

Study of Pharamaceutical Preparation of *Jalkumbhi Ksara* and its Organoleptic Properties

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Abstract

Ksaras are the derivatives of plant drug ashes in the form of solutions or crystals all of which have the basic quality of being alkaline. Because of its corrosive nature (*Ksaranat*), it is known as *Ksara* (alkali), *Ksara* is not having *rasa*, this is manifested by the combination of many *rasas* and it possesses itself many *rasas* dominated by katu and lavana *rasas*. It is the object of many senses and it involves a special method of preparation. In the present article, we have prepared *Jalkumbhi Ksara* under standard laboratory conditions and studied about the organoleptic characteristics of *Jalkumbhi Ksara*.

Keywords

Jalkumbhi, *Panchang*, *Ksara*, *alkali*, *hypothyroidism*



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INTRODUCTION

Ksaras are the derivatives of plant drug ashes in the form of solutions or crystals all of which have the basic quality of being alkaline. According to their state, liquid or solid, they are called as *Drava Ksara* (liquid form) and *curna Ksara* (amorphous form). The *Ksara* belong to the *agnibhuta* since the properties of *Ksara* are burning and destructive which simply means the material is caustic¹.

Because of its corrosive nature (*Ksaranat*), it is known as *Ksara* (alkali). *Ksara* is not having *rasa* and this is manifested by the combination of many *rasas* dominated by *katu* and *lavana rasas*. It is the object of many senses and it involves a special method of preparation^{2,3}.

Acharya Cakrapani has mentioned that the term *Ksara* implies something which goes down. Under the context of *rasas* discussion, *Ksara* is considered as one of the *rasas* among the seven *rasas* (*madhura, amla, lavana, katu, tikta, kasaya* and *kasara*) by *Videha raja Nimi*. Later it was concluded by *Atreya Maharishi* for *Ksara* as a *dravya* and not as *rasa* for the above mentioned reasons. *Jalkumbhi* (*Pistia stratiotes*) is commonly used in *Ayurvedic* medicine.

*Acharya Bhavamishra*⁴ mentioned about the use of *Jalkumbhi* in various disorders including *Galgund* (hypothyroidism). Hence, here *Jalkumbhi Ksara* has been chosen for preparation which would be used for the preparation of drugs for hypothyroidism. It has been prepared under standard conditions by method mentioned under *Sushruta Samhita*.

MATERIALS AND METHODS

Materials

Jalkumbhi (*Pistia stratiotes*) *Panchang*
- 5 Kg

Equipments

Kadhai, stainless steel vessels, water, cotton cloth, tube, spatula, etc.

Place of Procedure – Pharmacy of *Gaur Brahmin Ayurvedic College, Rohtak, Haryana*

Method

Jalkumbhi Panchang was procured from a nearby pond at *Rohtak*. The *Panchang* was kept for one month in order to get dried. After keeping for one month, 5 Kg out of the dried *Panchang* (figure 1) was taken for the preparation of *Jalkumbhi Ksara*. All the equipments and materials were brought to the local Pharmacy of *Gaur Brahmin Ayurvedic College*. Then the *Jalkumbhi Panchang* was taken in a big container and

was burnt inside it. After 15-20 minutes of burning, *Jalkumbhi Panchang* burnt totally and then it was kept covered for cooling for the whole night. On 2nd day, the ash was transferred to the empty vessel for weighing. Weight of the ash was found to be 620 gm. On 3rd day, ash was separated and kept as a sample. Then four times^{5,6} (3.2 litres) drinking water was added to the ash, stirred and rubbed with both the hands (figure 2). This is then again kept for the whole night. This was then filtered with 3-layered fine cotton cloth into another vessel (figure 3). The unfiltered material was separated. On 4th day, it was filtered for the 2nd time and kept overnight. On 5th day, the clear water in the vessel was taken out by siphoning method with the help of a rubber tube. Total water obtained was 2.8 liters and the pH was 9.9. The taste was found to be *Ksariya*. On 6th day, it was again filtered by placing cotton at the tip of the tube. 2.7 litres water (*Ksarodak*) obtained. Then it was kept on furnace for heating for almost 6 hours (figure 4) and then, it was converted into thick liquid stage, and then it was taken off from direct heating and kept on the sun for drying for indirect heating for 11 days (figure 5). After 11 days it reached the stage when it became completely free from

moisture as heating stopped. Thus, finally *Jalkumbhi Ksara* is prepared (figure 6)

OBSERVATIONS

1. *Jalkumbhi Panchang* burns freely if it is totally moisture free.
2. Initially the burnt material turns into black colored ash.
3. After burning for long duration the colour of ash turns to white.
4. The colour of filtered water changes if it is kept for long time.
5. *Ksara* starts collecting at the sides of the vessel.

PRECAUTIONS

1. While preparing large samples care was taken about heating, so that every part gets heated.
2. One had to be sure about the complete burning of *Panchang*.
3. While reducing the filtered *Ksara jala*, care was taken about heating.
4. Water bath was used after the *Ksara jala* reduced to semisolid state.
5. Obtained *Ksara* was stored in an air tight and moisture free container.

RESULTS

Table showing the results obtained

S.No.	Parameters	Results
1	Total <i>Panchang</i>	5 Kg
2	Total <i>Bhasma</i>	620 gm

3	<i>Panchang Kshaya</i>	4.38 Kg
4	Amount of <i>Ksara</i> obtained	64 gm
5	Colour of <i>Ksara</i>	Greyish Ash colour
6	Total days taken for preparation	17 days
7	pH of <i>Ksara</i>	9.9

DISCUSSION

JalkumbhiKsara was selected for preparation of drugs for hypothyroidism. Though there is no specific mention of the description of *Jalkumbhi Ksara*, still, it is prepared across various laboratories for its importance of being used in various medications. It has been prepared by using large amounts of *Panchang* which is processed and dried for many days. Drying becomes a very important step towards preparation as the last step because it increases the shelf-life of *Ksara*. Drying removes the moisture contents from the *Ksara* and creates environment harmful for the generation of fungal and bacterial growths.

CONCLUSION

The *Jalkumbhi Ksara* prepared had the colour of ash with dark greyish tint and pH was found to be 9.9. Total *Panchang* taken was 5 Kg out of which 620 gm of *Bhasma* was obtained and 64 gm of final *Ksara* was obtained (as per the table above). The total number of days taken to prepare *Ksara* was

17 days.

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Figure 1 Ash of *Jalkumbhi*



Figure 2 Ash mixed with water



Figure 3 Filtered Ksarodak



Figure 4 Heating of Ksarodak

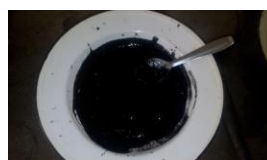


Figure 5 Dense Ksarodak *Jalkumbhi Ksara*



Figure 6 Final kept for drying in sun

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