



## Research Article

### PHARMACEUTICO ANALYTICAL STUDY OF ROMASHATANA LEPA

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#### ABSTRACT

Unwanted hairs which are present in the body causes cosmetological as well as psychological problems for an individual. To remove the unwanted hairs there are numerous medicines and procedures, which are carried out for depilation action. These medicines are mainly chemicals have side effects and irritation to the skin. The techniques which are employed for this purpose are expensive; still the relapse of the hair occurs because these are giving temporary results. As there are so many medicines which are available in the market for the other diseases like *Jwara* (fever), *Sandhgataivata* (osteoarthritis), *Amavata* (rheumatoid arthritis), *Amalpitta* (acid peptic disorder), *Shwasa* (bronchial asthma), *Kasa* (cough) etc. but for the *Romashatana* there are no such frequently available medicine. The hair removal products which are available in the market are not herbal or herbomineral. *Romashatana lepa* is a herbomineral preparation prepared by taking *Shoditha hartala*, *Shanka* and *Palasha khara*. Physico-chemical analytical results of *Romashatana lepa* show pH 8.78, Arsenic 2.33%w/w, Calcium 22% w/w.

**KEYWORDS:** *Romashatana lepa*, *Palasha kshara*, *Hartala*, *Shankha*.

#### INTRODUCTION

*Romashatana lepa*<sup>1</sup> is a herbomineral preparation which is used for the depilation activity, as herbal constituents nullify the untoward effects of the minerals and increase the potency of the minerals forming herbomineral complex. The hair removal products which are available in the market are not herbal or herbomineral. They are chemicals and have their side effects also. Comparatively *Romashatana lepa*, is cost effective, and easy to prepare. Hence, it is taken for study.

#### Materials and methods

The ingredients of *Romashatana lepa* are

*Shankh churna*- 3part

*Hartala churna*- 1 part

*Palasha kshara* – 1 part

For the study, raw materials like *Grahya hartala*<sup>2</sup>, *Grahya shankha*<sup>3</sup> were collected from the market. Herbal drug like *Palasha* stem and all the collected raw materials were authenticated from experts in the subjects of Rasashastra & Dravyaguna. Qualitative and quantitative analyses were carried in Bangalore Drug Test House.

#### Method

The ingredients<sup>4</sup> were taken in the specific quantity that is 1 part *Hartala*, 3 part *Shankha*, 1 part

*Palasha kshara* in the *Khalva yantra* one after another and then through mixing of all the ingredients was done so that they get homogenously mixed & after that it was preserved in an air tight glass bottle. Then the prepared *Romashatana lepa* powder was subjected to qualitative and quantitative analyses.

The results obtained were categorized under these headings:

1. Observational
2. Analytical

#### 1. Observational Results

##### Result of *Shankha churnikarana*

*Shankh churnikarana* is done by the pounding method by using pestle and mortar.

**Table 1: Effect on weight of *Shankha* during *Churnikarana* and organoleptic character**

<i>Dravya</i>	Before in gms	After in gms	Loss in gms	Observation
<i>Shankha</i>	370	348	22	Colour- white Taste – alkaline

*Hartala shodhana* was done by the *Swedana* (steam) method in the *Dolayantra* apparatus.

**Table 2: Effect on the weight *Hartala shodhana* and organoleptic character**

Dravya	Before in gms	After in gms	Loss in gms	Observation
Hartala	240	209	31	Colour- yellow

**Table 3: Details of the *Palasha kshara nirmana***

Dravya	Before Bhasmikarna weight in kg	After Bhasmikarna weight in kg	Quantity of water required in litre	Temp. maintained during the dehydration of the filtrate in °c	Time taken for dehydration of the filtrate in hrs	Kshara obtained in gms	Observation
Palasha stem (dry)	25	2.8	16.8	120	5.40	110	Colour - light greyish Taste- alkaline

**Table 4: Organoleptic character of *Romashatana Lepa***

Features	<i>Romashatana lepa</i>
Colour	Buff coloured
Smell	Faint odour

**2. Analytical Results<sup>5</sup>****➤ Determination of pH**

The pH value of the sample was determined by a Digital pH meter. One gram of *Romashatana lepa* was weighed accurately and dissolved in 100 ml of water and pH was noted in the Digital pH meter.

**Result: pH value: 8.78**

**➤ Loss on drying at 110°C**

Two grams of *Romashatana lepa* was weighed in a silica crucible and dried in a hot air oven at 110°C till a constant weight is obtained. The difference in the two weighing gives the loss on drying & then the percentage of loss on drying was calculated.

**Result: 1.25% w/w**

**➤ Loss on Ignition**

Weigh a silica crucible previously ignited for one hour at a temperature not exceeding 500°C and cooled in desiccators. Transfer to the crucible accurately weighed sample. Weigh the crucible accurately. Place the loaded crucible in the muffle furnace & ignite the crucible to 500°C, until constant weight is indicated. Calculate loss on ignition with reference to the air dried drug.

