types of bases are necessary for different purposes. A base suitable for normal skin may not be suitable for broken skin. Similarly a base suitable for dry skin may not be suitable for greasy

skin. So , an ideal ointment base must be selected on the basis of following factors.

1. Dermatological factors.
2. Pharmaceuticals factors.

Dermatological factors:

a) Absorption and penetration

1) Only the ointment base penetrates deep into the tissues of the skin and mainly medicament absorbs into the blood stream.
2) Animal & vegetable fats readily penetrate the skin where as liquid paraffins do not.
3) Water should substances are more readily absorbed from water soluble bases.
4) Oil/Water emulsion bases release the medicament more readily then greasy bases or water/oil emulsion bases.

b) Effect on skin function :

Oil/water emulsion bases and other water miscible bases produces a cooling effect rather than heating effect and mix readily with skin secretions.

c) Miscibility with skin secretions and serum :

Oil/water emulsion bases are more readily miscible with serum that too from broken skin.

d) Compatibility with skin secretion :

The bases used should be compatible with skin secretions and should have a PH of the skin secretions is around 5.5. Generally neutral ointment bases are preferred.

e) Compatibility with skin secretion and emollient properties:

Ointment bases should be non-irritant to the skin by possessing emollient properties.

f) Ease of Application and Removal

The ointment bases used should be easily applicable as well as easily removable from the skin.

Pharmaceutical Factors

a) **Stability**

Fats and oils of animal and vegetable sources are more liable to undergo oxidation, provided they are preserved properly. Soft paraffins, liquid paraffins are comparatively more stable.

b) **Solvent properties**

Suitable solvents should be selected for the proper dispersement of medicaments of an ointment.

c) **Emulsifying properties**

Hydrocarbon bases can absorb only a small amount of aqueous substances where as some animal fats like wool fat can take up about 50% of the water. Therefore animal fats are used in the preparation of creams.

d) **Consistency**

The ointments produced should be of suitable consistency. They should neither be too hard nor too soft. They should withstand the climatic conditions.

Method of preparation of an ointment:

Ointments are prepared by two methods.

1) Trituration method.
2) Fusion method.

Among these two; trituration method is most commonly and widely used. Here, the medicaments which are to be incorporated in the base are reduced into fine powder. This powder is triturated with small amount of the base on an ointment slab with help of a stainless steel spatula. To this, the additional quantities of the base are incorporated and triturated until the medicament is homogenously mixed with the base. To remove the gritty particles, the ointment should be passed through an ointment mill.

Fusion method:

When an ointment base contains a number of solid ingredients such as white bases wax, acetyl alcohol, stearyl alcohol, stearic acid, hard paraffins etc as components of the base; it is necessary to melt them. The melting of the substances should be done in the decreasing order of their melting points i.e. the substances with highest melting point should be melted first, then the substances with next melting point and so on. This will avoid the overheating of substances having low melting ingredients and stirred thoroughly until the mass cools down and a homogenous product is formed.

If any other aqueous substance is to be incorporated, that must be heated to about the same temperature as the melted bases.

Other additives in ointments:

In addition to the medicinal agent and the base other additives such as preservatives, antioxidant, chelating agents and perfumes may be incorporated in the ointment.

- Preservatives such as methyl paraben or propyl paraben may be incorporated to prevent the bacterial growth.
- Anti oxidant are to be added to prevent oxidative decomposition of the ingredients.
- Chelating agents can be included to prevent the catalytic oxidative degradation by trace elements.
- Humectants such as glycerin or propylene glycol or sorbitol may be added to retard the loss of moisture from the preparation.
- Perfumes may also be added to the ointment to add up pleasant odour. A perfume, compatible with other components of the preparation should be added.

The present market of Pharmaceutics is also inclusive of creams, gel based ointments, jellies, cerates, plasters and cataplas. Off late gel with micro-beads, emulsions etc. have entered the market.

CONCLUSION

Malaharakalpana is ointment preparation in *Ayurveda*. It holds a widespread reference area from *Brhatrayee* to *Yogaratnakar, Rasatantrasara & Siddaprayoga Sangraha to Rasatarangini*. The very first adaptation of the word "*Malahara*" from the Unani medicine "*Malaham*" has been taken by *Acharya Yogaratnakar*. The classical text *Rasa Tarangini* by *Vaidya Sadanand Sharma* explains the different methods of preparation of *Malahara*. *RasatantrasaarEvamSiddaprayogasangraha* mentions the list various types of *malahara* under one chapter with its preparation, utility methods and so on. Thereby, explaining the clinical implication of the same. The present

texts as per the CCIM syllabus of *Bhaishajya-Kalpana* briefly describe the *Malaharakalpana* followed by the ointment preparations (under topical drugs in modern pharmaceutics) updating the topic and extending their contribution in the research field from literary and fundamental view. Undoubtedly, this still remains the topic of research. Exploring such dosage form and many more which are quite untouched and useful in treatment shall be penned and compiled so that these could be brought to light and expand the horizon of the science.

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