**Result: 18.85% w/w**

**➤ Determination of Total Ash**

Take about 2gm accurately weighed, ground drug in a previously tared silica dish, previously ignited and weighed. Scatter the ground dry in a fine even layer on the bottom of the dish. Incinerate by gradually increasing the heat not exceeding dull red heat (450°C) until free from carbon, cool and weigh. Calculate the percentage of ash with reference to the air-dried drug.

**Result: 81.15% w/w**

**➤ Acid Insoluble Ash**

Boil the ash obtained in the process described under determination of total ash for 5 minutes with 25ml of dilute hydrochloric acid. Collect the insoluble matter on an ash less filter paper wash with hot water and ignite. Weigh it and calculate the percentage of acid insoluble ash with reference to the air dried drug.

**Result: 8.89% w/w**

**➤ Determination of Fineness of particles**

The degree of coarseness or fineness of a powder is differentiated and expressed by the size of the mesh of the sieve through which the particle is able to pass. A suitable quantity of the sample is weighed and transferred to the set of sieves shaken in a sieve shaken for about 30minutes and the residue on each sieve is weighed separately.

**Results:** Fineness of particles 84.43% of sample particle passes through sieve no. 120

**➤ Solubility test:**

About one gram of the sample was weighed and dissolved in 10ml of the solvents. It was found that the *Romashatana lepa* is 5.52% soluble in water and 16.72% soluble in alcohol

**Result: Water solubility : 5.52%,**

**Alcohol soluble: 16.72%**

**➤ Estimation of Arsenic:**

Arsenious salts: neutral solutions react with silver nitrate to form yellow precipitate of silver arsenite - soluble in ammonia solution and in nitric acid.

Arsenious salts in neutral solutions react with solution of copper sulphate to form green precipitate which on boiling gives a red precipitate of cuprous oxide.

**Result: 2.31% w/w**

**➤ Estimation of Calcium**

Weigh accurately appropriate quantity of the sample and dissolve in 3ml of dilute hydrochloric acid and 10 ml of water. Boil for 10 minutes. Cool,

dilute to 50ml with water. Titrate with 0.05M Disodium edetate to within a few ml of the expected end point, add 8ml of Sodium Hydroxide solution (saturated solution) and 0.1g of the calcon mixture and continue the titration until the

colour of the solution changes from pink to full blue colour. Each ml of 0.05 M Disodium edetate is equivalent to 0.0020 g of calcium.

**Result: 22.0% w/w**

**Table 5: Showing the analytical report**

S.No.	Test	Results
01	Determination of pH	8.78
02	Loss on drying at 110°C	1.25% w/w
03	Loss on Ignition:	18.85% w/w
04	Determination of Fineness of particles	84.43% of sample particle passes through sieve no. 120
05	Solubility Test	water solubility : 5.52%, Alcohol soluble: 16.72%

**Table 6: Showing Quantitative Assay of prepared Romashatana lepa**

Elements	Romashatana lepa
Arsenic	2.31%
Calcium	22.0%

## DISCUSSION

*Shodhana* not only intended to remove impurities or toxic materials but also makes the metal or mineral suitable for further procedure. It may enhance its property or it reduces its particle size. Or media acts to eradicate the toxic substances from the drug. *Shankha* was washed with hot water and after that pounding was done to make it fine powder. During pounding the loss of weight that is before pounding 370 gms to after pounding 348 gms, the loss may be due to pounding and filtering. As this preparation is applied externally so all the ingredients i.e., *Shankha*, *Hartala* and *Palasha kshara* were sieved through sieve no. 120. After the *Shodhana* the *Hartala* losses its weight that is before *Shodhana* in gms to after *Shodhana* in gms the loss may be due to pounding and filtering. As *Haratala* mentioned as *Romharana*, *Shankha* have *Vilekhana* property & *Palasha kshara* have *Ksharana* property because it helps for the depilation activity. As arsenic present in the *Hartala* leads to decrease in the cellular energy level & thereby leading to decreased mitotic activity and cessation of hair follicle formation. As mentioned above the *Shanka* and *Palasha kshara* provides the alkaline medium to facilitate the depilation activity of *Romashatana lepa*.

## CONCLUSION

It can be concluded that the pharmaceutical processing of *Romashatana lepa* is easy. After carrying

out all the analytical results of *Romashatana lepa*, it can be concluded that it is safe herbomineral preparation which can be used for the depilation activity. All the results obtained are well within the safety limits as mentioned in standard Ayurvedic Pharmacopeia of India.<sup>6</sup>

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### Cite this article as:

Dinesh gupta, Jagdish Mitti, Mallikarjun Patil. Pharmaceutico Analytical Study of Romashatana Lepa. International Journal of Ayurveda and Pharma Research. 2015;3(11):70-72.

**Source of support: Nil, Conflict of interest: None Declared**

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